EXPERIENCE OF PATIENTS AND CARERS WITH TRADITIONAL HEALING AND PSYCHIATRIC SERVICES, AND THE OUTCOME OF PSYCHOSIS FOR PATIENTS WHO ATTEND TRADITIONAL SERVICES IN SUDAN

EHAB ALI SORKETTI KORIANA

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DEDICATIONS

This work is dedicated:

*To my **parent**s, without whom I would not be existing in this world; who created unique opportunities for me to contribute; who gave me love, support and encouragement, a sense of curiosity and imparted the importance of generosity and a commitment to helping others*

*To my **wife** who sacrificed a lot to enable me to finish this work;*

*To my beloved daughter **HibatAllah**, who was born in Malaysia;*

*To my three sons, **Muaz**, **Abdelrhman** and **Abdullah**;*

*To my beloved country **Sudan**, where I was brought up and which I to see it prosperous and developed;*

*To my second home, Malaysia**, where I have spent a good and pleasant time*

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Registration/Matric No: **MHA090001**

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EXPERIENCE OF TRADITIONAL HEALING AND PSYCHIATRIC SERVICES BY PATIENTS AND CARERS AND THE OUTCOME OF PATIENTS WITH PSYCHOSIS WHO ATTEND TRADITIONAL SERVICES IN SUDAN

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ABSTRACT

The use of traditional healers is common worldwide, especially in developing countries. Few studies, though, have focused on the use of traditional healers by people with mental disorders. This study made an attempt to understand the practice of traditional healers in relation to mental health and psychiatric services in Sudan. The study was framed to understand: (a) the socio-demographic characteristics of people with mental disorders who seek treatment in the traditional healer centres in central Sudan; (b) the clinical presentations, diagnoses and outcomes of people with psychotic disorders attending traditional healers, as well as the healing methods and interventions used; (c) the traditional healers' profiles – their knowledge, belief, attitudes and practice in relation to people with mental disorders.

Applying both qualitative and quantitative methods, the research was conducted in four phases, as follows. In phase 1 we interviewed the traditional healers to study their profile, their socio-demographic characteristics and their opinions on medical treatment and the possibilities for collaboration with mental health professionals. In phase 2 we carried out focus group discussions with the relatives accompanying patients with mental disorders at traditional healer centres, to explore their concepts and beliefs about mental illness, traditional healing and psychiatric treatment. In phase 3 we interviewed the patients with mental disorders receiving treatment at the traditional healer centres in Sudan to assess their socio-demographic characteristics and the type of mental disorders they have. In phase 4 we followed up the group of psychotic patients (only schizophrenics) to see the outcome of the traditional healer's management.

Ten traditional healer centres in central Sudan were randomly selected. They had a total of 405 inpatients with mental disorders undergoing treatment. Twenty-eight of 30 traditional healers at these centres agreed to participate in the study.

The measures and instruments consisted of structured questionnaires, the Mini International Neuropsychiatric Interview (MINI) to elicit diagnoses, and the Positive and Negative Syndrome Scale (PANSS), used to assess the psychotic group of patients on admission and discharge from traditional healer centres. Ethical approval was obtained before the start of the study and informed consent was obtained from all the participants.

A total of 405 patients were interviewed; 309 (76.3%) were male and 96 (23.7%) were female. Their mean age was 31.48 years; 69.4% (281) were from central Sudan; 64.4% (261) were single; 34.1% (138) had never been to school, 39.3% (159) had studied in primary school, and 19.5% (79) studied until secondary school level; 46.9% (190) were jobless. The mean duration of stay in the traditional healer centre was 5 months. The mean duration of untreated illness was about 14 months. The diagnostic breakdown was as follows: 15.8% (64) had major depressive disorder, 27.4% (111) had a manic episode, 34.6% (140) had a psychotic disorder, and 5.9% (24) had generalized anxiety disorder. Interventions at the centres included restriction of food in 86.9% of cases (352), chaining the patient in 69.9% (283), isolation of the patient in 33.3% (135), and not allowing visitors in 15.8%. Psychiatric medications were stopped by the healers for 18% of the patients. Recitation of the holy book was used as a method of treatment for all patients. *Bakhra* was used in 99.3% of cases and *Mehaya* in 93.1%.

To study the outcome of the traditional healers' intervention, 129 patients with psychotic disorders (schizophrenia) were followed up from admission until discharge from

the traditional healer centre. The mean overall PANSS score was 118.36 on admission and 69.36 on discharge, a 49% reduction ($p=0.0001$).

A total of 28 traditional healers were interviewed to assess their concept, attitude and practice towards people with mental disorders. Fifteen (54%) of the healers believed that psychiatric medication was useful for treating mental illness, and they believed that combining traditional treatment and psychiatric medication could be useful. Belief in the value of psychiatric medication and modern psychiatric management was related to the educational level of the traditional healer: the more years of formal education the healer had received, the stronger was the belief in modern methods of management, and the use of psychiatric medication for treating people with mental illness ($p = 0.05$). A total of 89% (25) of the traditional healers were ready to collaborate with psychiatrists and mental health services.

It is vital to establish channels of collaboration and common understandings between traditional healers and mental health professionals in Sudan, where a majority of people with mental illness consult traditional healers first. Collaboration could help in the early detection and early management of mental disorders, with the prospect of better outcomes. Collaboration can also help to end harmful methods of practice by the traditional healers. The traditional healer centres can be used as bases for community rehabilitation facilities for people with mental illness. Moreover, improving the education level of traditional healers might enable them to have a better understanding of mental illness and of the benefits of modern psychiatric treatment.

Abstract in Malay:

ABSTRAK

Penggunaan khidmat pengamal perubatan tradisional 'adalah amalan biasa di seluruh dunia, terutama di negara-negara membangun. Hanya beberapa kajian telah tertumpu kepada penggunaan perkhidmatan pengamal perubatan tradisional 'oleh orang yang mengalami gangguan mental. Kajian ini membuat percubaan untuk memahami amalan pengamal perubatan tradisional yang berkaitan dengan kesihatan mental dan perkhidmatan psikiatri di Sudan. Kajian ini telah dirangka ke dalam banyak bidang penyelidikan untuk memahami: a) ciri-ciri sosio-demografi orang-orang yang mengalami gangguan mental yang mendapatkan rawatan di pusat-pusat pengamal perubatan tradisional 'di tengah-tengah Sudan; b) persembahan klinikal, diagnosis, dan hasil kaedah perubatan tradisional dan campur tangan yang digunakan untuk merawat orang yang mengalami gangguan psikotik c) Profil pengamal perubatan tradisional, pengetahuan, kepercayaan, sikap, dan amalan ke arah orang yang mengalami gangguan mental.

Menggunakan kedua-dua kaedah kualitatif dan kuantitatif, kajian ini bertujuan untuk menjalankan kajian dalam empat fasa seperti berikut: Fasa 1: Kami ditemuramah pengamal perubatan tradisional untuk mengkaji profil mereka, ciri-ciri sosio-demografi dan pendapat mereka mengenai rawatan perubatan dan kerjasama dengan profesional kesihatan mental dan kemungkinan kerjasama dengan perkhidmatan psikiatri. Fasa 2: Fokus Perbincangan Kumpulan dijalankan di kalangan keluarga dan saudara-mara yang mengiringi pesakit yang mengalami gangguan mental menerima rawatan di pusat-pusat pengamal perubatan tradisional 'untuk meneroka konsep dan kepercayaan mengenai penyakit mental penyembuhan tradisional dan rawatan psikiatri mereka. Fasa 3: Kami

menemuramah pesakit dengan gangguan mental menerima rawatan di pusat-pusat penyembuh tradisional di Sudan untuk menilai ciri-ciri sosio-demografi dan jenis gangguan mental mereka. Fasa 4: kita mengikuti-up kumpulan pesakit psikotik (hanya pesakit skizofrenia) untuk melihat hasil daripada pengurusan penyembuh tradisional.

Sepuluh pengamal perubatan tradisional yang dipilih 'pusat di tengah-tengah Sudan menubuhkan kawasan kajian, di mana 405 pesakit dengan gangguan mental menjalani rawatan di pengamal perubatan tradisional' pusat, dan 30 pengamal perubatan tradisional telah diambil. Saiz sampel adalah dikira menggunakan formula Leslie Kish untuk kadar tunggal untuk kajian deskriptif.

Langkah-langkah dan instrumen terdiri daripada soal selidik berstruktur, Mini Antarabangsa Temuduga neuropsikiatri (MINI) kepada haram diagnosis, dan positif dan negatif Skala Sindrom (PANSS) yang digunakan untuk menilai kumpulan psikotik pesakit yang pada kemasukan dan keluar dari pusat-pusat pengamal perubatan tradisional. Kelulusan etika telah diperolehi sebelum memulakan kajian dan persetujuan berpengetahuan telah diperolehi daripada semua peserta.

Seramai 405 orang telah ditemuramah; 309 (76.3%) adalah lelaki dan 96 (23.7%) adalah wanita. Umur min ialah 31.48 tahun. 69.4% (281) adalah dari Central Sudan, 64.4% (261) adalah tunggal. 34.1% (138) tidak pernah ke sekolah, 39.3% (159) belajar di sekolah rendah, 19.5% (79) belajar sampai peringkat sekolah menengah. 46.9% (190) yang menganggur. Tempoh purata penginapan di tengah-pengamal perubatan tradisional 'adalah 5 bulan. Tempoh purata penyakit yang tidak dirawat adalah kira-kira 14 bulan. 15.8% (64) didapati mempunyai gangguan kemurungan utama, 27.4% (111) mempunyai episod manik, dan 34.6% (140) didapati mempunyai gangguan psikotik, dan 5.9% (24) mempunyai gangguan keresahan umum. Campur tangan adalah kaedah sekatan makanan di 86.9%

(352), dan chaining pesakit dalam 69.9% (283). Selain itu, 33.3% (135) pesakit telah diasingkan, dan 15.8% daripada pesakit yang tiada pelawat dibenarkan. Ubat-ubatan psikiatri telah dihalang oleh pengamal perubatan untuk 18% daripada pesakit.

Bacaan kitab suci telah digunakan sebagai satu kaedah rawatan di semua pesakit di pusat-pusat yang dipilih 10 pengamal perubatan tradisional. Bakhra telah digunakan dalam 99.3%, dan Mehaya dalam 93.1% kes. Satu percubaan telah dibuat untuk mengambil tindakan susulan 129 pesakit dengan gangguan psikotik dari kemasukan sehingga pelepasan dari pengamal perubatan tradisional 'pusat untuk mengkaji hasil daripada pengamal perubatan tradisional' campur tangan.

Hasil kajian menunjukkan bahawa Min untuk skor PANSS keseluruhan pada kemasukan adalah 118,36 dan 69,36 pada pelepasan. Terdapat pengurangan 49% pada skor PANSS (P = 0.0001). Seramai 28 pengamal perubatan tradisional telah ditemuramah untuk menilai konsep pengamal perubatan tradisional, sikap, dan amalan ke arah orang yang mengalami gangguan mental; lima belas (54%) daripada pengamal perubatan percaya bahawa psikiatri Medikation adalah berguna untuk merawat penyakit mental, dan mereka percaya yang menggabungkan rawatan tradisional dan ubat psikiatrition boleh menjadi berguna. Kepercayaan dalam nilai ubat psychiatric dan pengurusan psikiatri moden yang berkaitan dengan tahap pendidikan penyembuh tradisional: tahun lebih pendidikan formal bomoh itu telah menerima, semakin kuat ialah kepercayaan dalam kaedah moden pengurusan dan penggunaan ubat psikiatri untuk merawat orang-orang dengan penyakit mental (P = 0.05). Sebanyak 89% (25) daripada pengamal perubatan tradisional telah bersedia untuk bekerjasama dengan pakar psikiatri dan perkhidmatan kesihatan mental. Keputusan menunjukkan bahawa ia adalah penting untuk mewujudkan saluran kerjasama dan persefahaman bersama antara pengamal perubatan tradisional dan ahli profesional

kesihatan mental di Sudan, di mana majoriti orang-orang yang mempunyai penyakit mental berunding dengan pengamal perubatan tradisional pertama. Kerjasama boleh membantu dalam pengesanan awal dan pengurusan awal gangguan mental, dengan prospek hasil yang lebih baik. Kerjasama juga boleh membantu untuk menamatkan kaedah berbahaya amalan oleh pusat-pusat tradisional pengamal perubatan tradisional 'healers. The boleh digunakan sebagai asas untuk kemudahan pemulihan dalam komuniti bagi orang-orang dengan penyakit mental. Selain itu, meningkatkan tahap pendidikan pengamal perubatan tradisional mungkin membolehkan mereka mempunyai pemahaman yang lebih baik daripada penyakit mental dan faedah rawatan psikiatri moden.

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ACHIEVEMENTS

Published papers:

(i)   Sorketti, E. A. (2008). General Overview of Traditional Healer Practices in Relation to Mental Health in Sudan. *Arabpsynet e.Journal:, Volume 5, nos 18–19,* 245–248.

(ii)   Sorketti, E. A., & Habil, M. H. (2009). The Current Situation of the People with Mental Illness in the Traditional Healer Centers in Sudan. *Malaysian Journal of Psychiatry, 18*(2), 78–81.

(iii)   Sorketti, E. A., Zuraida, N. Z., & Habil, M. H. (2010). Collaboration between traditional healers and psychiatrists in Sudan. *International Psychiatry, 7*(3), 71–74.

(iv)   Sorketti, E. S., Zainal, N. Z, & Habil, M. H. (2012). The characteristics of people with mental illness who are under treatment in traditional healer centres in Sudan; *International Journal of Social Psychiatry, 58*(2), 204–216.

(v)   Sorketti, E. A., Zainal, N. Z., & Habil, M. H (2012). The treatment outcome of psychotic disorders by traditional healers in central Sudan. *International Journal of Social Psychiatry*, 59(4), 265–276.

(vi)   Sorketti, E. A., Zuraida, N. Z., & Habil, M. H. (2012). The traditional belief system in relation to mental health and psychiatric services in Sudan; *International Psychiatry, 9*(1), 19–20.

(vii)   Sorketti, E. A., Zuraida, N. Z., & Habil, M. H. (2013).Pathways to mental healthcare in high-income and low-income countries. *International Psychiatry, 10*(2), 45–47.

(viii) Sorketti, E. A., Zuraida, N. Z., & Habil, M. H. A Focus Group Study: Exploring attitude and beliefs of families and relatives of patients with mental disorders on mental illness, traditional healing and modern psychiatric treatment (submitted)

(ix)   Sorketti, E. A., Zuraida, N. Z., & Habil, M. H. Help-Seeking Behavior and prevalence of contact with Psychiatric Service among patients with mental disordersattending traditional healing treatment in central Sudan(submitted)

Conferences presentations:

(i) A conference paper was presented in the 12th congress of ASEAN Federation for Psychiatry and Mental health and the 15th Malaysian Conference on Psychological Medicine in Kuala Lumpur in June 2010. (Traditional healers practices in relation to the people with mental illness in Sudan)

(ii) A conference paper (The Outcome of the Alternative and Complementary Methods used by Traditional Healers for Treating People with Mental Disorders) was presented in 12th APRU Asia Pacific Rim Universities Doctoral Student Conference in Tsinghua University, Beijing, China, July 2011

(iii) A conference paper (The traditional belief system in relation to mental health and psychiatric services in Sudan) was presented in the 16th Malaysian Conference on Psychological Medicine in Kuala Lumpur – Malaysia, in July 2011

(iv) A conference poster presentation (The Socio-demographic Features and the Clinical Presentation of the People with Mental Disorders Treated in the Traditional Healers Centers in Central Sudan) was presented in The 8th International Conference on Psychiatry Intercontinental Hotel, Jeddah, Kingdom of Saudi Arabia, 17–19 April 2012

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LIST OF ABBREVIATIONS

CPS	community psychiatric service
DUP	duration of untreated psychosis
FMOH	Federal Ministry of Health
GDP	gross domestic product
GP	general practitioners
HLR	hierarchical logistic regression
MINI	Mini International Neuropsychiatry Interview, Arabic Version- 5
PANSS	Positive and Negative Syndrome Scale
PHC	primary health centre
PTSD	post-traumatic stress disorder
SLR	simple logistic regression
THC	traditional healer centre
WHO	World Health Organization
WHO AIMS	World Health Organization Assessment Instrument for Mental Health Systems

1.   INTRODUCTION

The use of traditional healers is common worldwide, especially in developing countries. Few studies, though, have focused on the use of traditional healers by people with mental disorders. This thesis presents a study that made an attempt to understand the practice of traditional healers in relation to mental health and psychiatric services in Sudan. The study was framed to understand the socio-demographic characteristics and clinical presentations of people with mental disorders who seek treatment in traditional healer centres in central Sudan, as well as the healing methods and interventions used, and the outcomes for patients with psychosis. In addition, the traditional healers' knowledge, beliefs and attitudes were assessed, especially in relation to collaboration with formal mental health services.

It is vital to establish channels of collaboration and common understandings between traditional healers and mental health professionals in Sudan, where a majority of people with mental illness consult traditional healers first. Collaboration could help in the early detection and early management of mental disorders, with the prospect of better outcomes. Collaboration could also help to end some of the harmful practices used by the traditional healers. Traditional healer centres could be used as bases for community rehabilitation facilities for people with mental illness. Moreover, improving the education level of traditional healers might enable them to have a better understanding of mental illness and of the benefits of modern psychiatric treatment. Mental health plans, policies and programmes should not be based exclusively on medical models, but incorporate larger socio-cultural and religious dimensions. It is a challenging task, but can help to break barriers to the mental health services.

1.1.   Structure and outline of the thesis

This thesis has six main chapters. After briefly indicating the scale of the global burden of mental disorders and of untreated mental disorder in particular, this introductory chapter provides some general background information on Sudan and both traditional medicine and traditional healers.

The second chapter presents the literature review. It summarizes, synthesizes and interprets findings from selected studies addressing the topic. A large part of the chapter concerns studies of pathways to care and models of health seeking behaviour. This is because it is envisaged that traditional healers in Sudan could usefully be a key element in the pathway to psychiatric care, in some respects possibly playing a 'gatekeeper' as well as a care-providing role, much like, say, a general practitioner in the UK.

The third chapter presents the research methodology. It describes the philosophical basis, and the theoretical and the conceptual framework of the research. It also describes the setting and characteristics of the studied population, sampling frame and the methods of data analysis. The fourth chapter present the results and the fifth the discussion. The sixth chapter is the Conclusion, which includes a consideration of the study's strengths and limitations. It gives a reflection on the methods used and on possible future directions for further research.

1.2.   Global burden of mental disorders and the treatment gap

The World Health Organization (WHO) in the Global Burden of Disease study conducted in 2000 and reported in the World Health Report 2001. As many as 450 million people worldwide are estimated to be suffering at any given time from some kind of mental or brain disorders (WHO, 2001c). Some 80% of persons with mental illnesses live in low- and

middle-income countries (Prince et al., 2007). Access to treatments for mental disorders is inadequate in most of these countries (McBain et al., 2012). Mental disorders affects hundreds of millions of people; if left untreated, they create an enormous toll of suffering, disability and economic loss (WHO, 2008). Only 52% of low-income countries, as compared with 97% of high-income countries, provide community-based care for patients with metal disorders (Saxena et al., 2007). In sub-Saharan Africa, mental disorders account for nearly 10% of the total burden of disease (Mathers & Loncar, 2006). Neuro-psychiatric conditions including disorders such as schizophrenia, mood disorders, substance abuse and dementia are the number one contributor to the worldwide burden of non-communicable disease (Stein & Seedat, 2007). The percentage of individuals who have severe disorders such as schizophrenia, bipolar disorder, and major depressive disorder, but who remain untreated, is estimated to be as high as 85% in low- and middle-income countries (Demyttenaere, 2004). A multicentre survey by World Health Organization (WHO) showed that 76–85% of people with serious mental health problems had received no treatment in the previous 12 months and that for those who did receive treatment this was most often inadequate (Chisholm et al., 2007). The three leading causes of burden of disease in 2030 are projected to include HIV/AIDS, unipolar depressive disorders, and ischaemic heart disease (Mathers & Loncar, 2006). Worldwide, four of the ten leading causes of disability are mental disorders which together account for 30.8% of the total disability and 12.3% of the total burden of disease. The latter figure is expected to rise to 15% by the year 2020 (WHO, 2001c). Ischaemic heart disease was the leading cause of disability-adjusted life years (DALYs) worldwide in 2010 (up from fourth rank in 1990, increasing by 29%), followed by lower respiratory infections (top rank in 1990; 44% decline in DALYs), stroke (fifth in 1990; 19% increase), diarrhoeal diseases (second in 1990; 51% decrease), and

HIV/AIDS (33rd in 1990; 351% increase). Major depressive disorder increased from 15th to 11th rank (37% increase) (Murray et al., 2010). Reallocation of treatment resources could substantially decrease the problem of unmet need for treatment of mental disorders (Demyttenaere, 2004). Patel (2011) and Abbo (2011) identified the role of a key player (traditional healers) in the mental health care system in African countries, where the biomedical treatment gap is notably large. They suggested that traditional healers may play a role in the formal mental health care system alongside biomedical providers. They also argued that the preference for traditional healers care is not simply the result of lack of availability of biomedical care.

1.3. Sudan: geographical location

Sudan is an Arab state that occupies an area of 1,886,068 km^2 (728,215 square miles), in north Africa. It is bordered by Egypt to the north, the Red Sea to the north-east, Eritrea and Ethiopia to the east, South Sudan to the south, the Central African Republic to the south-west, Chad to the west, and Libya to the north-west. The country is situated in a strategically important geographical location that links the Middle East to sub-Saharan Africa.

1.4. Sudan: demographic profile

The Sudanese population was estimated in July 2012 as 34.32 milions (World Bank, 2013), 40% of whom could be classified as urban. Net migration rate is 4.52 migrants per 1,000 population. The population growth rate is estimated at 1.88%. The Sudanese age structure is very young; the most up-to-date figures show that in 2012, 42% of the population was below the age of 15 years, while only 3.3% was above the age of 65. The total adult male literacy rate and the female adult literacy rate were estimated at 71.8% and 50.5%,

respectively. The crude death rate is 8.3 deaths per 1,000 population, and the crude birth rate is 31.7 births per 1,000. The total infant mortality rate is estimated at 55.6 deaths per 1,000 live births, and under-five mortality rate is 86 people per 1,000 live births. The life expectancy at birth was 60.58 years for males and 64.67years for females. The maternal mortality ratio is estimated at 730 per 100,000 live births. The total fertility rate is estimated at 4.17 children born per women (CIA, World factbook, 2013). See Table 1.1.

Table 1.1: Sudan: demographic profile, 2013

Total population	34,320,000
Population growth rate	1.88%
Age structure	
Below 15	42%
Above 65	3.3%
Median age	
Total	18.7 years
Male	18.5 years
Female	19 years
Urbanization	
Urban population	40% of the total population
Rate of urbanization	3.7% rate of change
Net migration rate	4.52 migrants/1,000 population
Birth rate	31.7 births/1,000 population
Death rate	8.3 deaths/1,000 population
Infant mortality rate	
Total	55.6 deaths/1,000 live births
Male	61.2 deaths/1,000 live births
Female	49.7 deaths/1,000 live births
Life expectancy at birth	
Total population	62.56 years
Male	60.58 years
Female	64.67 years
Below age of 5 mortality rate	86/1,000 live births
Maternal mortality rate	730/100,000 live births
Total fertility rate	4.17 children born/woman
Literacy (age 15 can read and write)	
Total population	61.1%
Male	71.8%
Female	50.5
Domestic growth product	US$64.05 bilion
Health expenditures	7.3% of GDP

Note: includes the population of South Sudan (8,260,490); demographic data includes South Sudan (July 2012 estimate). These statistics do not take into account the secession of South Sudan in July 2011.

1.4.1. Demographic patterns and trends

Sudan has two distinct major cultures Arab and black African with hundreds of ethnic and tribal divisions and language groups, which makes effective collaboration among them a major challenge. There are 19 major ethnic groups and a further 597 subgroups. The northern states cover most of the country and include most of the urban centres. Most of the Sudanese who live in this region are Arabic speaking Muslims, though the majority also uses a traditional non-Arabic mother tongue. The southern region has a population of around 8.26 million and a predominantly rural, subsistence economy (Table 1.1). This region has been negatively affected by war for all but 10years since independence in 1956, resulting in lack of infrastructure and displacement. In this region, people practise mainly indigenous traditional beliefs, although Muslims and Christians constitute a significant proportion. The south also contains many tribal groups and many more languages are used than in the north (WHO, 2006a).

Natural disasters and civil conflicts have resulted in high rates of rural–urban migration. Internal displacement is a major burden on the population. According to the estimates of the United Nations (UN), there are 4 million internally displaced persons (IDPs) in Sudan; 1.8 million are in Khartoum. Moreover, there are around 500,000 Sudanese refugees in neighbouring countries (FMOH 25-year health plan).

Widespread poverty and wars have made a wide segment of the population vulnerable to food insecurity brought on by such crises as flooding, drought, and displacement (Eltigani, 1995). Regional and urban/rural disparities in economic resources have clear implications for health and nutrition as well as services (Eltigani, 1995). Responding to the growing challenges that are facing the country, a major reform in the government system was initiated in early 1990s. This introduced a federal system with the

aim of empowering local government and governance through decentralization of authority, both politically and financially. The country was, thus, divided into 25 states. The local government law enacted in 1998 and revised in 2003 divided the states into 134 localities, with 4–6 localities per state; each state has its own Ministry of Health. The Constitution of Sudan (1998) defined the level and authority of the Federal Ministry of Health (FMOH), at both state and local levels. The federal level is concerned with policy making, planning, supervision and coordination, while the state governments are responsible for planning and implementation at state level (Directorate General for Health Planning and Development; Federal Ministry of Health, 2006).

1.5.   Sudan: the socio-economic context

Sudan is rich in terms of natural and human resources, but the economic and social development that might have been consequently expected has not been achieved. Sudan is classified as highly indebted poor country (FMOH, 2006). To improve its economic performance and foster development, an economic reform package was initiated in the early 1990s by the government, a major aspect of which was the liberalization of trade and privatization (FMOH, 2006). Although these reforms had a great impact on the health of the population, no study has estimated these impacts. Agriculture is considered to be the backbone of the Sudanese economy, with 55% of the population working in this sector, and it accounts for about 38% of gross domestic product (GDP); 80% of the labour force is employed in agricultural activities. Recently oil and its related industries emerged as a major component of the economy (Directorate General for Health Planning and Development Federal Ministry of Health, 2006).

1.6.   Key political events/reforms

Sudan has suffered from civil conflict for most of the period since independence in 1956. The effects of the war on health, nutrition and population have undoubtedly been significant. More than 2 million people are claimed to have died as a result of the civil war and war-related impacts, and more than 4 million are internally displaced or have become refugees. Health services were not well developed even before the war. A comprehensive peace accord was signed at the Naivasha resort in Kenya in 2005 ending the civil war in the south. The agreement ended the longest civil war in Africa. A referendum was held in January 2011, the people of the south voted for independence from the north. This resulted in the birth of two new states, Sudan and South Sudan (Human Rights Watch, 2012). Even after the separation of South Sudan, Sudan was still the third largest country in Africa. Since February 2003 there has been an escalating military conflict in Darfur.

1.7.   Sudan: the health care system

In addition to federal and state Ministries of Health, health services are provided through the armed forces, universities, the private sector (both for profit and non-profit) and civil society. However, these partners perform in isolation due to ill-defined managerial systems for coordination and guidance. The health care system in Sudan is provided through more than 6,540 health facilities which include 2,729 primary health care (PHC) units, 1,442 dressing stations, 1,468 dispensaries and 673 health centres. There are, in addition, 230 hospitals, 44 tertiary teaching hospitals, 13 universities with medical and health science facilities, and 250 allied health schools and institutes (FMOH 25-year health plan).

1.7.1. Human resources

The total workforce in the sector amounts to some 53,965, including around 6,887 doctors, 6,746 medical assistants, 16,826 nurses and 12,159 midwives. The very slow increase in the work force can be explained by the fact that huge numbers of trained workers leave the country every year. There is a shortage of most categories of health personnel due to this brain drain. Out of 17,000 physicians registered in northern Sudan, which has an annual output of 2,200 doctors, only an estimated 6,887 doctors are working in the nation's public sector. At the same time, doctors are reluctant to work in rural and peripheral areas, contributing to the regional disparities (Decaillet et al., 2003). According to the FMOH's 10-year projections, the main shortages are of certain PHC categories like nurses and village midwives. There is, though an obvious shortage in many different categories, notably technicians, and specialized medical staff. Moreover, there is an uneven distribution of healthcare providers between and within the states. Nationally, the physician/population ratio is 20/100,000, the nurse/population ratio is 49/100,000 and the hospital bed/population ratio is 72/100,000. These national ratios hide large inequalities between urban and rural areas, and between affluent and less developed states. The evidence indicates that staffing in rural areas is much weaker compared with urban areas. Skilled health personnel are concentrated in urban centres and affluent rural areas, leaving peripheral facilities significantly understaffed. Although PHC is still considered the main vehicle for the provision of health care to the majority of the rural population, it accounts for a small fraction of the total human resources available. The federal institutions in Khartoum State and the Khartoum Ministry of Health attract the majority of the country's health professionals. Even with the exclusion of house officers, nearly two-thirds (61.4%) of doctors were stationed in Khartoum in 2004. Other categories of health personnel are

similarly concentrated in Khartoum State. The main reasons for the maldistribution are the substantially lower incentives and employment conditions for health professionals in rural areas compared with urban areas. Unclear payment systems (salaries and incentives) result in lack of motivation, reduce professionals' compliance with directives to work in remote areas, and produce lack of accountability (WHO, 2006a).

1.7.2. Production and training

There are 26 medical schools, at which the annual enrolment is estimated at 2,200, and the expected annual production of physician is around 1,500. An increase in numbers came in response to markets for doctors in better-off urban areas of Sudan, but especially abroad, in particular the Gulf countries. There are two training institutes for medical specialization: the Postgraduate Board of Medical Studies, University of Khartoum (established in 1976) and the Sudan Medical Specializations Board (which runs a 4-year programme established in 1995). There are 13 institutes for training medical assistants with an annual production of 320 (WHO, 2006a).

1.7.3. Primary health care (PHC)

PHC in Sudan was launched in 1977 after a situation analysis for the health services which took place in 1976, and was followed by the development of two separate programmes, one of which for the northern part of the country and the other for the southern part. The two programmes identified some new strategies, like the integration of health activities with community development schemes. In 1978 Sudan participated in the Alma Ata conference and adopted PHC as a strategy to achieve the objective of health for all by the year 2000; national policies to achieve those goals were identified through the existing health programmes. The health system in Sudan is now based mainly on PHC as a strategy to

expand health care coverage and to improve the quality of services (Directorate General for Health Planning and Development Federal Ministry of Health, 2006).

1.8.   Mental health in Sudan

The establishment of psychiatric services in Sudan is an interesting experiment in a developing country. Prior to World War II there were hardly any organized psychiatric services (Baasher, 1975). By 1950, the Clinic for Nervous Disorders, Khartoum North, was well established and the Kober Institution was built later to cater for 120 forensic psychiatric patients. This was followed by the establishment of four psychiatric units in provincial capitals at Wad Madni, Port-Sudan, El Obeid and Atbara (Baasher, 1975). In 1964, a 30-bed psychiatric ward was built in Khartoum general hospital (Baasher & Rahim, 1976). Psychiatry in Sudan began in the 1950s under the guidance of the late Professor El Tigani El Mahi. He pioneered, among other things, rural services and the open-door policy. His successor, Dr Taha A. Baasher, shouldered the responsibility and extended services to more peripheral areas of the country. He established the Mental Health Association of Sudan and the Sudanese Association of Psychiatrists. In 1971, Omdurman Psychiatric Hospital (El Tigani El Mahi Hospital) was established as the national mental hospital (El Faki, 1997). However, since then, mental health services failed to extend beyond a few specialized units attached to state hospitals. This has been mainly due to a shortage in qualified staff, such as psychiatrists, psychologists, social workers, and psychiatric nurses. In term of facilities, mental health is not yet part of the PHC system. Nationally there are 0.2 psychiatric beds per 10,000 population: 0.18 in mental hospitals and 0.02 in general hospitals (WHO, 2006b).

1.8.1. Human resources in mental health care

The total number of staff working in mental health facilities or private practice is 0.93 per 100,000 population. The breakdown according to profession is as follows: 0.06 psychiatrists, 0.09 other medical doctors, 0.12 nurses, 0.13 psychologists, 0.08 social workers, and 0.45 other mental health workers. Twenty-four psychiatrists work for the Ministry of Health in mental health facilities, while 42 work in other sectors, such as higher education. Some 50% of the psychologists, social workers, nurses and medical assistants work only in the government-administered mental health facility, 21% work in the non-government or private setting and 29% work in both. Private practice is largely unregulated, especially in the case of psychologists and social workers. There is an uneven distribution of human resources in favour of mental hospitals and the capital city, Khartoum. Only 6 of the 25 states have psychiatric treatment facilities. The figures provided here are best estimates based on official registration and data from professional associations and the 2007 annual health statistical report (WHO & Federal Ministry of Health, 2009).

1.8.2. Training professionals in mental health

In 2008, 0.17 psychiatrists graduated from academic and educational institutions per 100,000 population, compared with 3.6 medical doctors. In the same year 48.5 nurses graduated, but none of these nurses had received more than a year of training in mental health care; similarly, only 0.05 psychologists, 0.04 social workers and 0.00 occupational therapists graduated with at least one year of training in mental health care. In any case, almost all the majority of the psychiatrists emigrate from the country within five years of the completion of their training. A single psychiatrist (representing 4% of the national

workforce) was trained in child/adolescent mental health issues (WHO & Federal Ministry of Health, 2009).

1.8.3. *Organization of mental health services*

A national mental health authority exists under the umbrella of preventive medicine and PHC at the federal level. However, it needs strengthening. It provides advice to the government on mental health policies and legislation. It is also involved in service planning, management and coordination. Mental health services are not available at the primary level, or organized in PHC service packages (WHO & Federal Ministry of Health, 2009).[1]

1.8.4. *The Sudanese national mental health programme*

The guiding principles of the national mental health programme in Sudan are:

- the close integration of essential mental health care within the PHC setting of the general health system;

- the development of training programmes for health personnel at all levels of the health service;

- the development of an appropriate referral system with comprehensive recording of information;

- the provision of essential drugs;

- community involvement and close collaboration with other social sectors, agencies and organizations.

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[1]The World Health Organization Assessment Instrument for Mental Health Systems (WHO-AIMS) was used to collect information on the mental health system of Sudan. The project in Sudan was implemented by the WHO-AIMS Sudan Team: Zeinat Bella, M. A. Sanhori and Ehab Sorketti (the author of this thesis).

In 1990, a mental health department was established in the FMOH. There is now a mental health board, supported by the Sudanese Psychiatric Association, which acts as an advisory body to the Minister of Health. Training courses are available for undergraduates, psychiatric specialist trainees, and medical officers. Attention has also been given to special groups such as migrants, vagrants, the elderly, refugees, and displaced and uncared-for children. School mental health has been introduced into the national mental health programme in 2006. A list of essential drugs, including neuropsychiatric drugs, has been formulated. There is a national therapeutic drug policy. A substance abuse policy is also present. The most recent legislation is a state law, Gezira Mental Health Law of 1998. Nationally mental health formed a chapter of the Public Health Act of 1973, which was revised in 1985. A Mental Health Act has been drafted and has gone to parliament for approval which was still pending at the time of writing. There are budget allocations for mental health through the Directorate General of Curative Medicine, as well as through state governments. Detailed information about expenditure on mental health is not available. The primary source of mental health financing is tax-based. The country has disability benefits for persons with mental disorders. Mental health is not yet a part of the PHC system and treatment of severe mental disorders is not available at PHC level (WHO & Federal Ministry of Health Sudan, 2009).

1.8.5. *Mental health facilities in Sudan*

Mental hospitals

There are two mental hospitals in the country giving a total of 0.86 beds per 100,000 population. These facilities are organizationally integrated with mental health outpatient facilities. None of these beds in mental hospitals are reserved for children and adolescents

only. Around 30% of patients are female and 13% are children and adolescents. The patients admitted to mental hospitals primarily belong to the following diagnostic groups:

- mental and behavioural disorders due to psychoactive substance use (10%);

- schizophrenia and related illnesses (15%);

- mood disorders (22%);

- neurotic stress-related and somatoform disorders (18%);

- disorders of adult personality and behaviour (11%);

- others, such as mental retardation and epilepsy (24%).

Around a quarter (24%) of the patients was admitted involuntarily and 11–20% of the patients were restrained or secluded (WHO & FMOH, 2009). The occupancy rate of these hospitals is 20%. The average length of stay in mental hospitals is 35 days. All patients spend less than one year in mental hospitals (WHO & Federal Ministry of Health Sudan, 2009).

Community-based psychiatric inpatient units

There are nine community-based inpatient units in the country, with a total of 0.9 beds per 100,000 population. None of these beds are reserved for children and adolescents; 46% of those admitted to these community-based psychiatric inpatient units are female and 2% are children or adolescents. Their primary diagnoses are:

- schizophrenia (32%);

- mood disorders (17%);

- personality and behaviour disorders (15%);

- neurotic, stress and somatoform disorders (11%).

On average, patients spend 10 days in community-based psychiatric inpatient units before discharge. The proportion of involuntary admissions to community-based psychiatric inpatient units is 17%, while 11–20% of the patients were restrained or secluded at least once (WHO & Federal Ministry of Health Sudan, 2009).

Forensic inpatient facilities

All forensic mental health beds are in prison facilities. Involuntary admission is common but the use of restraints or seclusion is sporadic. There are a total of 200 such beds (0.5 per 100,000 total population). The prison forensic facilities treated 0.76 patients per 100,000 population; 66% of the patients stay less than one year, and no one stays more than 10 years (WHO & Federal Ministry of Health Sudan, 2009).

Community residential facilities

There are seven community residential facilities available in the country, with a total of 1.75 beds/places per 100,000 population. Of the patients treated at these facilities, 43% are female and 37% are children, although no beds are reserved for children and adolescents. On an average, patients spend 39 days in community residential facilities (WHO & Federal Ministry of Health Sudan, 2009).

Other residential facilities

There are seven important traditional healer centres with an estimated total of 760 beds. In Sudan traditional healing methods are shaped by the religious, spiritual and cultural factors of the different ethnic groups. Consultation with traditional healers is common in urban as well as rural areas. Traditional healers may require a long stay of patients and this may prevent the early detection of mental disease and so early medical intervention by modern

psychiatry. However, attempts have been made to promote reciprocal communication and intervention with traditional healers (WHO & Federal Ministry of Health Sudan, 2009).

1.8.6. *Human rights and equity*

All mental hospitals and the majority of inpatient and outpatient facilities in the country are located in Khartoum City, the largest city in Sudan. Such a distribution of facilities prevents access to mental health services for rural users. Inequity of access to mental health services for other minority users (e.g. linguistic, ethnic, religious minorities) is not a problem in Sudan (WHO & Federal Ministry of Health Sudan, 2009).

1.8.7. *Sudan's mental health policy*

A mental health policy is present in Sudan.[2] It was initially formulated in 1998. The components of the policy are advocacy, promotion, prevention, treatment and rehabilitation. It is main aim is to strengthen the capacity of individuals, groups, and the environment to interact with one another in ways that promote subjective well-being, the optimal development and use of mental abilities, the achievement of individual and collective goals consistent with justice, and the attainment and preservation of conditions of fundamental equality. The Sudan's Mental Health Policy was reformulated in 2006–08 in the context of the National Health Policy. The many years of conflicts disrupted the country's social service institutions, including mental health institutions, directly or indirectly. The Comprehensive Peace Agreement and the growing national revenue have provided the Republic of Sudan a chance alleviate the sufferings and opportunities for the people and to grant them a better life. The national health policy is framed in the terms of

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[2] The author of this thesis was one of the Sudan National Team that drafted the last version of the mental health policy (2006–08).

international commitments, such as Alma Ata Declaration of Health for All, the Millennium Development Declaration and global strategies. It also builds on existing national policies, like the 25-year health strategy, the Reproductive Health Policy, the Child Health Policy, the HIV/AIDS Policy, the National Drug Policy, the Essential PHC Package Policy, and the 10-Year Human Resources Strategy. The policy gave key strategic directions to the development of Sudan's mental health sector. It was expected that all health-related programmes and initiatives would be consistent with the guiding principles outlined in the policy. Sudan's mental health policy was last revised in 2008 and includes the following components (WHO & Federal Ministry of Health Sudan, 2009):

- mental health in PHC,

- human resources,

- involvement of users and families,

- advocacy and promotion,

- human rights protection of users,

- equity and access to mental health services across different groups,

- quality improvement,

- financing,

- monitoring.

1.9. Mental health in Sudan: problems and constraints

In 2007, a situational analysis of the national mental health programme revealed many major constrains and current problems facing mental health services in Sudan (FMOH, 2008). These were as follows:

- The actual magnitude of the problem of mental illness in Sudan is not adequately known due to limited sources of information. Indeed, no studies have been conducted on community needs and demands in relation to mental health. Moreover, the lack of an adequate information system (means that there are no community-based data on the prevalence, incidence, pattern and trends of mental health disturbances.

- There are treatment gaps due to the lack of mental health services. These services are either not accessible or simply unavailable in many states in Sudan and there are inadequate budgetary resources for mental health. Mental health services coverage is low. Besides Khartoum State, the services are limited to nine urban areas; the services are almost absent at provincial and district levels, and there is no coordination across centres.

- There is poor community awareness about mental health services and mental health services are highly stigmatized. For these reasons, most patients go to traditional healers for help.

- Mental illness is still considered by the majority of people as a social stigma and care seeking occurs only at late stages of disease. Sometimes the disease is totally denied and patients do not seek care at all. Patients and families prefer the consultation and advice of religious faith healers, but this may have serious, consequences for the mental health of the patient.

- People with psychiatric disorders consult other specialties of medicine such as medical practitioners, and physicians. The parents of children with psychiatric disorders often seek the advice of paediatricians and GPs. It can take a long time for such non-specialists to realize that the symptomatology presented is psychiatric in

nature. When psychosomatic and psychiatric disorders – even those with apparent organic aetiology are managed by other medical professionals the opportunity for specialized psychiatric help is missed and referral to psychiatric units is delayed. This represents suboptimal management, through and discontinuity of treatment and the high cost of the drugs, which is especially problematic given most of the psychiatric patients, are dependent on others.

- There is a lack of mental health specialists due to the brain drainage which in turn results from the shortage of work opportunities in Sudan. There are more than 200 qualified Sudanese psychiatrists abroad, and the brain drain is a continuous problem (National Mental Health Programme, Federal Ministry of Health Sudan, 2008).

- The long-standing conflicts, wars and instability in Sudan have resulted in population displacement and temporary settlement, with all the associated immediate and future mental health hazards (Salah et al., 2012).

1.10. Traditional medicine and traditional healers

1.10.1. Definition of traditional medicine

The WHO (1976) defines traditional medicine as:

> the sum total of all the knowledge and practices, whether explicable or not, used in diagnosis, prevention and elimination of physical, mental or social imbalance and relying exclusively on practical experiences and observations handed down from generation to generation whether verbally or in writing.

1.10.2. Definition of a traditional healer

A traditional healer is defined by the WHO (1976) as:

> a person recognized by the community in which he lives as competent to provide health care using plants, animals or mineral substances and certain other methods based on the

social, cultural and religious background, as well as on the knowledge attitudes and beliefs that are prevalent in the community regarding physical mental and social well-being and the causation of disease and disability. A traditional healer is an educated or lay person who claims ability or a healing power to cure ailments, or a particular skill to treat specific types of complaints or afflictions, and who might have gained a reputation in his own community or elsewhere. They may base their powers or practice on religion, the supernatural, experience, apprenticeship or family heritage; traditional healers may be males or females and are usually mature.

1.10.3. The role and the importance of traditional healing in developing countries

The importance of traditional healing methods in developing countries cannot be underestimated and it is generally perceived as a part of the prevailing religion and belief system. Several research efforts have been devoted to the study of traditional healers in different cultures. The literature has highlighted that traditional healers are often seen as the primary agents for psychosocial problems in developing countries, and estimates of their share of services range as high as 45–60% (WHO, 1991). This could be because of the easy accessibility of traditional services, lack of convenient health services and a strong belief in the effectiveness of traditional healing in the management of mental disorders. The WHO (2000) estimated that 80% of populations living in rural areas in developing countries depend on traditional medicine for their health needs.

1.11. Traditional healing in Africa

In Africa, knowledge of traditional medicine has been handed down from generation to generation mostly by oral tradition. The art of healing through interpersonal relationships and personal characteristics of the healer is very old indeed. Perhaps the most famous traditional system of interpersonal healing is spirit healing, which is very widespread in Africa and also found in Western Europe (Jakobsen, 1999). Patel et al. (1997b) stated that

there is a rich literature on the role of traditional healers in mental health care in Africa. In their study in Zimbabwe they recorded a prevalence of 40% of mental disorders among users of traditional healer services.

Peltzer studied traditional healing methods in many African societies including Malawi, Ghana, Zambia, Nigeria, and South Africa. In one of his papers, he studied the bio-psycho-social therapeutic models in a traditional African setting (in Malawi). He studied the therapeutic setting for schizophrenia in three traditional healer centres in terms of organization, environment, culture, family and follow-up and he compared it with the current Western model of psychiatric practices. He concluded that the traditional healer centres were in a number of ways superior to the Western model (Peltzer & Machleidt, 1992).

Wessels (1985) suggested successful psychiatric treatment for rural Africans should incorporate their traditional belief that illness should be viewed in terms of magical, social, physical and religious parameters. Traditional healers divide illness into those of natural causation and those of traditional cultural aetiology (which are peculiar to African people). Natural illness includes epilepsy, familial/genetic disorders, mental retardation, and schizophrenia. Traditional, cultural disorders often cause difficulties for Western-trained psychiatrists because sorcery, spirit possession and ancestral worship are central to their aetiology and treatment as practised by traditional healers. They, in a state of altered consciousness, use a process of divination to determine why and from whom the misfortune originated. With this in mind, reputable traditional healers were consulted in therapy-resistant cases of culture-bound syndromes in Africans. Their high rate of success in treating these cases was notable (Wessels, 1985).

Mentally disordered people have a considerable tendency to use faith healing, and believe in their abilities to improve their conditions and their health-seeking behaviour is generally directed towards primary care, relatives, and faith healers. Such results could be the foundation for mental health reforms and for future research in Africa and the Arab world (Mona Rakhawy, 2010). The major obstacle to the organization of mental health services is acceptability; most people in developing countries find it difficult to accept modern psychiatric services because it does not relate causation to traditional beliefs (Baasher et al., 1975).

1.12. Traditional healing in the Eastern Mediterranean Region

Traditional beliefs and religion play an important role in the socio-cultural and political life of the people in the countries of the WHO's Eastern Mediterranean Region (WHO, 2001a). The family and community hold a central position in the life of the individual, and they make a tremendous contribution to the therapeutic process (WHO, 2001a). Native faith healers are found in all parts of the eastern Mediterranean region, where they are held in high regard and are considered to be spiritual or moral guides. They are consulted for a wide range of ailments including physical illness, emotional problems, congenital defects, and disappointments in love, family, or business (WHO, 2006b). The WHO's studies of pathways to care have shown native faith healers to be an important source of care for people who ultimately attend psychiatric services (Gater et al., 1991).

Mohit (2001) mentioned that collective approaches and skills should always be borne in mind when dealing with different aspects of psychiatry and mental health in the East Mediterranean Region. Okasha (1988) stated that ancient Egyptians thought that diseases were due to either evil spirits or the wrath of the gods. There is also the concept of

the mentally ill being possessed; the possession may be by a good or a bad spirit. The art of healing was considered a part of religious practice. Some psychotherapeutic methods were used in ancient Egypt, noteworthy of which is 'incubation' or 'temple sleep'. It is interesting that the reliance on shrines and temples for healing still continues in Egypt, Sudan, and many other parts of the region (Baasher, 1975; Okasha, 1998).

Studies carried out in Pakistan by Karim et al. (2004) found that traditional healers along with psychiatric services are the main mental health service providers. It has been shown that there is no discernible relationship between the systems of diagnosis and treatment followed by faith healers and psychiatrists in Pakistan. However, the former do provide a source of care which can be harnessed constructively in order to provide culturally acceptable care to a large number of people, and at the same time integrate components of the local health belief model (WHO, 2001b).

1.13. Traditional healing and the role of traditional healers in Sudan

In Sudan traditional healing is the most common method of treating mental illness, mostly due to lack of economic resources, inaccessibility of medical services, lack of awareness among the population and the high prices of psychiatric services (Elsafi, 1994). Traditional healing is widespread in Sudan and traditional healers are well respected by the community. Sudanese people in need of help often attend traditional healers (Ahmed et al., 1999). El Gaili et al. (2002) reported that, in Sudan, the care of mentally ill individuals was fully in the hands of the traditional healers. Their role includes both diagnosis and treatment of mental disorders. Their authority is based on strong social and religious beliefs concerning the nature of mental disorders (El Gaili et al., 2002).

Over a period of more than 30 years a symbiotic working relationship has been developed between faith healers working and more formal community-based mental health programmes in Al Gezira state in central Sudan (El Gaili et al., 2002). There was a great deal of initial resistance by the faith healers, who considered the mental health professionals to be competitors; however, a non-confrontational approach brought home the message that indeed there are areas, particularly people with emotional disorders, where collaboration between the two is possible. Such collaboration has gradually been formalized in order to set up referral channels for people with mental and brain illnesses, particularly psychoses and epilepsy (WHO, 2001b).

1.13.1. Classification and characterization of traditional healers in Sudan

In Sudan traditional healers could be classified as: religiously oriented healers, who make use of religious techniques; and non-religious healers who utilize magico-religious practices. The religious healers usually grow up within a professional circle and from early childhood learn the traditional techniques from the master. There is no system of prescribed courses of learning. The future healer gains the required experience through active participation in therapy with the *sheikh* (Baasher, 1975). Any formal teaching is limited to the learning of the Holy Quran and the saying and traditions of the Holy Prophet (peace be upon him) and the formulations and maxims of the sheikhs. By listening to the elders, the disciples become familiar with miraculous cures, which are attributed to the divine power of the dead sheikhs (Deifalla, 1930).

Generally, traditional healers in Sudan can be divided into two distinct groups: religious healers influenced by Islamic and Arab culture, such as traditional Koranic healers

and Sufi healers; nonreligious healers influenced by African culture, such as practitioners whose systems are based on *zar*, *talasim* or *kogour*.

The religious healers are further subdivided into two groups: the first uses only Koranic treatment, derived from certain verses. This involves reading and listening to the Koran with the active participation of the patient (Bali, 1992). The success of this treatment is said to depend on the reliability of the healer and the degree of his belief, in addition to the conviction of the patient and his belief in the Quran as a source of treatment.

The second group uses a combination of both Quran and *talasim* (non-religious methods). The types of *talasim* used are mainly squares filled with symbolic letters which have a hidden spiritual dimension conceived only by the sheikhs as pious, holy men. They contain the 99 attributes (names) of God and some other inherited words from ancient divine books. Healers in this subgroup are influential decision-makers at the individual, family and community level. They are respected not only by their followers, but also by government officials and politicians (Fadol, 1975).

The concept of kogour and zar

Elsorayi (1985) stated that *kogour* is a typical African practice found only in the south of Sudan where African culture dominates. It is used by healers who claim to have supernatural powers; it deals with the belief that souls affect the body. Such healers use their power to cure disease and to solve other problems, such as the control of rain.

Mohammed (1989) stated that *zar* came to Sudan from Ethiopia and is based on the assumption that supernatural agents or spirits possess a person and may cause him or her some physical and psychological disorders. The *zar* concept of possession is based on the idea that the spirit makes certain demands that should be fulfilled by the patient or relatives;

otherwise this spirit may cause trouble for all of them. *Zar* is the dominance of the evil soul over the human being with the intention of hurting the person. *Zar* is common among Muslims as well as Christians. The sheikhs of *zar* are usually women. They are responsible for diagnosing and identifying the spirits and their demands and preparing and directing what are called *zar* parties. These parties feature very loud music, vigorous dance and songs with special rhythms. They serve both diagnostic and therapeutic objectives (Ahmed et al., 1999)

Most of the patients and their families in Sudan depend mainly on traditional healers and their healing methods as the most accessible and less demanding in term of financial obligations (El Gaili, 1998). Baasher (1984) mentioned that the holistic approach of traditional healing might lead to long-term stability of health; this might explain why in many cases patients would prefer this approach to techniques are supposed to that result only in short-term relief of symptoms. This therefore is a good reason to study mentally ill patients within the traditional healer system to understand the reasons and factors that bring this long term stability in health. In addition to harmful practices quality control is not assured within traditional approaches to healing because there is lack of regulation. However, traditional medicine maintains its popularity for historical and cultural reasons.

El Gaili (1998) reported that, until recently in Sudan, interest in and concern about mental health were mainly left to traditional healers, and such healers continue to see the majority of mental patients. Traditional healers perform many valuable services and social benefits to the community, nevertheless traditional healing is not formally institutionalized, as there is no government entity with responsibility for to guiding or supervising the delivery of traditional healing services. Therefore, getting accurate estimates of the figures or numbers of traditional healers, for instance, is extremely difficult.

Traditional healers' beliefs regarding causes of diseases

Traditional religious healers commonly believe that there are three causes of disease: the evil eye, evil-doing (*amal*) and demonic or jinn possession. The evil eye is a concrete representation of the omnipotent evil-producing fantasies of people who envy the success, health and prosperity of others. Such envious feelings are held responsible for any deterioration, especially if sudden, in the envied person's well-being (El-Islam & Ahmed, 1971). The evil eye as a causative factor in the pathogenesis of disease is firmly established in Muslim countries. Basically, belief in the malignant influence conveyed by it seems to be similar in various religions' except that of ancient Egypt (El-Islam & Ahmed, 1971).

In evil-doing (*amal*), disease is caused by the presence of certain objects or substances in the body. The underlying magical part of this concept is noticeable here. This concept has no roots in Islamic philosophy. Even those religious healers who believe in evil machination do not resort to shamanistic practice against it, but employ religious techniques instead. Even some of those traditional healers whose practices would be overall classified as 'religious' incorporate some witchcraft in their work (Baasher, 1975)**.**

Possession by spirits or jinn involves the belief that the individual concerned has been mastered by these agents and that the disorder is produced by them possibly for retribution for making them angry. In magic or sorcery, on the other hand, it is the evil intentions of other people that involve the spirits in order to harm a particular person in the way they specify (El-Islam & Ahmed, 1971).

Interventions and procedures for treating people with mental illness

There are many different types of interventions and procedures for treating people with mental illness in the THCs in Sudan; the most well known and most common procedure is

the restriction of food intake. Patients are not allowed any meat or carbohydrate. Meat proteins and fat are prohibited because traditional healers believe that they contain 'soul' (*Rouh*) and that stopping soul from entering the body can weaken the soul of the evil or the devil inside the mentally ill person. Patients are also prevented from taking high-calorie food because the traditional healers believe that this will deprive the evil spirit of energy, thus enabling it to be overpowered (Baasher, 1975). Instead, patients are given a small portion of porridge, specially made in the THC, which the healers believe contains a blessing (*Baraka*) and a cure for the mental illness.

Traditional healers also use chains to restrict the movement and agitation of the mentally ill. This procedure was practised on almost all patients, regardless of their diagnosis, as a precaution to control the patients physically and prevent them from escaping or running away from the centre in the initial days or weeks of treatment. Some of the patients, especially those who were psychotic and agitated, were also beaten.

Recitation of the Holy Book (Quran) and the words of God to the patients (*Rogya*) were used as a method of treatment for all patients in the THCs. *Bakhra* and *Mehaya* were also used for almost all patients admitted. *Bakhra* involves writing holy verses on special papers or tree leaves; the patient or family then burn these and the resultant smoke is passed round the patient's body to bring about a cure. *Mehaya* is purification using holy water and specially designed boards, papers or tree leaves. The healer writes on these certain symbols, signs and healing invocations that are traditionally known for their divine power. The writing is then washed off, the water is collected and the patient either drinks it or washes the body with it (Baasher, 1975).

1.13.2. How faith heals

Levin (2009) tried to answer the question of how faith heals; he derived a theoretical perspective from psychology that would support a healing effect of faith. Faith is defined as a congruence of belief, trust, and obedience in relation to God or the divine. Evidence for a faith–healing association is presented, empirically and in theory. To exemplify religiously sanctioned affirmation of such a connection, selected passages are cited from the Jewish canon attesting to biblical and rabbinic support for a faith factor in longevity, disease risk, mental health and well-being, disease prevention, and healing. Reference to theories of hope, learned optimism, positive illusions, and opening up or disclosure, and to theory and research on psycho-neuro-immunology and placebos, demonstrates that contemporary psychology can accommodate a healing power of faith. This is summarized in a typology of five hypothesized mechanisms underlying a faith–healing association, termed behavioural/cognitive, interpersonal, cognitive, affective and psycho-physiological (Levin, 2009).

1.13.3. Traditional healer centres in Sudan

In Sudan there are many traditional healers' centres. They can be classified by the special traditional healing design or ways (*Tarriga*) or concepts that they are based on: *El-Tigania*, *El-Shazalliya*, *El-Samania*, *El-Gaderia*, *El-Burhania*, etc.

The traditional religious healers in Sudan are known by several names: the *feki*, the *fageer*, the *waly*, the *shareif*, the *sayed* and the *sheikh*. The terms denote holiness, or socio-religious superiority (Baasher, 1975). The followers of each traditional healer are called the *Murideen* (Baasher, 1975). Each *Tarriga*, or way, has been founded by a famous Sheikh. Each *Tarriga* has its own special spiritual methods (*Zikir*). The degree of successful

influence of the sheikh depends on religious morals and knowledge, piety (*wara*), asceticism (*Zuhd*), working miracles (*Karamat*) and spiritual power (Fadol, 1995). The most famous traditional healers' centers in Sudan include Taiba Shiekh Abdelbagi, Taiaba Shiekh Almukhashfi, Tiabba Shiek Alpraei (Al-Zareeba), Umdwanban, Wad Al-fadni in Khartoum north, Kadabass by the river Nile, Saimdeema in Omderman, sheik Al-kabashi in Khartoum north, and a few centres.

1.13.4. The function of the traditional healers centres in Sudan

The traditional healer centres also function as educational institutions. The biggest in these terms have between 1,000 and 3,000 students. The students reside in the centres for three to five years (or more), but do not have to pay any special fees; they learn reading and writing of the Holly Quran, *Tilawa* and *Tajweid*, and other religious and spiritual teachings. The traditional healer centres provide many social, consultation and spiritual services to the local communities as well as for the visitors who come to these centres from different parts of the country. Their financing is through the donations and contributions (*Zowara*) from their followers (the *Murideen*) and the regular visitors. These contributions are not only in the form of money but also food items and other materials, especially during the yearly celebration of the death of the sheikh's grandfather, the founder of that centre. This kind of celebration is called *Holliya* (which means an annual special ceremony) where special food is served (*Fatta*) and *Zikir* is practised in groups for the whole night, until morning. Many people come from different parts of the country, and sometimes even foreigners, to attend this ceremony.

1.13.5. The role and function of traditional healers in Sudan

People can go to healer sheikhs for consultation in each and every aspect of their life. Ahmed et al. (1999) stated that traditional healers can also act as family counsellors in critical life events such as building a house, marriage or naming a child, and may have both judicial and religious functions. They often act as an agent between the physical and spiritual worlds. People usually go to traditional healers to receive what is called *Fatiha* (special prayers performed by the sheikh) to bless them in all activities in their lives, and they give a huge contribution to these centres, what they call *Zowara*. The poor also contribute with small amounts or they may take their sheep and animals or their agricultural products as a contribution to these centres. Sometimes they may sell their sheep and donate the money as *Zowara*. It is not a requirement of patients, but they feel ashamed if they come empty-handed to the sheikh whether he is alive or dead. It is believed that the amount of blessing coming to people from the visit to the sheikh depends on the amount of sacrifices and *Qurban* that people spend. It has been reported that some couples who have no children visit the sheikhs to ask for a child; or a couple who have only girls might ask him for a baby boy. Usually the sheikh prays for them. Sometimes they may go and visit the dead sheikh and move around the grave, which is under a tall building called the *Quba*. They may collect holy sand from the dead sheikh's grave called *Baraka*.

It has been stated by Deifalla (1930) stated that miraculous cures are attributed to the divine powers of the dead sheikh. This is why people spread the sand all over the body or they may drink it after dispersing it in water; sometimes they hang it on the body or put it in a special place in their house to bless that house.

1.13.6. Common beliefs regarding traditional healing and healers

Both men and women with somatic, physical and mental complaints consult traditional healers. People believe that disobeying the sheikh brings damnation on the person and family. They believe in the sheikh's blessings and regard him as a mediator between the follower as a slave and the Lord. They also believe that the sheikh, whether dead or alive, is capable of rescuing them and pleading on their behalf for help and release from illness. Therefore, the sheikhs in the people's eyes are true representatives of spiritual power (Fadol et al., 1975).

1.13.7. Traditional healer practices regarding people with mental disorders in Sudan

Patients with mental disorders are usually brought by their relatives. Patient who are severely disturbed and agitated are often put in an isolated dark room especially built for the purpose. These patients are sometimes chained to a wall, and are not allowed to move or walk in that room, there is usually no toilet facility. They are prohibited to come out of that room for at least 40 days. Some patients have succeeded in taking off that chain and escaped from the centre. Usually these rooms are in the far corners of traditional healers' centres. The patients are deprived of all types of food except a special porridge made in the centre. Patient with a severe mental disorder generally stay in the centre from 40 days to 6 months or more, depending on the symptoms and condition. Usually, the patient's psychiatric medication, if any, would be stopped by the centre's healers so as not to interfere with the traditional healing. Three to five mentally ill patients are usually brought to famous centres for healing every day. These patients do not come from the local community, but will be brought from different parts of Sudan. They are usually accompanied by their family members. Some doctors treating mentally ill patients claim

that most patients kept in centres are deprived of food; the patients are consequently later presented to doctors often with anaemia thin and emaciated, with a lot of physical complications in addition to their psychiatric symptoms. The late Professor El Tigani El Mahi stressed that our attitudes towards religious healers should aim to encourage good quality of practice while trying to end harmful or faulty methods (Elsafi & Baasher, 1981). However, no attention has been paid to mentally ill patients in terms of assessing their conditions and reviewing the system of diagnosis and management in traditional healer centres.

It was reported by the WHO (1978) that:

> Traditional medicine is so successful in Sudan that is extensively used in the control of neuroses and Alcoholism, and as such possesses a potential for research on the treatment and rehabilitation of neurotic reactions, alcoholism and drug dependency. Traditional medicines present several valuable solutions to the management of culturally linked diseases and other health problems in Sudan. The reason for this success is that it is an integral part of the culture and they have deep confidence in it. The methods and techniques employed are guarded secrets by the traditional healers.

The WHO & Federal Ministry of Health (2009) reported that:

> In Sudan the traditional healing methods are shaped by the religious, spiritual and cultural factors of different ethnic population groups. The practice is common in urban as well as rural populations. Traditional healers may require long stay of patients and this may prevent early detection of disease and early medical intervention by modern psychiatry.

Although traditional healing is highly regarded and popular in Sudan, apart from these WHO reports no studies have been conducted on the type of traditional healing provided and no studies have been conducted among people with mental disorders receiving management in traditional healer centres in Sudan. It is therefore important to

know what type of services provided at these centres, to know the patients' characteristics and whether and how these people benefit when they use these services.

No previous studies have investigated the conditions and the situation of people with mental disorders who receive treatment in the traditional healer centres in Sudan. Elsafi & Baashar (1981) noted:

> It is worth mentioning that there are no available systematic studies concerning the general traditional healing practitioners of Sudan, particularly the religious and spiritual healers, and they are not officially acknowledged. They practice their traditional ways of healing without license, registration or training.

Against this background it is vital for us to investigate the practices of traditional healers in relation to mental health in Sudan, because high percentages or most of the mentally ill patients in Sudan consult traditional healers before making contact with the psychiatric services. People with mental illness may go to mental health and psychiatric services very late, or they may never go. This may delay psychiatric treatment, which probably leads to a poor outcome of the mental illness. People with mental illness usually are brought involuntarily to traditional healers' centres, and they are left there for months in a miserable condition. Many patients are isolated and secluded in dark rooms, and are chained for months; sometimes, they are beaten and are even prevented from taking food and medicine.

2. LITERATURE REVIEW

2.1. Introduction

This chapter provides a review of the most relevant studies of traditional healing and mental disorders and pathways to psychiatric care worldwide and the models of health seeking behaiour. The issues involved in the treatment of mental disorders, the methodologies employed in the studies, and the results obtained are reviewed. Systematic literature searches were performed using several databases.

Most of the previous studies conducted in the area of traditional healing in relation to mental disorders worldwide can be classified into six main categories:

- studies and surveys on the prevalence of mental health problems in the community, and among those who use traditional healers;

- studies of the pathways to care for people with mental health problems (of particular interest are those that have determined the help-seeking behaviour of patients prior to attending psychiatric clinics or mental hospitals);

- studies of the factors that influence the use of traditional healers and the characteristics of the people who use these services (their socio-economic and demographic profiles, as well as their complaints, symptoms and diagnosis);

- studies of the outcome of traditional healing practices, as well as the methods used, and the scales and instruments to measure improvement (if any);

- studies of collaboration between Western practitioners and traditional healers;

- studies conducted to delineate concepts, categories, causes of mental disorders and their treatment as understood by traditional healers.

2.2.   The prevalence of mental disorders

2.2.1.   *In the community and primary health care in the African continent*

A national study of the Prevalence of Mental Disorders was conducted as a door-to-door household survey of 14,640 adults aged 18–64 years in Egypt (Ghanem et al., 2009). Mental disorders were diagnosed using the MINI-Plus diagnostic interview. The overall prevalence was estimated at 16.93% of the studied adult population. The main problems were mood disorders (6.43%), anxiety disorders (4.75%) and multiple disorders (4.72%). Mental disorders were associated with socio-demographic factors (e.g. being female, being unemployed, being divorced) and physical illness (e.g. heart disease, kidney disease, hypertension).

A large-scale community study of the prevalence of mental disorders using standardized assessment tools was conducted by Gureje et al. (2006) in Nigeria. They used a multistage stratified clustered sampling of households and conducted face-to-face interviews using the World Mental Health version of the Composite International Diagnostic Interview (WMH-CIDI). They interviewed 4,984 people (response rate 79.9%), among whom 12.1% had a lifetime rate of at least one DSM-IV disorder; the 12-month rate of at least one DSM-IV disorder was 5.8%. Anxiety disorders were the most common disorder (5.7% lifetime, 4.1% 12-month rate), but virtually no generalized anxiety or post-traumatic stress disorder was identified. The observed low rates seem to reflect demographic and ascertainment factors. A similar study of the prevalence of common mental disorders and substance abuse was conducted by Havenaar et al. (2008) in South Africa. Self-report instruments were used in two random population samples (each of 330 respondents) and among respondents at PHCs and THCs, to assess common mental health

problems, substance abuse problems and associated problems in social functioning. A high prevalence of mental health and substance abuse problems was observed in both communities, with highest rates in the peri-urban township. An even higher prevalence of mental health and substance abuse problems was found among respondents at PHCs and THCs. The study showed that mental health and substance abuse problems constitute a considerable burden of disease among disadvantaged communities in South.

The community studies in Eygpt (Ghanem et al., 2009), Nigeria (Gureje et al., 2006) and South Africa (Havenaar et al., 2008) have succeeded in giving us estimates of the prevalence of mental disorders, but the large sample sizes required in turn demand a lot in the way of both human and financial resources. Generally, such studies of prevalence of mental disorders in the community are very important, which can give an estimate of the magnitude of mental health problem in the community and guidance for planning mental health programmes.

2.2.2. *The prevalence of mental disorders among those who use traditional healers*

There are few studies in Africa of the prevalence of common mental disorder among those attending traditional healer centres. Patel et al. (1995b) reported a prevalence of 40%. Ngoma et al. (2003), in a study of common mental disorders among those attending PHCs and TH in urban Tanzania, used the Clinical Interview Schedule-Revised to determine the prevalence of mental disorders in 178 patients from PHCs and 176 from THCs, aged 16–65 years. They found that the prevalence of common mental disorders among THC patients (48%) was double that among PHC patients (24%). Being older, Christian, better educated, and divorced, separated or widowed were independently associated with THC attendance. They concluded that the high prevalence of mental disorders among THC attenders may

reflect the failure of primary care services adequately to detect and treat these common and disabling disorders.

The studies conducted by Patel et al. (1995) and Ngoma et al. (2003) are notable because they had clear aims, good justification for the sample size; clear inclusion criteria. They used a valid and reliable measure of mental health, and reported the response rate; they also conducted appropriate informed consent procedures. The papers both provided adequate description of data and appropriate statistical analysis; so the results were reliable and have been used as the basis for other studies.

Abbo et al. (2008) determined the prevalence of psychological distress and associated factors among attenders at traditional healers. The Self Reporting Questionnaire (SRQ-20) was given to 400 patients over the age of 18 years attending traditional healers in two districts in eastern Uganda. Patients were recruited consecutively in all the THCs that could be visited in the area. Persons with six or more positive responses to the SRQ-20 were identified as having psychological distress. The prevalence of psychological distress among the responders at the THCs was 65.1%. Subsequently Abbo et al. (2009) used the MINI to study the prevalence of DSM-IV mental disorders treated by traditional healers in Uganda; they found that 60.2% of the psychologically distressed persons had a current mental illness. Of the diagnosable current mental illnesses, 29.7% were psychosis, 5.4% major depressive episode, 5.6% anxiety disorders and 3.6% mixed anxiety/depression.

El-Amin & Refat (1997) studied the role of traditional (religious) healers in primary care for treating psychiatric disorders in Egypt. Patients who were attending to a famous traditional healer (sheikh) were examined over a period of 3 months. The first month for examining new patients and the other two for follow up cases. They found that, out of the 196 who seek traditional care 91 (46.4%) had psychiatric disorder. Majority of patients

56% had no previous medical intervention. Many of the patients were first treated by non-psychiatrists, 40.7% general practitioners, 35.2% neurosurgeons 24% medical specialists and 12% in emergency room services. Only 8% were treated by psychiatric specialist. The majority of patients were females more than males, young age groups, and illiterate or with minimal education. In term of diagnosis of psychiatric patients according to ICD 10; 30% had somatoform disorder, 12% had PTSD and adjustment disorders, 12% had schizophrenia, 7.7% had manic episodes, 20% sexual disorders.

Saeed et al. (2000) studied the prevalence, classification and treatment of mental disorders among attenders at faith healers in Pakistan. The work of faith healers with 139 attenders was observed and recorded. The mental status of attenders was assessed using a two-stage design: screening using the General Health Questionnaire followed by diagnostic interview using the Psychiatric Assessment Schedule. Sixty-one percent of attenders were given a research diagnosis of mental disorder, the main ones being major depressive episode (24%), generalized anxiety disorder (15%) and epilepsy (9%).

The studies discussed thus far highlight the important role played by traditional healers in the treatment of people with mental disorders (see Table 2.1).

Table 2.1: Summary of studies of the prevalence of mental disorders among attenders at THCs

Reference	Study title	Sample size	Prevalence
Ngoma et al. (2003)	Common mental disorders among those attending primary health clinics and traditional healers in urban Tanzania	176	48%
Patel et al. (1995a)	The phenomenology and explanatory models of common mental disorder: a study in primary care in Harare, Zimbabwe	396	40%
Saeed et al. (2000)	The prevalence, classification and treatment of mental disorders among attenders of native faith healers in rural Pakistan	298	61%
Abbo et al. (2009)	The prevalence and severity of mental illnesses handled by traditional healers in two districts in Uganda	387	60.2%
El-Amin & Refat (1997)	Role of traditional (religious) healing in primary psychiatric care in Sharkia, Eygpt	196	46.4%

However, no previous studies have been conducted in Sudan on the prevalence and outcome of mental disorders among attenders at THCs, although there has been just one study on the characteristics of visitors to the traditional healers in general (Ahmed et al., 1999).

2.3.   Pathways to psychiatric and mental health care: a global perspective

Pathways to care can be defined as the contacts made during the period from the onset of illness until the initiation of treatment (Rogler & Cortes, 1993). Studies of the pathways to care investigate the sources of care used by patients on their way to psychiatric services. These studies have investigated the role of previous carers and waiting times, and have been used to monitor service development over time (Cavic et al., 2004). Pathways studies can be a quick, useful starting point and generally require few resources (Gater et al., 2005). Understanding the way in which people seek care for mental disorders is increasingly recognized as important for planning mental health services, for the provision of appropriate training and for establishing appropriate referral mechanisms between the sectors of health and social care (Cavic et al., 2004). The pathways patients take to psychiatric care will reflect the nature of the services available and popular beliefs about mental illness. Studying these pathways may help in the identification of sources of delay in the receipt of care and suggest possible improvements (Gureje et al., 1995). Understanding the pathways to psychiatric care and the recognition of delay points are crucial for the development of mental health services (Bekele et al., 2009). Studies of help-seeking behaviour should suggest strategies and techniques to reach out to mentally ill patients by the appropriate specialists (Balestrieri et al., 1994). The pattern of care seeking of psychiatric patients is important for service and policy issues (Giasuddin et al., 2012).

A search of electronic databases was undertaken for studies on pathways to psychiatric care and help-seeking behaviour of people with mental disorders, additional references were then taken from the items obtained.

Over 40 papers in English containing some empirical data on pathways to psychiatric care and help-seeking behaviour were identified. Table 2.2 lists those papers that report the proportion of the sample who contacted a traditional healer.

Table 2.2: Summary of studies on pathways to psychiatric care: proportion of the sample contacting a traditional healer

Reference	Study title	Sample size	Proportion contacting a traditional healer
Abiodun (1995)	Pathways to mental health care in Nigeria	238	40%
Aghukwa (2012)	Care seeking and beliefs about the cause of mental illness among Nigerian psychiatric patients and their families	219	45%
Appiah-Poku et al. (2004)	Previous help sought by patients presenting to mental health services in Kumasi, Ghana	322	6%
Bekele et al. (2009)	Pathways to psychiatric care in Ethiopia	1,044	30.9%
Burns et al. (2010)	Causal attributions, pathway to care and clinical features of first-episode psychosis: A South African perspective	54	39%
Campion & Bhugra (1997)	Experiences of religious healing in psychiatric patients in south India	198	45%
Chadda et al. (2001)	Help seeking behaviour of psychiatric patients before seeking care at a mental hospital	78	29.5%
Chong et al. (2005)	Determinants of duration of untreated psychosis and the pathway to care in Singapore	112	24%
Coton et al. (2008)	The health-care-seeking behaviour of schizophrenic patients in Cambodia	104	56.7%
Ensink & Robertson (1999)	Patient and family experiences of psychiatric services and African indigenous healers.	62	61%
Erinosho (1977)	Pathways to mental health delivery-systems in Nigeria	208	74%
Gater et al. (2005)	Pathways to psychiatric care in Eastern Europe	400	10%
Giasuddin et al. (2012)	Pathways to psychiatric care in Bangladesh.	50	22%
Girma & Tesfaye (2011)	Patterns of treatment seeking behaviour for mental illnesses in southwest Ethiopia	384	50%
Güner-Küçükkaya & Unal (2011)	Help-seeking behaviours of Turkish patients prior to accessing a psychiatric polyclinic	225	50%
Hashimoto et al. (2010)	Pathways to mental health care in Bangladesh, India, Japan, Mongolia and Nepal	250	8–22%
Kilic et al. (1994)	Pathways to psychiatric care in Ankara	582	1%
Kua et al. (1993)	Spirit possession and healing among Chinese psychiatric patients	100	36%
Kurihara et al. (2006)	Pathway to psychiatric care in Bali	54	87%
Lahariya et al. (2010)	Pathway of care among psychiatric patients attending a mental health institution in central India	295	69%

Matuja et al. (1995)	Nature of referrals to the psychiatric unit at Muhimbili Medical Centre, Dar es Salaam	205	20%
Nonye & Oseloka (2009)	Health-seeking behaviour of mentally ill patients in Enugu, Nigeria	397	34.5%
Phang et al. (2010a)	Prevalence and experience of contact with traditional healers among patients with first-episode psychosis in Hospital Kuala Lumpur	50	54%
Pradhan et al. (2001)	First care givers of mentally ill patients: A multicentre study	384	26%
Razali & Yassin (2008)	Complementary treatment of psychotic and epileptic patients in Malaysia	120	44.2%
Razali & Najib (2000)	Help-seeking pathways among Malay psychiatric patients	134	69%
Rhi et al. (1995)	The health care seeking behaviour of schizophrenic patients in 6 East Asian areas	1,061	30.4%
Salem et al. (2009)	Help-seeking behaviour of patients attending the psychiatric service in a sample of United Arab Emirates population	106	44.8%
Salleh (1989)	The consultation of traditional healers by Malay patients	104	73.1%
Sayed et al. (1999)	Traditional healing of psychiatric patients in Saudi Arabia	227	70%
Steel et al. (2006)	Pathways to the first contact with specialist mental health care	146	5%
Tang et al. (2007)	Help-seeking behaviours of Chinese patients with schizophrenia admitted to a psychiatric hospital	202	32.7%
Temmingh & Oosthuizen (2008)	Pathways to care and treatment delays in first and multi episode psychosis	71	5.6%
Gater et al. (1991)	The pathways to psychiatric care: A cross-cultural study	1,554	–
Gater & Goldberg (1991)	Pathways to psychiatric care in south Manchester	250	2%
Cougnard et al. (2004)	Pathways to care of first-admission subjects with psychosis in south-western France	86	–
Angermeyer et al. (1999)	Whom to ask for help in case of a mental disorder? Preferences of the lay public	1,564	–
Balestrieri et al. (1994)	Pathways to psychiatric care in South Verona, Italy	116	
Salgado-de Snyder et al. (2003)	Recursospara model integration of the mental health care in the rural population of Mexico	21	
Farooqi et al. (2006)	Traditional healing practices sought by Muslim psychiatric patients in Lahore, Pakistan	87	

2.3.1. *Pathways to psychiatric care – a cross-cultural study*

Gater et al. (1991) described the referral pathways taken by 1,554 patients newly referred to the mental health services in 11 countries, and documented factors associated with delays in referral. The pathways in centres relatively well provided with psychiatric staff were dominated by general practitioners (GPs) and to a lesser extent hospital doctors; the relatively less well resourced centres showed a variety of pathways with native healers often playing an important part. Delays were remarkably short in all centres, regardless of psychiatric resources, but in some centres there were longer delays on pathways involving native healers. Somatic problems were a common presentation in all centres, and in some centres there was a tendency for patients presenting with somatic problems to have longer delays than those with symptoms of depression or anxiety.

2.3.2. *UK*

Gater & Goldberg (1991) in study of pathways to psychiatric care in south Manchester sampled 250 patients newly referred to the mental illness services. Almost two-thirds were referred directly by their GP; a further third were referred by hospital doctors. Non-medical sources of referral accounted for only 2% of new cases. Patients with somatic problems had the longest interval between seeking care and referral to the psychiatric services. Being employed was associated with a longer delay before seeking care; among women, those living with their husbands or children had longer total intervals between the onset of the problem and arrival at psychiatric services.

2.3.3. France

Cougnard et al. (2004) described the pathways to care between onset of psychosis and first admission, and examined the demographic and clinical factors influencing access to care in 86 subjects with psychosis first-admitted to two hospitals in south-western France. Characteristics independently associated with long delays between onset of symptoms and first helping contact, first treatment and first admission were explored using logistic regression. Twelve per cent of subjects were first admitted without any previous helping contact. The patients were seen by a median of two helpers (maximum seven). For most patients (70%), the first helping contact was a health care professional, and the same proportion of patients had a first contact with a GP or a psychiatrist. The type of first contact was not predicted by demographic or clinical characteristics. Subjects with poor pre-morbid functioning or at-risk behaviour were more likely to have delayed access to care. The delay in access to care may not be totally attributed to inadequate management by health professionals, but may be a characteristic of the disease itself, at least in part independent of the organization of the health care system.

2.3.4. Germany

Angermeyer et al. (1999) investigated the lay public's attitudes to help-seeking regarding psychiatric disorders, and their determinants, in a cross-sectional national survey in Germany (*n*=1,564), using structured interviews with vignettes depicting a person suffering from either depression or schizophrenia. Two distinct methodological approaches (rating vs ranking) were applied. They found that public opinion considers mental health professionals helpful in treating schizophrenia but not in the treatment of depression. For depression, public opinion clearly favoured the lay support system and believed in

involving the family physician if the former resource was exhausted. Determinants of help-seeking recommendations were problem definition, perception of the cause of distress and anticipated prognosis, as well as resentment of mental health professionals. Although socio-cultural factors have been recognised as an important predictor in shaping help-seeking behaviour, few attempts have been made in this regard to specify their nature and impact. The results suggest that attitudes and belief systems prevalent in society have a major impact on help seeking behaviour, both through transmission to the person suffering from mental distress via the social network and through the person's own attitudes formed in the process of socialization.

2.3.5. Italy

Balestrieri et al. (1994) reported the results of a survey conducted in the South-Verona Community Psychiatric Service (CPS) in Italy, with the aim of plotting the pathway to psychiatric care of the patients. One hundred and sixteen South-Verona residents (aged 17–80 years) starting new episodes of care were traced and included in the study. The first port of call for 92% of patients was a doctor. More than one-third arrived at the CPS directly, and one-third went first to a GP and then to the CPS. Patients presenting first at these two major ports of call tended to have quite a similar latency period before seeking care. Problems presented were mostly depression and anxiety: more than half the sample had a diagnosis of affective disorder, neurotic and somatoform disorders and schizophrenia and related disorders.

Amaddeo et al. (2001) investigated the accessibility and pathways to psychiatric care in a community-based mental health system in Italy. They studied the pathways followed by patients with new episodes of care to community- based mental health

services, they also recorded the time intervals from onset of the problem to first contact with services, and then to onward referral to specialist care, and explored the short-term costs associated with the different pathways. Using data from 194 patients in a new episode of care over a six-month period (November 1999–May 2000) from the South-Verona Psychiatric Case Register (which records all new patients referred to any of the facilities which are part of the South-Verona Community Psychiatric Service (CPS). The most common route to mental health services was via a GP (40%), followed by a referral from a hospital doctor (26%) and self-referral (23%). Psychiatrists in private practice were responsible for a further 3% of referrals (5 patients), and those working in other public psychiatric services for a further 2% (3 patients), which means that referrals by doctors accounted for more than 70% of these patients. The median interval from onset to direct contact with the South-Verona CPS (12 weeks) was shorter than the interval from onset to direct contact with other service providers (the median interval for contact with GPs and hospital doctors was 24 weeks). When the results are compared with a directly comparable earlier study in South-Verona, it is apparent that between 1991 and 1999 an increasing proportion of patients with insomnia and somatic disorders presented first to GPs, while a decreasing proportion of patients over the years directly sought specialist care. An increase in the role of local GPs as gatekeepers had, therefore, emerged.

2.3.6. Mexico

Salgado-de Snyder et al. (2003) examined health service utilization for mental health-related problems among rural inhabitants of Mexico. A model of pathways to mental health services was built. Based on this model, an integration-intervention model was proposed to help improve access to mental health services and their quality. In 1997, in-depth

interviews were conducted with 21 adults (9 men and 12 women) and seven healthcare providers, in a rural community in Jalisco, Mexico. The women's ages ranged from 23 to 44 years; ten were married and two single. Men were between 30 and 74 years old; eight were married and one was a widower. Healthcare providers in the same community were: a priest, a general physician, a pharmacy clerk, two nurses, and two traditional healers. The pathways models suggested that the first attempt a person makes to solve a symptom is self-care. When such strategies are not sufficient to relieve the symptom, the person turns to members of the social network for help who in addition to providing information about remedies offer their emotional and instrumental support. If after consulting the social network, the symptom is not relieved, the individual seeks help from other external resources, such as members of the ethno-medical local system. Inhabitants of rural communities tend to seek help from physicians, only when the symptom persists and the suffering associated with it seems to be out of the individual's control, or if members of the social network or the ethno-medical local system refer the patient to the physician. Seeking help from a specialist in mental health (i.e. a psychiatrist or psychologist) is improbable among the rural inhabitants of Mexico, mostly due to difficulties in accessing these services, such as geographical location, distance, transportation, cost, and cultural distance between the health providers and the patient. In order to conduct successful intervention programmes that are culturally sensitive for rural inhabitants, it is necessary first, to have detailed information derived from research and second, to have the active participation of all human and institutional resources, from professionals and truly multi-disciplinary researchers, to educators, social, religious, and political leaders, and members of the communities and local institutions.

2.3.7. Greece

Madianos et al. (1993) conducted a nationwide home survey in Greece to identify possible factors affecting help-seeking behaviour for psychiatric reasons and the prevalence of related psychosocial problems in a sample of 3,754 adults. Of the total of 570 respondents who reported at the personal interview that they had a serious mental health problem, only 40.8% reported that they had attended a physician or a psychiatrist. A significant proportion of this population (42.5%) had sought the help of a physician. Multivariate analysis revealed two opposite groups of factors determining help-seeking behaviour: respondents with a serious psychopathological profile (suicidal, depressive and a history of hospitalization) tended to be under psychiatric care; respondents of lower socio-economic status expressing psychosomatic symptoms were usually the clientele of physicians.

2.3.8. Turkey

Kilic et al. (1994) studied the pathways that patients take to reach psychiatric services among 582 patients in seven centres in Ankara. Only 4% of patients in the sample contacted their GP first, compared with 42% who first saw hospital doctors and 53% who came direct. Religious healers appeared in the pathway of only 1% of patients, and the delay associated with them was longer. Male patients had longer delays than female patients, and delays were also longer for patients presenting with somatic symptoms. Although the availability of psychiatric services is limited, the median time taken to be seen by the psychiatric services after contacting any carer was only 1 week. The results showed that the referral system for the mental health services is far from a GP-based system. The patients presenting with somatic symptoms consulted hospital doctors more frequently and

were delayed more, pointing to the need for the training of hospital doctors, in addition to GPs, in the recognition and management of common psychiatric disorders.

Güner-Küçükkaya & Unal (2011) conducted a study to determine the help-seeking behaviours, prior to attending a psychiatric outpatient clinic, among Turkish patients ($n =$ 225) with mental illness. Prior to attending the clinic, 29.3% of patients surveyed indicated they used self-implementation techniques, 17.8% consulted someone other than a physician, and 9.3% visited special healing sites other than hospitals. More than 50% used alternative therapies rather than conventional treatment. They emphasize the role of mental health nurses in understanding these health-seeking behaviours when planning individualized patient care and treatment.

2.3.9. Eastern Europe

Gater et al. (2005) carried out a collaborative study of the pathways that lead to psychiatric services in eight centres in Eastern Europe (in Serbia, Montenegro, Romania, Bulgaria, Macedonia, Albania and Croatia) using the methodology of the World Health Organization Study of Pathways to Care. Pathways diagrams were drawn to show the routes to care for 50 new patients in each of eight centres. Patterns of care-seeking, durations and previous treatments were compared for ICD-10 diagnostic groups. They found that the major pathways included GPs, direct access and hospital doctors. In all centres combined, 87% first sought care from a doctor, usually a GP (40%) or by directly accessing the psychiatric services (33%), and less frequently from a hospital doctor (14%). The involvement of the police in 12% of cases in Romania, native or religious healers in 10% in Macedonia and priests in 6% in Romania; GPs had a limited role as 'gatekeepers' in centres in Albania,

Croatia, Macedonia, Romania and Serbia Montenegro, and rarely prescribed treatment, except sedatives, for mental disorders.

Pawlowski & Kiejna (2004) in Poland over a period of two months studied all patients aged 15 and over who had not sought care from any public or private psychiatric service during the previous 365 days. They were interviewed by psychiatrists, using the Polish version of the WHO Encounter Form. A total of 228 patients were seen. The study reveals that the median interval between first seeing a primary carer and arrival at a mental health service was 12 weeks, which is much longer than all other European centres in previous studies. Making use of the pathway method and, in particular, median interval analysis between the onset of the mental health problem and seeing mental health professionals (MHPs) showed the limited access patients with a new episode had to psychiatric services in both epidemiological catchment areas. This method seems to be a simple and inexpensive way of monitoring the accessibility of mental health professionals in a period of health care reform.

2.3.10. Australia

Lincoln et al. (1998) investigated to whom it is that people turn for help, how long that approach takes and subsequent delays in commencing treatment to gain an understanding of treatment delays and their nature in initial psychotic episodes. Qualitative and quantitative methods were combined with interviews of 62 people (aged 16–30 years) suffering from first-episode psychoses who had recently accessed a specialist mental health service in Melbourne, Australia. A modified version of the WHO Encounter Form was used in conjunction with other data. Pathways to care and the ways in which they were experienced were highly variable, with 50% of people experiencing psychotic symptoms before

approaching any service. The GP played a key role, with 50% of people having had GP contact at some point prior to commencing effective treatment. Where an individual's own efforts to seek early help failed, the role of relatives and others was subsequently vital. The authors concluded that opportunities exist for shortening delays through targeted health promotion activities and professional training. The need was indicated for a multi-layered or topographical strategy to identify and minimize critical barriers to early intervention.

Steel et al. (2006) examined the pathways to mental health care followed by patients presenting for the first time to community- and hospital-based services and the degree to which individual characteristics, cultural background, illness type, severity and service-related variables influence the time and pathways taken to reach care. One hundred and forty-six consecutive Australian-born, Asian and Arabic-speaking patients making their first lifetime contact with mental health services in two area health regions were included. Symptom severity was assessed using the Health of the Nations Outcome Scales. Illness explanatory models, social support, English-language proficiency and acculturation were also assessed. On average three professional consultations were made prior to first contact with public mental health services. Family physicians occupied a pivotal role in the help-seeking pathway with 53% of patients consulting a GP. The median time taken to reach specialist mental health services was six months, but this was significantly shorter for patients with psychotic disorders. Individual variables such as gender, social support, ethnicity and English fluency were not associated with delays in receiving public mental health care. Ethnicity was associated with lower utilization of allied health professionals. The data suggest that social and cultural factors influence the range of professionals consulted by those with a mental illness but do not delay their presentation to public mental health services.

2.3.11. India

Campion& Bhugra (1997) carried out a survey over three months to determine the experiences of religious healing of 198 consecutive psychiatric patients attending a hospital in Tamil Nadu, south India. Of these, 89 (45%) had sought between 1 and 15 sessions from either Hindu, Muslim or Christian healers. Visiting healers was linked significantly to patient income, while significantly more patients under the age of 17 years had received such help compared with older age groups. A significantly higher consultation rate was observed in those patients with schizophrenia and delusional disorders when compared with other mental illnesses. An average of 30% of patients claimed some benefit from healer consultation, although the majority (91%) had discontinued such treatment at the time of their hospital attendance.

Chadda et al. (2001) studied the help-seeking behaviour of 78 psychiatric patients before seeking care at a mental hospital in Delhi (India); they found that 57.7% of the patients went directly to psychiatrists and only 29.5% first chose traditional healers.

Pradhan et al. (2001) studied 384 subjects from five centres in India (Delhi, Chandigarh, Ranchi, Mumbai and Kerala). In this sample 34.1% had chosen to first visit a psychiatrist, 29.4% a GP and 26.0% a faith healer or exorcist.

Lahariya et al. (2010) studied the pathway to care of psychiatric patients attending a mental health institution in central India. They included 295 patients. The majority (45%) were suffering from bipolar affective disorders (45%), followed by schizophrenia (36%). The majority, 203 (68%), were from the rural area, and 94 were illiterate. The mean distance travelled for treatment was 249 km. The majority of this sample (69%) had first contacted faith healers and a qualified psychiatrist was the first contacted person for only 9.2% of the patients.

Jain et al. (2012) evaluated the pathway to psychiatric care in patients in Jaipur, India. Seventy-six patients who attended the outpatient department of psychiatry of a tertiary care hospital in Jaipur, India for the first time were enrolled in this study. The family members of the patients were interviewed to evaluate the pathway to care using the Encounter Form developed by the WHO. The patients were predominantly young adults, male, from rural, agrarian but educated backgrounds and a majority of them presented with psychotic illnesses. It was seen that there were five major gateways to care of the mentally ill in the region, faith healers being the most popular portal of care. The median duration of untreated illness was six months, and on average subjects had already visited two carers before visiting any mental health professional. The median monetary cost of the pathway was Rs3,565. Patients suffering from psychotic illnesses presented earlier. Those who used psychiatric services as their first portal of care had different socio-demographic variables from clients who used other services. The authors pointed to the importance of awareness campaigns to facilitate the recognition of psychiatric disorders.

2.3.12. Pakistan

Farooqi et al. (2006) explored the type of traditional healing practices sought by psychiatric patients treated at public hospitals of Lahore city, Pakistan. The sample comprised 87 adult psychiatric patients (38% male and 62% female). Patients self-reported on the Case History Interview Schedule that they had sought diverse traditional healing methods, including homeopathy, naturopathy (Tibb), Islamic faith healing and sorcery, for their psychiatric disorders prior to their current treatment from licensed psychiatrists, with the majority indicating they had sought more than one of these traditional healing practices. Patients with different psychiatric disorders sought multiple traditional healing methods for the

treatment of their mental disorders: somatoform (73%); personality/conduct disorders (73%); schizophrenia (70%); affective disorders (68%); and anxiety disorders (55%). Proportionately more male than female patients used multiple traditional healing practices. The male patients showed a higher number of visits per week to traditional healers than their female counterparts. These different help-seeking practices may be attributed to gender discrimination in mobility and taboos attached to women's consultation of male traditional healers. The study demonstrates religious traditions and Pakistani cultural norms affected the health care choices of Pakistani psychiatric patients.

2.3.13. China

Li et al. (2013) studied 203 subjects with various mental disorders using the translated version of the WHO pathway Encounter Form to investigate the patterns of help-seeking. They found on average, each patient consulted 3.6 caregivers. The vast majority of patients first visited local secondary general hospitals (SGHs) (35.5%) or local tertiary general hospitals (TGHs) (32%); however, 75.4% of them had not received professional diagnosis and treatment. The patients, who first contacted the psychiatric service, finally reached the General Hospital of the People's Liberation Army (PLAGH), because of poor treatment or the high cost of medical care. The subjects first seek the help of various sources before attending PLAGH due to a lack of awareness of the treatment services and the fear of the stigma associated with mental disorders. The primary care, even the local general hospital, did not act as a gatekeeper to psychiatric services.

Tang et al. (2007) investigated the help-seeking behaviours and related factors of Chinese psychiatric inpatients with schizophrenia. Two hundred and two patients with schizophrenia (meeting ICD-10 criteria) were enrolled. A locally-developed, semi-

structured questionnaire was used to collect data, including data on illness and help-seeking histories from patients, informants, and medical records. Among these 202 inpatients, 120 (59.4%) had sought help from at least one type of non-psychiatric facility (NPF), while the other 82 (40.6%) went to a psychiatric hospital directly. Among the former group 66 patients (32.7%) tried traditional Chinese medicine from licensed practitioners (including acupuncturists), 64 (31.7%) chose general hospitals (including nine who went to emergency departments), and 52 (25.7%) sought help from qigong (breathing exercise) masters or other folk healing methods. The reasons for seeking treatment from non-psychiatric facilities varied; the most common ones included feeling ashamed or stigmatized about going to psychiatric hospital, the inaccessibility or unavailability of psychiatric hospitals and fear of being incarcerated or receiving electric shock treatment. Patients who sought psychiatric help directly are likely to be female, with a chronic onset of illness, a mixed syndrome of positive and negative symptoms, and to have a better economic status.

2.3.14. Japan

Fujisawa et al. (2008) examined pathways to psychiatric care in 13 psychiatric facilities in Japan. Of the 228 patients who contacted psychiatric facilities with any psychiatric illness, 84 visiting psychiatric facilities for the first time were enrolled. Pathways to psychiatric care, delays from the onset of illness to treatment prior to reaching psychiatrists were surveyed. Thirty-three patients (39.4%) directly accessed mental health professionals, 32 (38.1%) reached them via general hospital, and 13 (15.5%) via private practitioners. The patients who consulted mental health professionals as their first carers took a longer time to consult a psychiatrist than the patients who first consulted non-mental health professionals. The median delay between the onset of the problem and contact with the first carer was two

weeks, and that between the onset of the problem and consultation with a mental health professional eight weeks. Patients who presented somatic symptoms as their main problem experienced a longer delay from the onset of illness to psychiatric care than patients who complained about depressive or anxiety symptoms. Prior to the visit to a mental health professional, patient were rarely informed about their diagnosis and did not receive appropriate treatments from their physicians. Private practitioners were more likely to prescribe psychotropics than physicians in general hospitals, but were less likely to inform their patients of their diagnosis. Thus, the study demonstrated that the referral pathway in Japan heavily relies on medical resources. It underlines the importance of improving skills and knowledge that will facilitate the recognition of psychiatric disorders presenting with somatic and depressive symptoms in the general health care system and by private practitioners. Pathway studies in Japan are of particular interest because of the special features of the country's health system in which there are no GPs, and patients are allowed to see any doctor of their choice.

2.3.15. Singapore

Kua et al. (1993) studied the illness behaviour of 100 Chinese psychiatric patients referred consecutively to the psychiatric unit of a general hospital in Singapore. More women than men felt that their illness was due to spirit possession; but belief in possession was not related to educational status. Thirty-six patients or their relatives had consulted a traditional healer before going to the hospital. Duration of illness, sex and educational status were not associated with the tendency to seek help from a traditional healer; there was also no significant difference between psychotic or neurotic patients. The authors reported that the majority of depressed patients (72%) presented with somatic complaints chest discomfort,

headache and abdominal discomfort. Somatisation was not related to the educational level or sex of the patients.

Chong et al. (2005) examined the pathways to care of a sample of patients with first-episode psychosis presenting to the psychiatric services of the Institute of Mental Health, Singapore, from January to December 2000. The association between the DUP and demographic, clinical and social variables was examined. The mean DUP was 32.6 months, with a median of 12 months. Twenty-four percent of the patients had sought a consultation with a traditional healer prior to consulting a psychiatrist.

2.3.16. Malaysia

Salleh (1989) interviewed 104 Malay patients attending a psychiatric clinic for the first time; a similar number from a general out-patients department randomly chosen, served as the control group. They found that;76 psychiatric patients (73.1%) had consulted a Malay traditional healer prior to their visit to the clinic, as compared with 26 of the outpatient controls (25%). The number of Malay traditional healers consulted was significantly higher among the psychiatric patients than the out-patients. The strength of social support, the availability of Malay traditional healer and a belief in their efficacy were suggested as the main factors that influenced patients in seeking their help. The belief that mental illness is due to supernatural causes is firmly held by Malay traditional healers who reinforce this notion in those who seek their advice. The importance of understanding the patient's cultural background in treating psychiatric patients was highlighted.

Razali et al. (1996) studied ideas concerning the causes of mental illness among 134 Malay patients by means of a 20-item checklist. Just over half (53%) of the patients attributed their illnesses to supernatural agents. Witchcraft and possession by evil spirits

were regarded as common causes of mental illness. Unsurprisingly, the proportion of patients who believed in such supernatural causes was significantly greater among those who had consulted Malay traditional healers than among those who had not consulted them. Belief in supernatural causes of mental illness was not significantly associated with the age, gender, level of education or occupation of the patients. Patients with such beliefs were also found to show poor drug compliance, and the number of these patients at six month follow-up was significantly lower than the corresponding figure for those who did not believe in supernatural causes. The importance of understanding the patients' cultural background when treating psychiatric patients is again highlighted by such findings.

Razali & Najib (2000) explored the help-seeking behaviour of Malay psychiatric patients. A semi-structured interview based on a standard proforma was conducted to assess help seeking and delays for patients attending the psychiatric clinic for the first time. Among 134 patients evaluated in the study, 69% had visited traditional healers for the present illness before consulting psychiatrists. The second popular choice of treatment was a medical practitioner; only a small proportion of patients had consulted homeopathic practitioners or herbalists. Patients who had consulted traditional healers were significantly delayed in getting psychiatric treatment compared with those who had not consulted them. Consultation of Malay traditional healers (Bomohs) was significantly more common among married patients, those with major psychiatric illnesses and those whose family who believed in supernatural causes of mental illness.

Razali & Yassin (2008) compared the use of traditional medicine among psychotic (schizophrenia and schizophreniform disorder) and epileptic patients in Malaysia. There were 60 patients in each group. They found that 53 patients (44.2%), consisting of 37 (61.7%) psychotic and 16 (26.7%) epileptic patients had consulted traditional healers.

Phang et al. (2010a) conducted a hospital-based cross-sectional descriptive study of 50 inpatients with first-episode psychosis in Hospital Kuala Lumpur. The Structured Clinical Interview for DSM-IV Clinical Version for Axis I Disorders (SCID-CV) was used to establish diagnosis. Socio-demographic data, information on help-seeking pathways, and experience of contact with traditional healers were determined through face-to-face interview and semi-structured questionnaires. Twenty-seven (54%) of the patients had had at least one contact with traditional healers prior to consulting the psychiatric service, and it was the most popular first point of non-psychiatric help-seeking contact (48%). About a quarter of the sample (24%) had had three or more contacts with traditional healers prior to consulting psychiatric service. Contact with traditional healers was not associated with age, gender, ethnicity, education level, longer DUP or treatment delay, or admissions with violent behaviour or police assistance. Among those who had sought help from traditional healers, a third had been recommended to seek medical help by at least one of their traditional healers. Consultation involving traditional healers was a popular choice, and not associated with treatment delay.

2.3.17. Cambodia

Coton et al. (2008) conducted study to understand the patterns of the schizophrenic patients' healthcare-seeking behaviour (HCSB) in the context of a post- conflict country where psychiatric facilities are scarce. They conducted a cross-sectional survey assessing schizophrenic patients and their carers who consulted for the first time in four different outpatient psychiatric departments. Of the 104 schizophrenic patients selected: 56.7% began the HCSB with traditional medicine, 22.1% with Western medicine, psychiatry included, and 20.2% with religious medicine; 77.3% did not begin the HCSB with

psychiatry because they did not know they had a mental problem or because they did not know mental health services existed. The patients' education was the only factor that significantly influenced the HCSB. In Cambodia, traditional and religious medicine is the first pathway to mental healthcare when patient and carer decide to seek help with psychotic symptoms. A lack of knowledge about mental health and facilities appears the main reason to explain the schizophrenic patients' HCSB. This suggests that the development of psychiatry in Cambodia will be facilitated by promoting of knowledge on mental health and will have to take traditional and religious medicine into account.

2.3.18. Indonesia

Kurihara et al. (2006) studied the source of care patients had used before they attended Bangli Mental Hospital in Bali. The 54 patients had had no prior psychiatric treatment. Those who had sought help from traditional healers were asked to evaluate the effect of that treatment retrospectively on a five-point scale. The pathway to psychiatric care was dominated by traditional healers. Of the 54 patients, 47 (87.0%) had consulted traditional healers (mean number 2.9) before visiting the mental hospital. Consultation with healers was associated with treatment delay. However, of the 137 traditional healers on the pathway, 11 (8.0%) recommended that the patient go to a mental hospital, and in all 11 instances the patients immediately followed the advice. Of these 47 subjects, 14 (29.8%) indicated that their condition was 'much improved' by at least one traditional healer on the pathway, although they ultimately attended the mental hospital. Subjects without psychotic symptoms tended to evaluate themselves as 'much improved' more often than psychotic subjects. The study suggested that traditional healers function not only as a barrier to psychiatric care, but also as either an effective provider of care or as a decision-making

support for seeking help from psychiatric care for at least some mental patients in Bali. Salan & Maretzki (1983) conducted study in 90 patients receiving treatment from traditional healers in three Indonesian cities. He reported that 65% of all clients had received prior treatment for the same problem in a biomedical setting.

2.3.19. Bangladesh

Giasuddin et al. (2012) conducted a study in 2008 in Bangladesh to find out the referral patterns, delays to reach a mental health professional, diagnoses and treatment received before reaching psychiatric care. They interviewed 50 consecutive new patients at the psychiatry outpatient department of a tertiary hospital using the translated version of the WHO Encounter Form. They found that 84% of the patients consulted other carers before they arrived at a mental health professional (2.5–3.1 steps on the care pathway were needed to reach that professional) and the delay ranged from 8 to 78 weeks (indirect pathway). The other 16% of the patients came directly to a mental health professional with mean delay of 10.5 weeks from onset of mental illness (direct pathway). Among the patients who took the indirect pathway, 44% first visited an individual private practitioner, 22% first visited a native or religious healer and 12% a rural medical practitioner. Patients reaching a healer or rural practitioner had the shortest delay to psychiatric care (2–2.5 weeks) and the shortest pathway to a mental health professional (4.5–7 weeks). Most delay occurred from the private practitioners to a mental health professional /general hospital (22–31 weeks). Of the patients 70% and 40% respectively of patients with mental illness, who attended general hospital or a private practitioner, were referred to a mental health professional. Family members had a significant role on the decision to seek help from the health service.

2.3.20. Pan-Asian studies

Hashimoto et al. (2010) carried out a study to clarify the pathways to mental health care in five Asian countries: Bangladesh, India, Japan, Mongolia and Nepal. In each country a total of 50 new subjects attending an institution were interviewed. Pathway diagrams, the patterns and duration of care seeking, and previous treatment were compared. Four major pathways were identified: direct access, referrals from private practitioners, referrals from general hospitals, and referrals from native or religious healers. Overall, the most common initial carer was a psychiatric service (direct referral, 29.3%), followed by private practitioners (28.5%) and general hospitals (19.3%). Native or religious healers were the fourth most common initial carer, accounting for 12.9% of the cases (8–22% of the initial carer in the country's areas other than Japan). GPs did not play a pivotal role in any of the areas, whereas native or religious healers had an important place in all areas except for Yokohama, Japan. Family members had a significant impact on the decision to seek mental health care.

Rhi et al. (1995), using a structured questionnaire, studied the patterns of care seeking behaviour of 1,061 schizophrenics in six areas of five nations in East Asia: Hunan and Sichuan Provinces in China, Japan, Korea, Malaysia and the Philippines. The subjects generally favoured psychiatry-oriented health care, but with frequent interruptions or in combination with other types of managements. Most Japanese subjects sought Western medicine, while subjects from Hunan, Sichuan and Korea alternated between Western medicine and magico-religious therapies or traditional herbal medicine. In the Philippines and Malaysia, the majority of the subjects sought magico-religious therapies first, and then later sought Western psychiatric care. The choice of Western psychiatric care was mostly influenced by the decision maker's knowledge and interpretation of the patient's illness. In

determining the choice of management among various types of non-psychiatric management, cost, location, and societal attitudes played substantial roles as well as knowledge and interpretation.

2.3.21. Pathway to psychiatric care in Arab countries

Salem et al. (2009) studied the help-seeking behaviour of patients referred to the psychiatric department of Al-Ain Hospital, which is the main university teaching hospital in UAE through a descriptive cross-sectional epidemiological survey. All new patients attending the psychiatry out-patient clinic at Al-Ain Hospital were screened for nine consecutive months (March to November 2003 inclusive). The sample consisted of 106 patients (52 male; 54 female). Prior to presenting to the psychiatric service, 44.8% consulted faith healers, 31% of whom had had a previous experience with them; 45% reported some improvement but their symptoms recurred later, while 47% reported no improvement. In 8% the symptoms worsened for the current episode. Treatments received were herbal remedies (29.8%) and prayer (70.2%). Of the total sample, 43.4% consulted a primary care physician before presenting to the secondary (psychiatric) care. Thus in this sample a sizeable number of patients sought alternative methods of treatment before attending the specialized psychiatric services.

Sayed et al. (1999) attempted to determine the frequency of visits to a traditional healer, and the socio-demographic and clinical characteristics of those who do so, visiting among psychiatric outpatients in the Al-Khobar area of Saudi Arabia. A random sample of 227 cases was drawn from patients attending the psychiatric outpatients department of King Fahd Hospital. A structured questionnaire consisting of 32 items was completed for each subject. Seventy percent of patients reported having resorted to traditional healers during

the course of their current illness. Of these 60% had visited a traditional healer before seeking psychiatric treatment. The frequency of attending traditional healers was found to be significantly associated with female gender, older age, low mother's education, psychiatric hospitalization and a diagnosis of schizophrenia.

Nasser & Salamoun (2011) highlighted the need for national studies on mental disorders in the Arab Middle Eastern countries; and the need for improvement of public awareness of the treatment of mental disorders.

2.3.22. Pathways to psychiatric care in Africa

Understanding of popular beliefs about mental health care and the pathways clients take prior to admission to a mental health institution is vital in planning to reduce delays in seeking treatment. Mkize & Uys (2004) carried out a survey to determine the pathways to care the clients with mental illness take, which ultimately lead to the mental health institution, the effects of socio-cultural and economic factors on these pathways, and the satisfaction with different service providers consulted. Data were gathered through semi-structured interviews. The results indicated that African clients interpret mental illness as bewitchment. Delays in seeking appropriate mental health care are experienced because traditional and faith healers are the first port of call. Shorter pathways are used when the first signs of psychotic features are severe, and especially if they include aggressive or violent behaviour. Financial constraints seem to be the problem for most of the clients in accessing mental health care. Furthermore, defaulting treatment was also observed because mental illnesses are stigmatized in African communities.

Nigeria

Erinosho (1977) studied the pathways to mental health services in Nigeria. He found that native healers were the most important source of care prior to admission to modern psychiatric facilities. Of the total sample (208), he found 74% received care from native healers prior to psychiatric consultation.

Gureje et al. (1995) studied the pathways of 159 patients to a tertiary psychiatric service in Nigeria, and found that traditional healers were consulted at some stage by many patients with mental illness. Such healers were the first carers for a large proportion of the patients. These patients were not different from those who consulted orthodox medical practitioners in term of demographic features, presenting complaints, or nearness to service. Patients who consulted traditional healers first tended to arrive at a tertiary psychiatric service much later than those who consulted other carers.

Abiodun (1995) studied 238 patients who attended a mental health service in Ilorin, Nigeria, over a one-month period to assess the routes they took to psychiatric care. Ninety-five patients reported that they had first contacted traditional or religious healers when they became mentally ill. Patients who contacted such healers included significantly more males and Muslims and fewer patients with professional occupations. Family members played important roles in patients' decisions about the type of practitioner to consult. The author suggests that use of psychiatric care in developing countries could be improved by training primary care workers to give mental health education to the communities they serve.

Nonye & Oseloka (2009) determined the health-seeking behaviour of mentally ill patients in Enugu, Nigeria. Consecutive recruitment of 397 patients receiving treatment at the neuropsychiatric hospital in Enugu was done. Using a structured questionnaire, information was obtained from the respondents including their socio-demographic

characteristics, their knowledge of the cause of their mental illness, and the treatment that they first employed, with their reasons for doing so. They found that the age range of the respondents was 15–75, with a mean of 31.6 years (SD 11 years). Of the respondents, 223 (56.2%) were male and 174 (43.8%) female. Treatment options first employed by respondents were prayer houses (34.5%), followed by psychiatric hospital (32%). The main reasons for the treatment options employed were confidence of cure at the place of treatment (46.3%), ignorance of the existence of a mental health service (14.6%), and the belief that the mental condition was not amenable to orthodox treatment (8.1%). Patients' perceptions of the cause of their ailment most commonly revealed a belief in demonic and spiritual forces. Gender, educational status, attribution of the mental illness to a rational cause and living in an urban area were significantly associated with the employment of specialist care as the first treatment option. The authors concluded that misconceptions regarding the cause of mental illness still were abounds among mentally ill patients in Nigeria. Consequently, psychiatric consultation is not usually initially employed, especially in rural areas. Community health education aimed at changing misconceptions, and the integration of mental health services into primary care services, was advocated.

Aghukwa (2012) examined treatment seeking by 219 psychiatric patients at a teaching hospital in Kano, Nigeria. Patients or their families were interviewed about the types of mental health healers that patients saw before seeking conventional psychiatric treatment and about their beliefs regarding the causes of the illness. The author found that the length of illness before the psychiatric consultation was 4.5 years, and 99 (45%) respondents reported that patients had previously sought traditional healing. A majority of respondents (n=128, 59%) attributed the illness to supernatural forces. Up to 68% and 75% of respondents who believed in a medical or genetic cause of illness, respectively, reported

seeking a psychiatric consultation within six months of onset, and about 70% who believed in supernatural forces reported seeking psychiatric consultation five years after onset or later ($p<0.05$). He concluded that mental health planners should educate traditional healers and integrate them in the care of mental illness.

A study of the public's preferences for the treatment of mental illness in Nigeria was conducted by Adewuya & Makanjuola (2009) using questionnaires for socio-demographic details and perceptions regarding causes and treatment options for mental illness. A sample of 2,078 adults was selected from three communities in south-western Nigeria. The authors found that spiritual healers were the preferred treatment option of 41% respondents, while 30% preferred traditional healers, and 29% preferred hospitals and Western medicine. Correlates of preference for spiritual and traditional healers included female gender, never having provided care for persons with mental illness, endorsement of supernatural causation of mental illness, and lower education. The authors concluded that the Nigerian public preferred alternatives to Western medicine for the treatment of mental illness. They stressed that any effort to improve professional mental health services must consider and address the beliefs and preferences of the public. Furthermore, also in Nigeria Gureje et al. (1995) stated that the pathways patients take to psychiatric care reflect the nature of the services available as well as the popular beliefs about mental illness. Studying the pathways may help identify sources of delay in the receipt of care, and suggests possible improvements. They showed that traditional and religious healers are consulted at some stage by many patients with mental illness. Such healers are the first carers for a large proportion of the patients. These patients are not different from those who consult medical practitioners in terms of their demographic features, presenting complaints and nearness to service. Patients who consult traditional healers first, tend to arrive at a tertiary psychiatric

service much later than those who consult other carers. Gureje et al. concluded that the incorporation of traditional medical care into the health care system must be preceded by attempts to improve referral skills.

Further studies are required to understand the reasons for and trend in help-seeking behaviour in Africa. Jegede et al. (1985) reported that the majority of the mentally ill in Nigeria are cared for outside the mental health system mostly by traditional healers. Their observation is almost similar to that reported by Erinosho (1977), who investigated the referral sources and pathways of treated psychiatric patients in Nigeria and reported that patients often sought care from traditional healers before making any contact with modern psychiatric facilities. Gureje et al. (2006) conducted another study in Nigeria and found that there was a large burden of unmet need for care among people with mental disorders because people with mental disorders are still treated by traditional healers.

Ghana

Appiah-Poku et al. (2004) sought to identify previous help sought by patients presenting to the services for an initial assessment in four services providing mental health care to the people of Kumasi, Ghana. New patients presenting to each of the four services were asked about distance travelled, previous help sought and time since symptoms of illness started. Staff also recorded basic demographic details and clinical diagnoses. Of the 322 patients presenting to the four sites, only 6% had seen a traditional healer whereas 14% had seen a pastor before presentation. There was a greater delay in presenting to that service if the patient had seen a traditional healer or pastor. Many patients had previously used one of the other mental health units in Kumasi.

Tanzania

Matuja et al. (1995), over a 24-month period, studied 205 consecutive new referrals to Muhimbili psychiatric unit. Their socio-demographic characteristics, sources of referral, types of treatment received before referral and the nature of their clinical problems were identified. Their neuropsychiatric disorders were classified according to ICD-10. The ratio of males to females was 1.6:1. Their average age was 29.3 years, and 23.4% of the adult patients were unemployed, two fifths were single and 70% of all subjects had less than eight years of formal education. Whereas 42.9% of all referrals were from other departments of Muhimbili hospital, the remaining were largely from parastatal dispensaries and district and regional hospitals within Dar es Salaam city. At least a fifth of all patients had consulted traditional healers prior to referral and antimalarials had been given inappropriately to 34 patients with mental problems. Mental disorders consisted of functional psychosis (36.6%; of which three-quarters were schizophrenia), neurosis (19.5%), seizures (16.6%), substance abuse (8.8%), organic mental disorders (5.3%), headache (4.9%), and sexual dysfunction (2.9%). The rest had conduct disorders and pseudocyesis. Seventeen percent of all cases had concomitant physical disorders. Most patients had delayed seeking medical help.

Ethiopia

Bekele et al. (2009) over a two month period in 2003 examined the commencement of new episodes of care at Amanuel Specialized Mental Hospital in Addis Ababa, Ethiopia. In total 1,044 patients were interviewed using the WHO Encounter Form. The mental hospital was contacted directly by 41% of patients. The remaining patients sought care from up to four different carers before arriving at the psychiatric hospital. Where the initial service was not

received at the psychiatric hospital, 30.9% of patients sought care from priests or a church, or used holy water. The median delay between onset of illness and arrival at the psychiatric hospital was 38 weeks. The longest delays before arriving at the mental hospital were associated with having no formal education, joblessness, and diagnoses of epilepsy and physical conditions.

Girma & Tesfaye (2011) investigated patterns of treatment seeking behaviour and associated factors for mental illness. A quantitative, institution-based cross sectional study was conducted among 384 psychiatric patients at Jimma University Specialized Hospital (JUSH) located in Jimma, Ethiopia from March to April 2010. Data were collected using a pretested WHO Encounter format by trained psychiatric nurses. They found that; major depression (n=186; 48.4%), schizophrenia (n=55; 14.3%) and other psychotic disorders (n=47; 12.2%) were the most common diagnoses given to the respondents. The median duration of symptoms of mental illness before contact with modern mental health service was 52.1 weeks. The main sources of information for the help sought by the patients were found to be family (n=126; 32.8%) and other patients (n=75; 19.5%). Over a third of the patients (n=135; 35.2%), came directly to JUSH. Half the patients had sought traditional treatment from either a religious healer (n=116; 30.2%) or a herbalist (n=77; 20.1%) before they came to the hospital. The most common explanations given for the cause of the mental illness were spiritual possession (n=198; 51.6%) and evil eye (n=61; 15.9%), whereas 73 (19.0%) of the respondents said they did not know its cause. Nearly all of the respondents (n=379; 98.7%) believed that mental illness can be cured with modern treatment. Individuals who presented with abdominal pain and headache were more likely to seek care earlier. Being in the group aged 31–40 years had a significant statistical association with delayed treatment seeking. There was a significant delay in seeking modern psychiatric

treatment in the majority of cases. Thus traditional healers were usually the first source from which help was sought for mental illness in this population and most of the respondents claimed that mental illnesses were caused by supernatural factors. In contrast to their thoughts about the causes of mental illnesses however, most respondents believed that mental illnesses could be cured with biomedical treatment. Interventions targeted at improving public awareness about the causes and treatment of mental illness could reduce the delay in treatment seeking and improve treatment outcomes.

Alem et al. (1999) in a Study carried out in Ethiopia, reported that traditional treatment methods were preferred more often for treating symptoms of mental disorders and modern medicine was preferred more often for treating physical diseases or symptoms.

South Africa

Burns et al. (2010) tested the associations between causal attributions and pathway to care and duration of untreated psychosis (DUP), age at onset, PANSS-rated positive, negative and general symptoms and depressive symptoms (Calgary Depression Scale) in a sample of 54 patients with a first episode of psychosis at Town Hill Hospital, the main psychiatric referral hospital in the Province of KwaZulu-Natal, South Africa over a period of 12 months. They found that; spiritual attribution of cause (49% of patients) was associated with long DUP, while consultation with a traditional healer (39% of patients) was associated with long DUP and high scores for negative symptoms. Only 19% had consulted a psychiatrist. Seventy-nine per cent were referred to hospital by family and police were involved in 44% of admissions; 81% were admitted involuntarily.

Ensink & Robertson (1999) studied the patient and family experiences of psychiatric services and African indigenous healers. A random sample of 62 African

patients was selected from first admissions to a large psychiatric institution, Valkenberg (32 patients), and the psychiatric emergency unit of a tertiary hospital, Groote Schuur (30 patients), both situated within the greater Cape Town metropolitan area. Interviews were conducted using a significantly shortened and adapted version of Weiss's Explanatory Model Interview Catalogue (EMIC), together with a questionnaire exploring satisfaction with services. The EMIC was developed to elicit illness-related perceptions, beliefs and practices in the study of leprosy and mental health in India. Its semi-structured format covers: demographic information; perceived causes, explanations and understanding of illness from the family's point of view; and help-seeking history and referral pathways. The majority (38; 61%), of the 62 African patients had consulted indigenous healers during the 12 months preceding the study: 21 (34%) had consulted a faith healer, 15 (24%) a diviner and eight (13%) a herbalist.

Sorsdahl et al. (2009) reported that, there are few population-level insights into the use of traditional healers and other forms of alternative care for the treatment of common mental disorders in sub-Saharan Africa. They examined the extent to which alternative practitioners are consulted, and predictors of the use of traditional healer are visited. A national survey was conducted of 3,651 adult South Africans between 2002 and 2004, using the WHO's Composite International Diagnostic Interview (CIDI) to generate DSM-IV diagnoses for common mood, anxiety, and substance use disorders. A minority of participants with a lifetime DSM-IV diagnosis had obtained treatment from Western (29%) or alternative (20%) practitioners. Traditional healers were consulted by 9% of the respondents and 11% consulted a religious or spiritual advisor. Use of traditional healers in the full sample was predicted by older age, black race, unemployment, lower education, and having an anxiety or a substance use disorder. The authors concluded that alternative

practitioners, including traditional healers and religious adviser, appear to play a notable role in the delivery of mental health care in South Africa.

Temmingh & Oosthuizen (2008) reported that, in contrast to findings from the developed world, where GPs and mental health professionals are central in pathways for first episode psychosis, studies from Africa have found GPs to play a less prominent role as other help providers such as traditional healers are more important. They compared pathways to care, treatment delays and gender differences in patients with first-episode versus multi episode psychosis. They found private sector GPs were first contacts for as many as 38% of first-episode patients and were significantly more likely to be the first contact (odds ratio 4.5, 95% CI 1.38–14.67) and final referring agent (odds ratio 6.8, 95% CI 1.56–25.12) for first episode patients. Female multi episode patients were significantly more likely to make first contact with primary care practitioners, whereas male multi episode patients were more likely to come into contact first with the police (p=0.003) and be admitted compulsorily (p=0.009). Only 5.6% (n=4) of patients contacted traditional healers at some point on their pathway to care. Treatment delays and DUP in first episode patients were longer and reached a median of 4.5 months, versus 2.5 months in multi episode patients. Treatment discontinuation of antipsychotics occurred in 82% of multi episode patients. Despite significantly longer overall treatment delays in first episode patients, the distribution of treatment delays in multi episode patients followed a similar pattern to DUP in first episode patients with a subgroup having very long delays. The pathways to care in their treatment setting correspond more to findings from first world and newly industrialized countries. A subgroup of multi episode patients had very long periods of untreated illness.

Zimbabwe

Reeler et al. (1992) carried a study on the pathways to psychiatric care in Harare, Zimbabwe. Encounter forms were completed on 48 patients admitted to psychiatric beds. Analysis indicated that there was a by-pass of primary care facilities, with a significant number presenting directly to tertiary care; there were lengthy delays before seeking care, but delays while receiving care were moderate. The sample as a whole was composed of patients with major disorders, displaying severe symptoms, and there was a suggestion that some patients became more disturbed along the pathway.

Patel et al. (1997a) reported that pathways to care for mental illness are diverse and are dependent on socio-cultural and economic factors. The objective of their study was to describe the pathways to primary care for patients with common mental disorders in Harare. One hundred and nine consecutive patients with conspicuous psychiatric morbidity identified by general nurses in three PHC and by four traditional medical practitioners were interviewed using the Pathways to Care Schedule. Other than those patients with an acute illness, most patients consulted more than one care provider; three-quarters of those with a history of prior consultations had consulted both traditional and biomedical care providers. Biomedical care providers were the most common first care provider consulted; if the treatment failed, then patients tried other biomedical or traditional care providers. Different factors operated in choosing between consulting biomedical and traditional care providers. The authors reported that traditional care providers provided explanations more often than biomedical care providers; the explanations given were most often spiritual. Injectable treatments were often prescribed for mental illness, especially by private GPs. Such treatments, and many oral treatments, were non-specific. Dissatisfaction with consultations was most commonly due to lack of symptomatic improvement. The costs of consultation

were highest for private GPs, general hospitals and traditional healers; faith-healers, PHCs and hospital psychiatric departments were the cheapest. The authors commented that because few studies have been conducted in the traditional healer's settings, although they practice in harmony with the cultural value system, their practice is poorly understood.

2.3.23. The help-seeking behaviour of African refugees and migrants

African refugees or migrants in other countries similarly tend to seek nonprofessional care before attending specialized services. Fenta et al. (2006) reported this observation among Ethiopian in Toronto in Canada: these emigrant Ethiopians were more likely to consult traditional healers than healthcare professionals for mental health problems. They conducted a cross-sectional epidemiological survey of 342 randomly selected Ethiopians living in Canada based on a conceptual model of healthcare utilization suggested by Anderson and Newman. The data collected suggested that although the mental healthcare needs of the Ethiopians were high, they used fewer mental health services from healthcare professionals.

Not only African migrants but also Asian migrants tend to seek the advice of traditional healers; Jolly (1999) looked at the concept of the indigenous healers and drew on the experiences of those closely involved with the progress of one soldier who, after feeling unwell, believed he was destined to become a shaman. Initially treated by Western methods, which failed to resolve his situation, he returned to Nepal to consult with the local traditional healers. The soldier spent six weeks in Nepal and was seen by three different types of local shaman. Upon his return to Britain, the soldier claimed to be free of symptoms and returned to his normal military duties.

It is apparent from such reports based on the conceptual model of health-care utilization suggested by Anderson and Newman that people consult traditional healers for their mental health needs not only in their home land but also abroad. They travel back to their home land to seek the help of traditional healers. This was also happening to Sudanese refugees in Uganda and Sudanese migrants living in others countries. Pletzer (1999b) studied the Sudanese refugee communities in northern Ugandan camps to determine the extent of trauma and mental health problems using a screening survey. The sample comprised 100 adult refugees, 44 ex-soldiers, 60 patients at camp outpatient health facilities, 63 traditional and faith healers' patients, and 56 refugee children. The most common trauma events experienced by the 100 adults were forced isolation from others (94%), forced separation from family members (91%) and lack of food or water (83%). Thirty-two percent of the adults suffered post-traumatic stress disorder (PTSD). Among the 56 children, 12 (20%) suffered from chronic PTSD. Forty-four ex-soldiers scored a median of 74.6 (Q1=62.3; Q3=79.1) on the depressive scale of the Hopkins Symptom Checklist. Of the 60 outpatients, 12 (20%) had psychological disorder. Of the 63 patients attending traditional and faith healers', 26% suffered from PTSD and 39% from depressive disorder. Thus high rates of trauma and psychosocial problems were found among these Sudanese refugees in Uganda.

It is quite obvious from these previous studies in many African countries that most of the people with mental disorders consult traditional healers first and receive care outside the mental health system. This care usually provided by traditional healers. Many patients with mental illness who consult traditional healers first will present very late to psychiatric services.

2.3.24. Systematic reviews on pathways to care

Singh & Grange (2006) stated that; adequately understanding and measuring pathways to care is a prerequisite for the early detection and effective treatment of first-episode psychosis. They conducted a systematic review of studies on pathways to care in first-episode psychosis and identified 15 studies which had used six different measures of pathways to care. Differences in aims, methodology and lack of psychometric data did not allow a direct comparison of pathways measures but certain common themes emerged. Pathways to care for first-episode psychosis were diverse and varied. There was no measure with established psychometric properties that had been devised on a well-developed theoretical or conceptual framework and had its psychometric properties established. The conflict between exploring the patient's narrative and journey through the healthcare system and developing an empirical measure of pathways with optimal outcomes has hindered the development of such a measure.

Anderson et al. (2010) stated that; although there is agreement on the association between delay in treatment of psychosis and outcome, less is known about the pathways to care of patients suffering from a first psychotic episode. They searched four databases (Medline, HealthStar, EMBASE, PsycINFO) to identify articles published between 1985 and 2009. They manually searched reference lists and relevant journals and used forward citation to identify additional articles. Studies were included if they used an observational design to assess the pathways to care of patients with first-episode psychosis. The 30 studies included explored the first contact in the pathway and/or the referral source that led to treatment. In 13 studies the first contact for the largest proportion of patients was a physician and in nine the referral source for the greatest proportion of patients was emergency services. The authors did not find consistent results across the studies that

explored the sex, socio-economic, and/or ethnic determinants of the pathway or the impact of the pathway to care on treatment delay.

2.3.25. Summary of the studies on pathways to psychiatric care

In summary, pathways studies have been used to investigate the roles of previous carers and time on the pathway. They provide information on the way mental health services delivered, that is, how primary and general health care are used, and what kind of treatment for mental disorders is provided in primary and general health care. Furthermore, these studies shed light on whether people with mental disorders seek help outside the health care services, where, when and what treatment they get, whether is the care delayed, the variations and durations of pathways, and who initiates the care seeking (Gater et al., 2005; Va´zquez-Barquero et al., 1993; Kilic, 1994; Gureje et al., 1995; Patel et al., 1997; Razali & Najib 2000; Linden et al., 2003). Pathways studies also help to monitor the effects of service developments over time and to compare different types of service and if repeated can be used to monitor change. The pathways approach allows a comparison of service functioning to be made over time and provides detailed service utilisation data which can map the dynamic consequences in practice of changes in service organisation and provision; it may also be used to operationalise the measurement of service accessibility to services (Amaddeo, 2001).

2.3.26. Analysis and comparison of pathways to psychiatric care in developed and developing countries

The pattern and nature of access to services in developing countries are different from those in developed countries. In this report, the term 'developed countries' means industrialized and the economically developed countries whereas 'developing countries' are the nations

with low living standards, an undeveloped industrial base and low human development index (following Sullivan & Sheffrin, 2003). Resources are, of course, scarce in developing countries. However, factors other than resources may also determine receipt of care for mental disorders (Gureje & Lasebikan, 2006). These factors include: knowledge about the aetiology of the mental illness; a negative attitude to mental illness in the community; lack of awareness that the disorder is a medical problem and that effective intervention exists for it; belief in the supernatural causation of mental illness and fear of stigma. These are all likely to make persons with a mental illness unwilling to seek help from formal mental health services (Gureje & Lasebikan, 2006). In contrast to findings from the developed world, where GPs and mental health professionals are central in pathways to psychiatric care, studies from Africa have found GPs to play a less prominent role; other help providers, such as traditional healers are more important in this regard (Temmingh & Oosthuizen, 2008). In Europe patients with mental disorders are generally referred directly by their GP or a hospital doctor; non-medical sources of referral are minimal (2% in Manchester and 10% in Eastern Europe). Traditional healers do not play major role in delivering mental health care in developed countries such as Japan (Fujisawa et al., 2008), Italy (Amaddeo et al., 2001), the UK (Gater & Goldberg, 1991), Poland (Pawlowski & Kiejna, 2004) or Eastern Europe (Gater et al., 2005). Traditional healers do, though, play major role in China (59.4%) (Tang et al., 2007) and Turkey (50%) (Güner-Küçükkaya & Unal, 2011).

Among the studies from Africa, those from Nigeria, Ethiopia and South Africa (Abiodun, 1995; Aghukwa, 2012; Girma & Tesfaye, 2011; Mkize & Uys, 2004; Burns et al., 2010; Erinosho, 1977; Bekele et al., 2009; Gureje et al., 1995) found significant delays in treatment for patients with psychiatric disorders where traditional healers were the

predominant first contact. In contrast a study from Zimbabwe found no increase in delays among patients referred by traditional healers (Reeler, 1992). In Arab countries (Al-Adawi et al., 2002; Sayed et al., 1999; Salem et al., 2009) the majority of patient with mental disorders try home remedies and family help and consult traditional healers (faith healers, diviners and herbalist) before seeking any biomedical help or Western treatment.

2.4. The three common patterns of pathway to psychiatric care

The studies have demonstrated that pathway to psychiatric care follow three patterns. The first is dominated by the role of primary care physicians. Most patients first contact their GP, who refers them to mental health professionals; thus, GPs play the role of gatekeeper to mental services. This pattern is seen in West and Eastern European countries, such as the UK (Gater & Goldberg, 1991) and Australia (Lincoln et al., 1998). The second pattern is seen in Bali (Indonesia), India, Harare (Zimbabwe), Nigeria, Saudi Arabia and UAE, where native healers play an important role in the referral pathway. The third pattern is seen in Ankara (Turkey), Lower-Silesia (Poland) and Verona (Italy), where patients are allowed to see any carer of their choice and are likely to have direct access to mental health professionals. The third pattern also applies to Japan, where patients are allowed to access any medical facilities of their choice, and patients with psychiatric problems prefer to see physicians in general hospitals rather than private practitioners.

2.4.1. The advantages and disadvantages of direct access to mental health professionals

Direct access to mental health professionals has both advantages and disadvantages. In the Goldberg Huxley model (Huxley, 1996), GPs are expected to function as 'gatekeepers', that is,to apportion patients with a more severe form of illness to higher levels of specialization and to keep milder patients at lower levels. This gate-keeping role is

supposed to enable psychiatrists to concentrate on patients with more severe forms of illness. Direct access to mental health professionals may lead to wasteful use of the time of highly specialized professionals, as they would then treat milder forms of illness which could be very well done by GPs. Such an arrangement would thus increase the cost of care and deteriorate medical economic efficiency. On the other hand, direct access to mental health professionals may shorten the delay between the onset of symptoms and appropriate treatment, especially for patients who may have milder symptoms who do not recover as well when treated by GPs, as people with more severe illness tend to pass more easily through the filters to secondary professional care than do people with common mental disorders (Huxley, 1996).

2.5. Help-seeking behaviour in Asian, African and Arab countries

Help-seeking behaviour in many Asian countries such as India (Chadda et al., 2001; Campion & Bhugra 1997), Bangladesh (Giasuddin et al., 2012), Cambodia (Coton et al., 2008), Malaysia (Salleh, 1989; Razali et al.,1996; Razali & Najib, 2000; Razali & Yassin 2008; Phang et al., 2010a, 2010b), Indonesia (Kurihara et al., 2006) and Singapore (Chong et al., 2007) is not greatly different from that in Arab and African countries where they follow the second pattern, that is, where native healers play an important role in the referral pathway. The duration of the untreated illness was longer in African, Arab and Asian studies than that reported in studies done in the West. The decision to consult a particular healing specialist is often taken by the family or the carer. The reason for choosing to consult traditional healer first was often a deep-seated belief in supernatural causation of the mental illness and the trustworthiness of faith healers; this illustrates the effect of cultural beliefs on help seeking behaviour (Chadda et al., 2001). The attitudes and beliefs of

family in Asian and African and Arab societies are likely to be crucial in the pathways to care. A common view in developing countries is that modern (Western) treatments are effective in curing medical (physical) illness, but are powerless against black magic or supernatural cause, and that psychiatrists do not have the expertise to deal with supernatural powers (Razali & Yassin 2008). Witchcraft or charming and possession by evil spirits are regarded as common causes of illness and are the two most common explanations of mental illness offered by traditional healers to their patients. The deep-seated cultural beliefs among patients and their families are a major barrier to the receipt of modern psychiatric care. Psychiatric and mental health services are consequently underutilized in developing countries (Razali & Yassin 2008).

2.6. Factors that influence the help-seeking process

Help-seeking behaviour is a dynamic process determined by certain social, demographic, sociocultural and psychological factors, as well as by the clinical condition itself, for which help is being sought (Madianos et al., 1993). These factors influence the interpretation of psychopathological symptoms, assumptions regarding the effectiveness of psychiatry, coping mechanisms and, finally, the decision to seek-help or to visit a traditional healer, physician or psychiatrist. A low level of education has been found to determine directly the formation of negative attitudes to psychopathological symptoms, self-awareness and use of mental health services (Madianou et al., 1986; Madianos et al., 1987). Beliefs in the effectiveness of psychiatric treatment were also found to be inversely related to low educational levels. There is evidence that seeking help for a psychiatric disorder depends on the perception of illness and attitudes to treatment (Huxley, 1996). On the other hand, urbanization is related to the frequent use of mental health services. When the ratio of

psychiatrists to population is relatively high the individual more often turns to a psychiatrist (Shapiro et al., 1984). Symptom definition, the clinical severity of the symptoms and patient response to treatment have been found to predict help-seeking behaviour (Madianos et al., 1993).

2.7.   Pathways to psychiatric care and the establishment of an effective psychiatric service

In order to establish a successful psychiatric service in any country a study of local models of illness is necessary. In addition, local epidemiological data will allow planners to prioritise and provide appropriate services. Within the local epidemiological parameters, the age, sex and ethnic composition of a population is relevant. Accurate determination of the extent of psychological morbidity, identification of need and patterns of help-seeking behaviour are also necessary (Bhugra, 1997).

Bhugra (1997) looked at how to set up psychiatric services which work and are acceptable across cultures. He stated that the task is often not an easy. Planners need to identify the population at risk and involve the community in identifying the aspects of existing services which can be utilised as they are, and also those aspects which need to change. In order to increase acceptability, especially of psychiatric services, clinicians and planners need to be aware of illness models (Bhugra, 1997). How illness is understood and responded to shapes the illness, the symptoms, the interpretations and the help-seeking behaviour. Pathways therefore differ across societies and ethnic groups (Wahass & Kent, 1997). Nonetheless, all societies recognise mental distress; folk healers and families manage a great burden of the illness.

Chiu (1994) emphasizes the influences of demographic and sociological factors on behaviours relating to mental health. The way in which people's backgrounds including their religion, race, and nationality influence how they behave in relationship to some aspects of mental illness and the mental health profession has been well documented (Wahass & Kent, 1997).

The important message is that Western models may not have all the answers and yet may not allow the use of traditional or folk healers, thereby alienating patients and their carers (Bhugra, 1997). To set up services it is recommended to: establish the size and nature of needs; to outline principles, aims and objectives; to set priorities; to set strategies, and to monitor outcomes and modify strategies accordingly (Birchwood & Tarrier, 1992).

Knowledge of local communities will help in the recruitment of appropriate staff who are aware of cultural, religious and linguistic norms. Complementary models of illness have to be understood and utilized in day-to-day clinical practice, especially if services are to be culture-sensitive and user-friendly. An awareness of cultural norms is necessary for successful services (Bhugra, 1997).

2.8.   Pathway studies and PHC

The results of pathways studies can be used for various purposes, such as developing strategies for integrating mental health care into primary care programmes and uncovering potential sources of delay in seeking health care. Such studies are helpful for planning mental health services, designing and providing training, and establishing effective referral systems from other sectors of health and social care. Implementing a robust referral system and establishing a strong working relationship between traditional and modern health care providers should be the most important strategies for improving the delivery of mental

health services and shortening of any delay for patients receiving psychiatric care. A delay in providing effective treatment for a patient with a mental disorder has significant negative effects on the outcome. This includes more hospitalizations, longer periods of inpatient care, slower and less complete recovery, and more frequent relapses.

2.8.1. *Comparison of the setting and the methodology of the pathways studies*

In all these studies on pathways to care the researchers investigated the help seeking behaviour of people with mental illness in psychiatric clinics, hospital-based service settings, primary care settings or through community surveys. On the other hand, many other researchers: Saed et al. (2002) in Pakistan, El-Amin & Refat (1997) in Egypt, Salan & Maretzki (1983) in Indonesia. Satija & Nathawat (1984); Raguram et al. (2002), Padmavati et al. (2005) and Shankar et al. (2006) in India and Abbo et al. (2008a, 2009) in Uganda have approached patients with mental disorders in the traditional healer setting and assessed their pathways to care and examined their psychiatric status.

2.9. Factors that influence the use of traditional healers

Many studies have been conducted in different countries looking into the factors that influence the use of the traditional healers. Many investigators have also tried to examine the factors associated with the tendency to seek help from them. Some researchers have tried to identify predictors of visits to traditional healers.

2.9.1. *The patterns of help-seeking behaviour*

A growing body of data derived from field-surveys indicates that many people with psychiatric disorders seek non-professional help. These results argue for more research on barriers to psychiatric care. The determinants and patterns of help-seeking behaviour of 83 families of schizophrenic patients attending a teaching hospital in India were studied by

Banerjee & Roy (1998) in the context of their indigenous concept of health and illness. While all the families consulted any kind of health facility within two years of the onset of illness, over 27% of them took more than five years to report to the referral centre. Those who consulted indigenous healers first took a short time to reach the referral centre. Belief in the supernatural causation of schizophrenia was very common. Most of those who believed in supernatural causation, consulted indigenous healers first and those who identified schizophrenia as a medical problem generally first consulted practitioners of modern medicine (Banerjee & Roy, 1998). These findings suggest that cultural factors like indigenous belief systems about causes of illness are important determinants of patterns of help-seeking behaviour in schizophrenia.

2.9.2. *The role of socio-cultural and community factors in the use of traditional services*

Bell et al. (2001) in a study in Hawaii examined the socio-cultural and community factors influencing the use of traditional native Hawaiian healers and healing practices by adolescents in Hawaii. The Hawaiian High Schools Health Survey was administered at five high schools on three islands during the 1993–94 school year. The sample included 1,321 high school students who preferred either an allopathic or alternative practitioner. Ethnicity, gender, community access, healer preference, health status, level of education, and health insurance status were used to predict healer use (i.e. seeing a native Hawaiian healer in the past six months) and participation in healing practices. Community access and healer preference predicted both. Mental health predicted healer use, but did not predict taking part in native healing practices. Hawaiian ethnicity, female gender, and a measure of health insurance predicted participation in native healing practices, but not healer use. Bell et al.'s (2001) results suggest that native healing practices and traditional healers were being used

by native Hawaiian communities and this was perhaps not due to a lack of health insurance. Given the general separation between Western and native Hawaiian health services, it was felt that traditional healing practices should be made available in native Hawaiian communities to see whether collaboration between Western practitioners and traditional healers can have a greater positive impact on the health of native Hawaiians, particularly adolescents. Bell et al. (2001) also stated that cultural identity plays a significant role in the preference and use of alternative, practitioners, especially for minority adolescent populations.

2.9.3. *The effect of the belief system on the use of traditional healer services*

Berg (2003) reported that the great majority of South Africa's people consult traditional healers. The belief system and its accompanying rituals may positively influence the mental health of the individual and the community. Among traditional Xhosa-speaking peoples, the relationship with the ancestors is given expression in life cycle rituals that have much in common with Western psychotherapeutic principles and practices. The common thread that underpins many rituals is that of making links via concrete and literal means. Examples include the participation of the community in the healing of the individual as well as the linking of body and mind through dancing and drumming. Dreams form an essential connection between conscious life and the unconscious. Understanding the psychological depth of these practices is important, so that a respectful relationship between Western-trained professionals and traditional healers can develop. Analytical psychology, with its notion of the collective unconscious, has a particular contribution to make to cross-cultural understanding. The ancestors may be understood as archetypal representations of the collective unconscious.

Traditional healers provide culturally sensitive interpretations of the patient's symptoms

Bertrand (1997) stated that people with mental disorders consult traditional healers to seek an alternative understanding of their problems and a different kind of care, based largely on witchcraft and spiritual possession. Traditional healers usually provide culturally sensitive interpretation of the patient's symptoms. Each healer provides a different solution and form of care. It is difficult to find traditional healers in France, and they often work in secret. Monks teach meditation rather than magic, Brahmanism and superstition. There are now Khmer in Cambodia who have returned after long and complex treatments in general and psychiatric hospitals in France, seeking a release from suffering in their motherland. Returning to Cambodia is important because they are allowed to live according to their beliefs without being seen as insane. However, this return also involves confrontation with the lost country and the past, with war and the killing fields, in the same place as the trauma itself occurred. Several cases illustrate the healing nature of the return; the mental health problems in this study, though, may express cultural bereavement and may not fit easily into international psychiatric categories. This requires much careful attention and listening to the patient. Bertrand (1997) suggests why people seek help from traditional healers essentially because traditional healers provide culturally sensitive interpretations of the patient's symptoms.

Spiritual factors frequently cited as causes of mental illness

Patel et al. (1995a) sought to describe the explanatory models and the etic and emic phenomena of common mental disorder in Harare, Zimbabwe. ('Emic' and 'etic' are terms used in cultural anthropology to refer to kinds of fieldwork done and viewpoints obtained, where emic emphasizes a close study of a single culture and etic relates more to cross-

cultural study.) In total, 110 subjects were selected by general nurses in three clinics and by four traditional healers from their current clients. The subjects were interviewed using the Explanatory Model Interview and the Clinical Interview Schedule – Revised (CISR). Mental disorder most commonly presented with somatic symptoms, but few patients denied that their mind or soul was the source of illness. Spiritual factors were frequently cited as causes of mental illness. The subjects, who were selected by traditional healers, reported a greater duration of illness and were more likely to provide a spiritual explanation for their illness. The majority of subjects were classified as 'cases' by the etic criteria of the CISR. Most patients, however, showed a mixture of psychiatric symptoms that did not fall clearly into a single diagnostic group. Patients from a subgroup with a spiritual model of illness were less likely to conform to etic criteria of 'caseness' and they may represent a unique category of psychological distress in Zimbabwe. A wide variety of emic phenomena were elicited that had been incorporated into an indigenous model of non-psychotic mental disorder. *Kufungisisa*, or thinking too much, seemed to be the Shona term closest to the Euro-American concept of neurotic illness.

Patel et al. (1995b) used focus group discussions as the first step of their study aiming to develop an 'emic' case-finding instrument. In keeping with the realities of primary care in Zimbabwe, nine focus group discussions were held with 76 care providers: 30 village community workers, 22 traditional and faith healers (collectively referred to as traditional healers in his paper), 15 relatives of patients and 9 community psychiatric nurses. In addition to the general facets of concepts of mental illness, three 'etic' case vignettes were also presented. A change in behaviour or ability to care for oneself emerged as the central definition of mental illness. Both the head and the heart were regarded as playing an important role in the mediation of emotions. The types of mental illness

described were intimately related to beliefs about spiritual causation. Angered ancestral spirits, evil spirits and witchcraft were seen as potent causes of mental illness. Families not only bore the burden of caring for the patient and all financial expenses involved, but were also ostracized and isolated. Both biomedical and traditional healers could help mentally ill persons by resolving different issues relating to the same illness episode. All case vignettes were recognized by the care providers in their communities, though many felt that the descriptions did not reflect 'illnesses' but social problems and accordingly, the treatment for these was social, rather than medical. The data enabled the authors to develop screening criteria for mental illness to be used by traditional healers and primary care nurses in the next stage of the study, in which patients selected by these care providers on the grounds of suspicion of suffering from mental illness would be interviewed to elicit their explanatory models of illness and phenomenology.

2.10. Outcome of common mental disorders in primary care

Patel et al. (1998) reported that little is known about the outcome of common mental disorders in primary care attenders in low income countries. They reported followed-up of a cohort of 199 patients with a common mental disorder recruited from primary health, traditional medical practitioner, and GP clinics in Harare, Zimbabwe. The Shona Symptom Questionnaire (SSQ) was the measure of caseness. The persistence of a case level morbidity was recorded in 41% of subjects at 12 months. Of the 134 subjects interviewed at both 2-month and 12-month follow-up points, 49% had recovered by two months and remained well at 12 months, while 28% were persistent cases at both points. Higher SSQ scores, a psychological illness model, bereavement and disability predicted a poor outcome at both times. Poorer outcome at two months only was associated with a causal model of

witch-craft and an unhappy childhood. Caseness at follow-up was associated with disability and economic deprivation. A quarter of the patients were ill throughout the12 month follow-up period. The authors believed that targeting groups at risk of a poor outcome for interventions and policy interventions to reduce the impact of economic deprivation may provide a way of tackling common mental disorders in primary care in low income countries. Most studies have found an association between indicators of poverty and the risk of mental disorders, the most consistent association being with low levels of education. A review of articles exploring the mechanism of the relationship (Patel & Kleinman, 2003) suggested weak evidence to support a specific association with income levels. Factors such as the experience of insecurity and hopelessness, rapid social change and the risks of violence and physical ill-health may explain the greater vulnerability of the poor to common mental disorders. The direct and indirect costs of mental ill-health worsen the economic condition, setting up a vicious cycle of poverty and mental disorder. Common mental disorders need to be placed alongside other diseases associated with poverty by policy-makers and donors. Programmes such as investment in education and provision of microcredit may have unanticipated benefits in reducing the risk of mental disorders. Secondary prevention must focus on strengthening the ability of primary care services to provide effective treatment (Patel & Kleinman, 2003).

Looking through all the above studies, many investigators have tried to understand the factors that influence people with mental disorders to seek the help of traditional healers. Many researchers have tried to suggest why people consult traditional healers first and not psychiatrists or other mental health professionals. But still there are no wholly satisfactory answers. There is literature gap in this area. One of the current research

questions concerns the reasons and factors that influence the use of traditional healers. The research project was designed to provide answers to that question, to fill that literature gap.

2.11. Collaboration and integration of Western mental health practitioners and traditional healing

Many researchers have recommended collaboration between traditional healers and Western medical and mental health services.

Kapur (1975) in three separate studies examined the patterns of mental health care in an Indian village. The first examined the conceptual frameworks of the various traditional and modern healers. The second study was an attitudinal-study enquiring about the type of healer favoured for psychiatric consultation. The third was a population survey in which every person with one or more symptoms was asked if he or she had consulted anyone for relief of distress. Besides the modern doctors, there were three types of traditional healers: Vaids, practising an empirical system of indigenous medicine; Mantarwadis, curing through astrology and charms; and Patris, who acted as mediums for spirits and demons. It was found that a large majority (59%) of those with symptoms had consulted someone. The consultation was determined more by the severity of illness than by socio-demographic factors. Modern doctors were more popular, but most people consulted both traditional and modern healers, without regard to any apparent contradiction in terms of conceptual framework. Literacy and other socio-demographic factors had no influence on the type of consultation. Kapur concluded that any scheme for introducing modern psychiatry into rural areas should make use of the locally popular healers, both traditional and modern.

2.11.1. Factors affecting the utilization of traditional mental health services

Makanjuola et al. (2000) studied 27 traditional mental health practitioners and 16 patients' relatives with a view to gaining an understanding of the current status of traditional mental health practice in five local government areas in Ilorin Emirate Council Area, Kwara State, Nigeria. Data were collected using questionnaire, focus group discussions, and observations of practitioners in their clinics. Factors which affected the utilization of traditional mental health services were also reviewed. The researchers found that the traditional practitioners enjoyed considerable patronage from the populace, and had greater numerical strength, and were more widely and evenly dispersed in the community than orthodox mental health practitioners. Seventy-four per cent of the traditional practitioners expressed interest in attending seminars aimed at improving their skills. Most of the patients' relatives expressed the belief that only traditional healers could understand the supernatural aetiological basis of mental disorders, and could therefore offer more effective care than orthodox practitioners. Makanjuola et al. (2000) noted, however: that corporal punishment and physical restraints on patients were used by some traditional practitioners, resulting in wounds, which often became septic; that there was a low level of hygiene at the traditional clinics; and that traditional practitioners did not often provide adequate follow-up care. They concluded that since traditional practitioners play a major role in the treatment of the mentally ill, orthodox practitioners should assist them in improving on some of the negative practices identified. Makanjuola et al. (2000) pointed out the urgent need to organize a training programme for traditional practitioners, to expose them to the general rules of hygiene in medical care and the basic principles of orthodox mental health practice, including the humane treatment of the mentally ill.

2.11.2. The need to understand the core values of traditional healing to facilitate collaboration

Mehl-Madrona (2009) reported that although a number of authors have commented on what mental health practitioners should be taught to be effective and appropriate, especially in their dealings with indigenous people, rarely have traditional healers been asked for their views. Mehl-Madrona explored what a diverse group of traditional healing elders believe are the important attributes for mental health providers, and what principles they should adopt to guide their training. How indigenous people understand the meaning of mental health was also examined by him. His research was conducted in preparation for the development of a cross-cultural training programme for service providers that could include traditional elders as community mentors and adjunct faculty on equal status with academically trained faculty. Mehl-Madrona's goal was to identify and summarize the core values and principles needed to train mental health providers to work in harmony with traditional healers.

Mirza et al. (2006) set out to describe how people explain mental disorders and its treatment in Pemba Island, Zanzibar. As part of a cross-sectional survey, 821 participants (users, carers, health professionals, traditional healers, community members and leaders) were interviewed. Most viewed mental disorder as arising within their internal or supernatural world. Although they thought that they could be helped both by primary care and alternative healing, the majority described going to a traditional healer when things went wrong. This provides evidence that there is considerable reliance on traditional care for the treatment of mental disorders. It is, therefore, important for the health services to be in dialogue with the traditional healers.

2.11.3. Mental health workers working in harmony with traditional healers

In study in Ethiopia Alem et al. (1999) interviewed one 100 key informants about their awareness, attitudes and practices regarding mental illness using the Key Informant Questionnaire developed by the WHO. Case vignettes of seven common neuropsychiatric disorders were presented to the key informants. Their awareness of these disorders and physical symptoms or conditions was assessed. An additional question on the prototype symptoms of mental disorders was also posed. Among the seven conditions presented, epilepsy was perceived as the most common condition and major depression as the least. Schizophrenia was judged to be the most severe problem, with mental retardation second. Talkativeness, aggression, and strange behaviour were the most frequently perceived prototype symptoms of mental illness. These findings are similar to those from studies of other communities. Alem et al. concluded that working in close connection with traditional healers would give the primary care workers a better opportunity to gain acceptance from the community and to modify certain harmful practices used by traditional healers.

Chabwine & Mubagwa (2001), in a study in the Democratic Republic of Congo, reported that, despite the recognized role of traditional healers in helping patients with mental health problems, there is a need for modern mental health care facilities in Africa. When made available, these are used by the local population, but less by those in remote locations. The authors believed that, to decrease the burden imposed on mental health institutions by patients consulting for non-mental problems, it is desirable to integrate these institutions with the other components of the healthcare system.

2.11.4. Issues regarding integration of traditional healers into the general health care system

In contrast, Asuni (1979) raised a lot of issues about the integration of traditional healers into the general healthcare system, commenting that it is difficult to plan such an integrated system before knowing how many indigenous healers are in practice, what kinds of medical problems they address, and with what kinds of problems they have most success. Furthermore, the success of traditional healers in treating mentally ill patients rests on the fact that their techniques are clearly related to the relevant cultural premises of the patient. However, in the course of incorporating them into the official healthcare system it is likely to be necessary to educate them about, among things, in the concepts of germs and infection; it is, though, probable that such concepts will prove alien and incompatible with their traditional understandings. Moreover, such training would fracture the cognitive bond between healers and patients. Another issue concerns the need to have written records, as illiterate healers will be unable to maintain such files. These and other administrative issues must be foreseen and tackled appropriately.

2.11.5. Evaluation of specific traditional healer treatment and collaboration methods

Ovuga et al. (1999), in a cross-sectional survey, investigated the beliefs, knowledge, attitudes and practice of 29 traditional healers in the Pallisa district of Uganda. They found many of the healers had themselves experienced emotional problems that had been treated by other healers. Almost all had a family member who was also a traditional healer. They treated a wide range of conditions and all dealt with mental illness. Most believed that mental disorders were caused by supernatural processes. Many recognized the role of environmental agents. Their diagnosis and management of mental illness were eclectic. The

healers were either traditional herbalists or spirit diviners or a mixture of both. Almost all referred patients to the district hospitals and were willing to work with government health services. The results of the survey suggested great potential for cooperation between traditional healers and medical services. Such cooperation may harness primary care resources more effectively. Sequential or simultaneous models of collaboration (or combinations of both) could be considered. The authors suggested that further work was required on specific treatments, their outcomes and the evaluation of collaborative models.

2.11.6. The perceived efficacy of traditional healer treatment

Peltzer (2000) determined the perceived efficacy of various health care providers for the last illness episode patients had suffered. In South Africa, 104 African/black participants (50 male and 54 female), chosen by quota sampling from the general public (the urban population of Mankweng, Northern Province), were interviewed. The research design was a one-shot case study. Medical treatment (68%) was the commonest choice of treatment for minor, major, and chronic medical condition as well as psychological/mental disorders. The second most common source of treatment was the herbalist (19%) for minor and chronic conditions, followed by the diviner (9%), prophet or faith healer (4%), and psychologist (2%). Traditional or faith healing was utilized by 32% of the sample and Western treatment by 68%. Regarding the self-rated treatment efficacy for the last illness episode Western treatment was generally perceived as more effective than traditional or faith healing. However, traditional or faith healing was considered almost as long lasting as Western therapy.

2.11.7. Ethnic variations in the use traditional healing as a help-seeking strategies

Rudell et al. (2008) suggest that only some distressed individuals seek help from primary care, and that pathways to mental health care appear to be ethnically patterned. They investigated alternative help-seeking strategies in a multi-ethnic community in east London, in the UK, and examined the relationship the use of with primary care. Participants were recruited from four GP registers and 14 community groups. Of the 268 participants, 117 had a common mental disorder according to a valid and structured interview schedule (CIS-R). Participants were of Bangladeshi, black Caribbean and white British ethnic background. For those with a common mental disorder, they examined self-reported help-seeking behaviour, perceived helpfulness of carers, and associations with primary care service use. They found that alternative help-seeking such as talking to family about distress and utilizing traditional healers and severity of distress were positively associated with the use of primary care services. Ethnic background influenced the choice of help-seeking strategies, but was less important in perceptions of their helpfulness. The use of primary care was strongly correlated with lay and community help-seeking. Alternative help-seeking was commonly employed in all ethnic groups. Moreover, a large number of people either believed that mental distress could not be resolved or did not know how to resolve it. Beals et al. (2005) reported that help-seeking from traditional healers was common in American Indian populations and was especially common in the south-west of the United States. They suggested that these American Indian populations had comparable, and in some cases greater, mental health service needs, than the general US population.

Weiss (1992) addressed the differential use of spiritual and mental health resources by 15 Dominican migrant women with major psychiatric disorders in Manhattan, New York, USA. Methods included interviews and participant observation with patients, kin,

and mental health staff. Structured instruments were used to examine patients' networks and functioning. Folk and popular healing traditions, adopted by some patients and kin through private observances or through a connection with a healer, yielded symbolic supports, companionship for patients, and ways of communicating and coping with distress. Episodes of help-seeking revealed multiple participants competing for control of the patients' lives and illness careers. Consultations with healers offered family members potential mastery over illness and domestic life, with no surrender of centrality, dignity or control in the quest for care.

2.12.   The need to understand patients' explanatory models

Saravanan et al. (2007) reported that existing evidence indicates that dissonance between patients' and professionals' explanatory models affects the engagement of patients with psychiatric services in Western and non-Western countries. They qualitatively assessed explanatory models of psychosis and their association with clinical variables in a representative sample of 131 first-episode patients with schizophrenia in south India. Measures included the patient's explanatory models, and clinician ratings of insight, symptoms of psychosis, and functioning on standard scales. The majority of patients (70%) considered spiritual and mystical factors as the cause of their predicament; 22% maintained multiple models of illness. Patients who held a biomedical concept of disease had significantly higher scores on the insight scale than those who held non-medical beliefs. Multivariate analyses identified three factors associated with the holding of spiritual/mystical models: female sex, low education and visits to traditional healers. A single factor, 'high level of insight', was associated with endorsement of the biological model. Thus, patients with schizophrenia in this region of India hold a variety of non-

medical belief models, which influence patterns of health seeking. Those holding non-medical explanatory models are likely to be rated as having less insight.

India has a multicultural traditional society where people visit religious and traditional healers for both general health problems and mental health problems (Khandelwal et al., 2004). Weiss et al. (1986) reported that, in a medically pluralistic setting a range of health care providers are able to offer not only different forms of treatment, but different ways of understanding illness. Even within a single tradition, these concepts evolve over time. Chapters in the classical texts of Ayurveda describe varieties of severe mental disorder (*Unmada*) arising from a particular humoral imbalance (*Dosa*) or arising in association with specific demons and deities (*Bhuta*); these produce distinct character changes and symptom patterns. Patients currently presenting for treatment of mental disorder may describe their illness with reference to these concepts, but they also rely on other indigenous traditional concepts such as astrology, karma, the effects of other humoral relationships, such as semen loss and so forth; or they may rely on ideas derived from cosmopolitan medicine or both. Patients presenting to allopathic psychiatric centres in India were studied to determine whether patterns of help seeking could be predicted from the conceptual model by which they understood their illness. The authors elicited explanatory models from patients and obtained a history of prior consultations with other types of healer. Preliminary findings were notable for the pervasiveness of prior use of folk healers and the prominence of somatic symptoms among patients presenting to these allopathic physicians.

2.13. The impact of healer and patient expectations on mental and physical health parameters following a spiritual healing session

Wirth (1995) pointed out, historically, that traditional cultures recognized the importance of belief and expectancy within the healing encounter and created complex rituals and ceremonies designed to elicit or foster the expectancy and participation of the healer and patient, as well as the community as a whole. This holistic approach to health care was a fundamental component of the spiritual healing rituals of virtually all traditional native cultures. The focus of his study was to assess the impact of healer and patient expectations on mental and physical health parameters following a spiritual healing session. A pre–post methodological design was utilized which incorporated extensive psycho-physiological health outcome measures along with independent medical diagnoses. The study was conducted in a northern California suburb of Marin County, utilizing an American-born spiritual healer trained in the Philippines. The results indicated that there was a statistically significant difference between the pre-treatment and post-treatment scores for all 14 dependent variables examined. The data also demonstrated a significant difference between the high versus the low expectancy subjects for both patient and healer groups, as well as a significant relationship between high expectancy in patients and healer and the effectiveness of the spiritual healing encounter. The study, therefore, suggested that high healer and patient expectancy may be important elements which can serve as both predictors and facilitators of the healing process. The degree of bonding or communication between the healer and patient was postulated as an important factor in this regard. Because a majority of the conditions reported (75%) were organic disorders that would not commonly disappear within the three-week time frame of the study, the significant results obtained suggested that spiritual healing in combination with traditional (allopathic)

medicine may have the potential to be an effective treatment protocol for severe or long-term disorders. An important feature of Wirth's (1995) study was that an independent means of assessing the patients' self-reports (i.e. an allopathic medical examination), was included in the research. There was a significant correlation between the patients' expectation level and their assessment of improvement, as well as a significant relationship between the patients' assessment of their condition and the objective evaluations provided by independent medical examinations.

2.14. The types of health problem that traditional healers deal with

Shai-Mahoko (1996) explored the clinical conditions brought to indigenous healers by people in rural areas of South Africa in search of health care. Demographic variables and the preventive, curative and follow-up activities of indigenous healers were investigated. The author collected data from a simple random sample of 35 indigenous healers, using a questionnaire. The findings showed that indigenous healers dealt with the same health problems as those confronting formal health workers, especially in the paediatric field. Infertility, mental illness and sexually transmitted diseases ranked high in the adult conditions brought to the healers. There did, though, seem to be some conditions that could be handled only by the indigenous healers due to their cultural nature. The services of indigenous healers were not confined to any specific group or social class within the black population.

2.15. The need to incorporate sociocultural beliefs to establish mental health services

MacLachlan et al. (1995) reported in Malawi, as in many other African countries, a variety of traditional and modern attributions exist regarding the cause of a person's mental disturbance, or their admission to a mental hospital. They argued that a good mental health

service should consider the beliefs of the patients it seeks to serve. Consequently they studied 103 consecutive admissions to Zomba Mental Hospital in order to find out how patients explained their own admission. Traditional attributions were the most common, followed by medical and then psychological attributions. Some patients explained their admission to the hospital by combining traditional, medical and psychological ideas. Content analysis of traditional attributions identified examples such as 'Tropical Tolerance' and the 'Pull Down' phenomenon. The authors suggested that traditional healers should be incorporated into 'modern' Malawian mental health services.

MacLaren et al. (2009b) described the newly established mental health services at Atoifi Adventist Hospital, Solomon Islands, and the socio-cultural context in which it operates. They illustrated how the service was engaging with the Kwaio community to understand and incorporate local sociocultural beliefs into prevention, treatment and recovery journeys. They visited five remote hamlets in East Kwaio, Malaita Province in early 2008. Interviews were undertaken with 20 people with a history of Buru spirit possession, and 30 of their family members. MacLaren et al. reported that Buru is a category of wild and malevolent spirits that possess people in East Kwaio and induce antisocial and unexpected behavior. Signs of Buru possession include mutism, suicidal ideas, delusion, aggression and social isolation. Traditional healer's practised indigenous treatments which resulted 50% of patients being classified as cured, 30% temporarily cured and 20% unaffected by the treatment. The new mental health service at Atoifi was taking steps to incorporate sociocultural beliefs, including Buru possession, into routine practice (MacLaren et al., 2009b).

2.16. Methods used by traditional healers for treating mental disorders

Understanding methods used by traditional healers in the management of mental disorders is very important. Madu & Ohaeri (1989) presented a case study of a Nigerian traditional healer's methods of treating obsessional thinking. Under supervision, two psychology students of the University of Ibadan watched several sessions during the treatment of a woman suffering from obsessional thoughts in a traditional healer's home. The mental state of the woman was assessed by a clinical interview at the beginning and end of the course of treatment, and the traditional healer was interviewed after each session. The healer used psychological and physical methods of treatment. Supernatural forces were implicated as being causative. Elements of Western psychology (such as environmental manipulation, enquiry into the unconscious motivation of behaviour, and suggestion through incantation) were evident in the practice, although applied without the systematic coherence of clinical medicine. Madu & Ohaeri (1989) noted that physical methods included the oral administration of a variety of roots and leaves, and bathing with a local soap.

2.17. Patterns and trends in the use of traditional healer services

Understanding the pattern and trend in the use of traditional healers' services is very important in planning mental health services. Nelms & Gorski (2006) reported that traditional healers provide an important link between the rural people of Africa and primary health care. The authors reviewed contemporary practices related to the role of the traditional healer in Africa and the move to collaboration with an introduction of Western-style medicine and health care, especially for women. They found that African women, particularly older ones in rural communities, utilized the traditional healers when faced with symptoms of mental and physical illness. They concluded that the idea concept of

training traditional healers and medical personnel to deliver traditional and Western health care to communities requires further consideration and a plan of implementation.

2.18. The role of traditional healers in the management of children with language disorder

Language is a function of culture. Within the African culture, traditional and faith healers play an essential role in counselling the community on various personal and communal health conditions. This kind of practice is particularly observed among native populations, among those less affected by Western influences, and among those who face less opposition from Western and Asian religions. In this context, the diagnosis and treatment of bilingual children with potential language disorders were examined by Semela (2001) from the point of view of the African culture. The author examined the degree to which the traditional and faith healers diagnosed and explained the nature of the child's problem to the parent(s). The impact of the African traditional healer was compared with the diagnosis made by a modern medical practitioner. Semela (2001) suggested speech/language pathologists need to recognize and consider the healer's impact on any child with a potential language disorder.

2.19. Family support for patients attending traditional healers

Skultans (1988) summarized the information gathered from atantric healer and hospital patients consulting for mental illness in the Kathmandu Valley of Nepal. While the healer appeared to be emulating the hospital in the speed and impersonality with which patients were processed, the healer's patients appeared to enjoy a greater degree of family support than did hospital patients.

2.20. Collaboration and understanding between nurses and traditional healers

Tessendorf & Cunningham (1997) suggested that health care should become more community-driven in South Africa. The authors believed that one requirement for achieving this was to bring together the traditional and modern medical systems. The involvement of nurses and traditional healers in both systems could contribute significantly to increased collaboration and understanding between them provided that restrictions on their activities in hospitals were diminished.

2.21. Prospects for collaboration

Looking through all the above studies, traditional healers play a major role in the management of a wide range of clinical problems and mental disorders. Many investigators have recommended collaboration between traditional healers and mental health services in many African, Asian and developing countries, but not many studies have looked at traditional healers' opinions regarding such collaboration and how this collaboration can be achieved. There is still literature gap in this area. One of the current research questions is how this collaboration can be carried out from the point of view of the traditional healers. Collaboration cannot be successful if we do not know the traditional healers opinions. The research project sought to provide answers in this area, too.

2.21.1. Early intervention programmes involving traditional healers

Chong et al. (2005) reported that any delay in providing effective treatment for patients with psychosis has significant negative effects the outcome. This includes more hospitalizations, longer periods of inpatient care, slower and less complete recovery, and more frequent relapses. In their study, Chong et al. (2005) established the DUP in a sample of patients with first-episode psychosis and examined their pathways to care. The sample

comprised patients presenting with first-episode psychosis to the psychiatric services of the Institute of Mental Health, Singapore, from January to December 2000. The association between the DUP and demographic, clinical and social variables was examined. They found that the DUP ranged from 1 to 336 months. The mean DUP was 32.6 (SD59.8) months, with a median of 12 months. Twenty four percent of the patients had sought consultation with a traditional healer prior to consulting a psychiatrist. The DUP of this group of patients was not significantly different from the DUP of patients who sought help elsewhere. Chong et al. (2005) said the DUP of the patients was longer than that reported in studies done in the West. They concluded that the attitudes and beliefs of families are likely to be crucial in the pathways to care and perhaps especially so in an Asian society like that of Singapore.

Chong et al. (2004) reported that the prognosis of schizophrenia could potentially be improved by reducing the DUP. The Early Psychosis Intervention Programme (EPIP) in Singapore adopts a risk-reduction approach. It seeks to reduce the DUP through public education, networking with the primary care providers (GPs, counselors, traditional healers), and screening conscripts into the Singapore armed forces. Integral to the programme is a service for those in the prodromal phase of psychosis that addresses stigmatization and pharmaco-therapeutic interventions. The tertiary prevention strategies aim to reduce mortality and morbidity, and to improve the quality of the lives of individuals diagnosed with this disorder through a comprehensive and holistic management programme that comprises case-management, the judicious use of antipsychotics, and various psychosocial interventions. Chong et al. (2004) concluded that the involvement of traditional healers in early psychosis intervention programmes can improve the prognosis for people with mental disorders, largely through a reduction in the duration of untreated

mental illness. In many countries, people with mental disorders seek the help of the traditional healers before they seek help from mental health professionals. Chong et al.'s study is of great relevance to the present study, and is likely to have important implications for the care of very many people with mental disorders across the globe.

2.21.2. The regulation of traditional health practice

South Africa is an example of a country that has passed legislations to regulate the practice of traditional healers. Jansevan Rensburg (2009) stated that traditional health practice was recently main streamed in South Africa by the promulgation of the Traditional Health Practitioners Act, No. 35 of 2004. Because mental health was such a large part of the legal definition of traditional health practice, promulgation of this Act has significant implications for mental health care delivery. Jansevan Rensburg (2009) explored the documented interface of traditional health practice with mental health care in South Africa over nearly 50 years. His literature search yielded 143 references, between 1958 and 2004, articles, case reports, scientific letter, theses, and chapters in books. He concluded that while South African policy-makers may sought to establish a multi-faceted and multi-cultural form of health and mental health care delivery, the inclusion of traditional healers into the formal public health system and mental health may prove to be too costly to implement.

2.22. Traditional healing: outcome studies

Few studies in any country have investigated the outcome of traditional healing in relation to mental disorders. Salan & Maretzki (1983) reported on the complaints 90 individuals presented to nine traditional healers in three Indonesian cities. Their focus was on the nature of problems, client explanations and expectations, healer treatment and subsequent

outcome as judged by clients. Selected clients were observed and interviewed by a psychiatrist and one other health professional, and followed up with in a home visit. Complaints were categorized according to dimensions of acuteness/chronicity of the problem, presumed self-limiting characteristics, and psychological, general medical and other factors.

El-Amin & Refat (1997) studied 196 patients receiving treatment in the traditional healers setting for treating psychiatric disorders in Egypt. Patients who were attending to a famous traditional healer (sheikh) were examined over a period of 3 months. Regarding the outcome of traditional healer treatment they found that, 55% of patients with conversion and dissociative disorders, 27% with adjustment disorders and 25% of patients with sexual disorders reported improvement.

2.22.1. Use of standard clinical assessment (the Brief Psychiatric Rating Scale) to evaluate the effectiveness of traditional healing

Raguram et al. (2002) in India reported that the use of complementary medicine and the traditional medicine of other cultures has been increasing in Europe and North America. Although less well-documented, the use of complementary medicines and consultations with traditional healers is widely acknowledged in low income countries, such as India. The limited availability of health services in India encourages the use of a wide range of alternative systems of care for various ailments, including mental illnesses. Raguram et al. (2002) studies 31 people who had sought help and stayed at a temple. Most (21) were male farm labourers from rural areas, and all were Hindu. Twenty-three were diagnosed with paranoid schizophrenia, six with delusional disorders, and two with bipolar disorder with a current manic episode. The average duration of illness was 71 weeks and the mean duration

of stay in the temple was six weeks (range 1–24 weeks). Only one of the subjects had received any prior medical care, and that was from a GP, not a psychiatrist. The mean total score on the Brief Psychiatric Rating Scale on arrival was 52.9 (SD 5.0), dropping significantly to 42.9 (SD 18.6) at the time of departure from the temple ($p<0.001$). In addition to this improvement in scores, subjects generally acknowledged the benefits of their stay. The help received at the temple served as an alternative to clinical psychiatric treatment for the people with psychotic illness. This therefore raises questions about the effectiveness of the help they received. The observed reduction of nearly 20% psychiatric rating scale scores represents a level of clinical improvement that matches that achieved by many psychotropic agents, including the newer atypical agents. In addition the family carers of these patients also thought that most of the subjects had improved during their stay. Although Raguram et al. were the first to use a standard clinical assessment (the Brief Psychiatric Rating Scale) to evaluate the effectiveness of temple healing, their findings are only suggestive owing to the limitations of the methods: there were no comparison groups, and although they endeavoured to make the second assessment by the same rater as independent of the initial assessment as possible, this was short of rigorous double blind research methods. Nevertheless, such research has a useful role in helping to assess needs and resources for developing locally relevant community mental health programmes. Raguram et al. (2002) identified improvement in the symptoms of people with psychotic illnesses who received no psychopharmacological or other somatic interventions during their stay in the temple. The specific healing power associated with the temple may have resulted from the supportive, non-threatening, and reassuring setting. In contrast to the lengthy stay in hospital often characteristic of asylum treatments, it was notable that a stay of only six weeks could bring notable improvement. Healing temples thus may constitute a

community resource for mentally ill people in cultures where they are recognized and valued. Despite a mean duration of illness of well over a year in the people Raguram et al. (2002) studied, only one had ever consulted a doctor for their mental health disorder (in the government primary health center, which was located in the same village as the temple). As government primary health centres are designated as care providers for mental illness in rural areas, the lack of use of these facilities has important implications. Other observers in India have long noted the need to find an appropriate role for the various indigenous practices in community mental health. Raguram et al. (2002) suggested that the potential for effective alliances involving indigenous local resources needs to be considered, and at the very least, their role in local community settings needs to be understood and acknowledged to aid policy making and planning for mental health.

2.22.2. Outcome of treatment of psychosis by traditional healers

Abbo et al. (2012) studied the outcome of treatment of psychosis by traditional healers in the Jinja and Iganga districts of eastern Uganda. A cohort of patients with psychosis receiving treatment from traditional healers shrines were recruited between January and March 2008 and followed up at three and six months. The Mini International Neuropsychiatry Interview (MINI Plus) was used for making diagnoses at the point of contact. For specific symptoms, the Positive and Negative Symptom Scale (PANSS), Young Mania Rating Scale (YMRS) and Montgomery Asberg Depression Rating Scale (MADRS) were used to measure severity of schizophrenia, mania and psychotic depression, respectively. The Clinical Global Impression (CGI) and Global Assessment of Functioning were used for overall assessments of severity of disorder. The Compass Mental Health Index measured well being. Mean scores on the scales were computed using one

way ANOVA for independent samples. Associations between outcome and categorical variables were examined at bivariate and multivariate levels. Abbo et al. found that the scores on the symptom scales had reduced by more than 20% at three and six months. Over 80% of the participants used biomedical services for the same symptoms in the study period. At three months follow up, patients who received this combined treatment were less likely to be cases, but more likely to be cases at six months. Being in debt was associated with caseness at both three and six months. Abbo et al. suggested that there may be some positive effects for patients with psychosis who combine both biomedical services and traditional healing and they recommended further research in the area.

2.22.3. The importance of the use of standard clinical scales in outcome studies in the setting of traditional healer centres

Some researchers reported on the outcome of traditional healer treatment as perceived improvement as reported by patients personal opinion or an impression reported by their families. Only few researches such as Raguram et al. (2002) in India and Abbo et al. (2012) in Uganda had used clinical scales to assess the outcome of traditional healers' treatment on psychotic patients. Ahmed et al. (1999), investigating the characteristics of visitors to traditional healers in central Sudan, reported that the majority of visitors had a positive opinion regarding traditional treatment. No previous studies in Sudan have investigated the profiles and practice of traditional healers in relation to people with mental disorders using clinical scales, however. The prevalence of psychological distress or the common and severe mental disorders among those attending traditional healers' centres in Sudan is unknown because no previous research has investigated this. Furthermore, no previous

studies in Sudan have investigated the outcome of mental disorders treated by a traditional healer using clinical instruments.

2.23. The profile of traditional healers

Mbwayo et al. (2013) investigated the types of mental illness treated by traditional healers, and their methods of identifying and treating mental illnesses in their patients. In the urban informal settlements of Kibera, Kangemi and Kawangw are in Nairobi, Kenya, they used opportunistic sampling until the required number of traditional healers was reached. Focus group discussions were held with these traditional healers at each site and later an in-depth interview was conducted with each healer. An in-depth interview with each patient of the traditional healer was also conducted and thereafter the MINIPLUS was administered to check the mental illness diagnoses arrived at or missed by the traditional healers. Quantitative analysis was performed using SPSS while focus group discussions and in-depth interviews were analysed for emerging themes. The authors found that traditional healers consulted by members of the community are able to recognize some mental disorders, particularly psychosis, but less so the common mental disorders. Mbwayo et al. suggested there is a need to educate healers how to recognize different types of mental disorders and make referrals when patients are not responding to their treatments.

2.23.1. Perspectives of common mental disorders by traditional healers and patients

Shankar et al. (2006) conducted a study using key informant interviews, focus group discussions and in-depth interviews with traditional and faith healers to delineate concepts, categories, understandings of the causes of common mental disorders and their treatment as understood by traditional healers practising in rural south India. Patients attending clinics conducted by these healers were interviewed using the Tamil versions of the Revised

Clinical Interview Schedule (CIS-R) and the Short Explanatory Model Interview (SEMI) in order to identify common mental disorders and delineate their explanatory models of illness respectively. Different terms, concepts and treatments were used by traditional and faith healers. A total of 72 patients were interviewed using the CIS-R and the SEMI. Thirty (42.3%) satisfied the ICD-10 criteria for common mental disorder. Mixed anxiety depression was the most common diagnosis (40%). Shankar et al. concluded that understanding local patient perspectives of common mental disorders will allow modern medicine to provide culturally sensitive and locally acceptable health care.

2.24. Planning future mental health services: the need to involve traditional healers

Gessler et al. (1995) investigated the kind of traditional medical services which are available and the people who provide such services in different areas (rural and urban) in Tanzania. Twenty-three traditional healers were interviewed with a semi-structured questionnaire. They found that traditional healers are a very heterogeneous group, with little in common relating to their religion, sex or level of education. The traditional practice is very often taken over from a family member, but there were often other reasons for becoming a healer, such as initiation through ancestor spirits. More than 50% of the respondents practised full time; these full time practitioners were mainly men and of younger age. Half the group of traditional healers were able to offer inpatient stay at their facilities, in special patient-houses. Divination was used as a diagnostic tool mainly by men. Referral of patients to the hospital was mentioned by almost all respondents where they failed with their own treatment or when they knew that the patient would be better treated in the hospital or dispensary.

Gessler et al. (1995) stated that traditional healers are an important part of African societies, but unfortunately knowledge of the extent and character of traditional healing and the people involved in the practice is limited and impressionistic. Moreover, traditional healers are frequently ignored in studies of services, although they provide for the health needs of a substantial proportion of the population. For future health planning it is necessary to know why, even in big cities, where Western health services are available, traditional healers flourish.

2.25. Models of health-seeking behaviour

Understanding the models of health seeking behaviour will help in understanding the pathways to mental health care. In public health, the most utilised models of health-seeking behaviour come from social psychology. These are the Health Belief Model, and the Theory of Reasoned Action, which was later developed as the Theory of Planned Behaviour. Additionally, from medical sociology and medical anthropology come, respectively, the Framework of Health Care Utilization (the Socio-Behavioural Model) and its diverse variations, and some generic ethnographic decision making models. All these models are built on the statistical associations between sets of variables considered relevant for explaining or predicting health-seeking behaviours. Health-seeking behaviour models as applied to public health thus mostly serve as catalogues of the relevant variables that need to be considered in research design, rather than as behavioural models in themselves (Hausmann-Muela et al., 2003).

2.25.1. The Health Belief Model (HBM)

This is possibly the most widely used model in public health, and also the oldest developed within social psychology in the 1950s. As presented by Sheeran & Abraham (1995) the model is founded on:

- beliefs about the impact of illness and its consequences (threat perception), which in turn depend on perceived susceptibility, or the beliefs about how vulnerable a person considers him- or herself to be in relation to a certain illness or health problem, and perceived severity of illness or health problems and its consequences;

- health motivation or readiness to be concerned about health matters;

- beliefs about the consequences of health practices and about the possibilities and the effort to put them into practice that is, the perceived benefits of preventive or therapeutic health practices and the perceived barriers, both material and psychological (for example 'will-power'), with regard to a certain health practice.

- cues to action, which includes different, internal and external factors, which influence action;

- beliefs and health motivation, as conditioned by socio-demographic variables (class, age, gender, religion, etc.) and by the psychological characteristics of the person concerned (personality, peer group pressure, etc.).

2.25.2. The Theory of Reasoned Action and the Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) is an extension of the earlier Theory of Reasoned Action (TRA). Both were developed and amply used in HIV/AIDS research. They centre on factors which lead to a specific intention to act, or behavioural intention. The TPB

situates intention between attitudes and behaviour. The centrality of behavioural intention questions the classical model of belief, attitude and behaviour (Conner & Sparks, 1995).

In the TPB, behavioural intention is determined by:

- attitudes towards behaviour, determined by the belief that a specific behaviour will have a concrete consequence and the evaluation or valorization of this consequence;

- subjective norms, or the belief in whether other relevant persons will approve one's behaviour, plus the personal motivation to fulfil with the expectations of others;

- perceived behavioural control, determined by belief about access to the resources needed in order to act successfully, plus the perceived success of these resources (information, abilities, skills, dependence or independence from others, barriers, opportunities etc.);

- socio-demographic variables and personality traits which condition attitudes, subjective norms and perceived behavioural control (these are the same as in the HBM).

The advantages of the TPB are that it clearly takes into account the motivational aspects of personal disease control and the influence of social networks and peer pressure. The examples above show how projects can take advantage of these factors, rather than limiting themselves to the transmission of knowledge messages. The limitations of the model include its potential overemphasis on these psychological factors, while under-valuing structural factors like limited access or the availability of resources (Hausmann-Muela et al., 2003). Sorsdahl et al. (2013) suggested the application of the TPB for predicting the referral practices of traditional healers of their patients with a mental illness to Western practitioners.

2.25.3. The Framework of Health Services Utilization

This socio-behavioural model (Andersen & Newman, 1975), originally developed in the 1960s, groups in a logical sequence three clusters or categories of factors (predisposing, enabling and need factors) which can influence health behaviour. The model was specifically developed to investigate the use of biomedical health services. Later versions have extended the model to include other health sectors, including traditional medicine and domestic treatments (Weller et al., 1997).

The purpose of this framework is to discover conditions that either facilitate or impede the utilization of health services. The goal is to develop a behavioural model access to medical care. An individual's access to and use of health services is considered to be a function of three characteristics:

- *Predisposing factors.* The socio-cultural characteristics of individuals that exist prior to their illness.
  - Social structure: Education, occupation, ethnicity, social networks, social interactions, and culture;
  - Health beliefs: Attitudes, values, and knowledge that people have concerning and towards the health care system;
  - Demographic: Age and gender.
- *Enabling factors.* The logistical aspects of obtaining care.
  - Personal/family: The means and know how to access health services, income, health insurance, a regular source of care, travel, extent and quality of social relationships;
  - Community: Available health personnel and facilities, and waiting time;
  - Possible additions: Genetic factors and psychological characteristics.

- *Need factors.* The most immediate cause of health service use, from functional and health problems that generate the need for health care services. 'Perceived need will better help to understand care-seeking and adherence to a medical regimen, while evaluated need will be more closely related to the kind and amount of treatment that will be provided after a patient has presented to a medical care provider' (Andersen, 1995).

  o Perceived: 'How people view their own general health and functional state, as well as how they experience symptoms of illness, pain, and worries about their health and whether or not they judge their problems to be of sufficient importance and magnitude to seek professional help' (Andersen, 1995).

  o Evaluated: 'Represents professional judgment about people's health status and their need for medical care' (Andersen, 1995).

Andersen's model as modified in the International Collaborative Study on Health Care (Kroeger, 1983). In addition to the predisposing factors and enabling factors, this version includes health service system factors, referring to the structure of the health care system and its link to a country's social and political macro-system. This is a valuable extension as it puts emphasis on the link between health-seeking behaviour and structural levels within a macro-political and economic context. However, the model omits the 'need factors' which are central for understanding health-seeking behaviour (Weller et al., 1997).

A further variant of Andersen's model was elaborated by Kroeger (1983). He proposed the following framework:

- interrelated explanatory variables, all of which are affected by perceived morbidity;

- an individual's traits or predisposing factors – age, sex, marital status, status in the household, household size, ethnic group, degree of cultural adaptation, formal education, occupation, assets (land, livestock, cash, income), social network interactions;

- characteristics of the disorder and their perception – chronic or acute, severe or trivial, aetiological model, expected benefits or treatment (modern versus traditional), psychosomatic versus somatic disorders;

- characteristics of the service (health service system factors and enabling factors) – accessibility, appeal (opinions and attitudes towards traditional and modern healers), acceptability, quality, communication, costs.

The interaction of these factors guides the selection of health care resources.

The advantage of socio-behavioural models is the variety of the factors which are organised in categories, making interventions on therapeutic actions (or lack of actions) feasible. They permit the establishment of correlations with good predictability, but not the specification of how and why the different factors affect therapeutic selection (Weller et al., 1997).

2.25.4. The 'four As'

It has become popular among researchers to use different categories to group key factors for health-seeking behaviour. The best known is the grouping into the 'four As':

- Availability: refers to the geographical distribution of health facilities, pharmaceutical products, etc.;

- Accessibility: includes transport, roads, etc.;

- Affordability: includes treatment costs for the individual, household or family (a distinction is made between direct, indirect and opportunity costs.

- Acceptability: relates to cultural and social distance (this mainly refers to the characteristics of the health providers – such as excessive bureaucracy, health workers' behaviour, gender aspects, such as non-acceptance of being treated by the opposite sex, in particular women who refuse to be seen by male nurses/doctors, etc.

The 'model' of the four As has been widely used by medical geographers, anthropologists and epidemiologists who mainly emphasise distance (both social and geographical) and economic aspects as key factors for access to treatment (e.g. Good, 1987). The advantage of the four As is the easy identification of key potential 'barriers' to adequate treatment.

2.25.5. Pathway models

Starting with recognition of symptoms, pathway models centre on the path that people follow until they use different health services (be that home treatment, traditional healer, biomedical facility) (Good 1987). Such models stress the importance of 'significant others' in the decision-making process. 'Significant others' are part of the 'therapy managing group', a concept elaborated by Janzen (1978) which is key for understanding decision making in therapeutic processes. This idea challenges the strong emphasis on the individual and stresses the pivotal role of extended groups of relatives and friends in illness negotiation and management. In the course of the illness episode, the involvement of support groups in illness management can successively change. Pathway models acknowledge these dynamics of illness and decision-making. Most of the studies which use pathway models have investigated the path up to the first contact with a health facility. More recently, there has been an increasing emphasis on successive therapy choices. The

strength of pathway models is that they depict health seeking as a dynamic process. Factors are sequentially organized, according to the different key steps (i.e. recognition of symptoms, decision making, medical encounter, evaluation of outcomes, re-interpretation of illness) which determine the course of the therapy path.

2.25.6. Ethnographic decision-making models

Ethnographic decision-making models attempt to predict health-seeking behaviour. The methodology they use in order to identify key factors involved in therapy choice follows several steps. In a first ethnographic assessment, the key factors as pointed out by the community are identified. Combining these factors, the researcher creates different hypothetical scenarios or vignettes. A typical vignette would be: If an illness was perceived to be serious, and you had the necessary economic resources, what would you do? These vignettes are then presented to interviewees. Generally, their responses quantified as percentages (e.g. the proportion of all interviewees who endorse any particular response). Finally, a series of rules is elaborated, for example 'If a family has money and a member has a severe illness they would consult a doctor' (Weller et al., 1997). In order to test the predictability of the decision-making model, data are compared with actual cases.

2.25.7. The bio-psychosocial model (BPS)

The biopsychosocial approach posits that biological, psychological (thoughts, emotions, and behaviours) and social factors all play a significant role in human functioning in the context of disease or illness. Indeed, health is best understood in terms of a combination of biological, psychological and social factors rather than purely in biological terms. The biological component of the bio-psychosocial model seeks to understand how the cause of the illness stems from the functioning of the individual's body. The psychological

component looks for potential psychological causes for a health problem such as lack of self-control, emotional turmoil or negative thinking. The social part of the biopsychosocial model investigates how different social factors such as socioeconomic status, culture, poverty, technology, and religion can influence health (Santrock, 2007). The model was theorized by psychiatrist George L. Engel at the University of Rochester, USA. It contrast with the traditional, reductionist biomedical model of medicine which suggests every disease process can be explained in terms of an underlying deviation from normal function such as a pathogen, genetic or developmental abnormality, or injury (Engel, 1977). The concept is used in fields such as medicine, nursing, health psychology and sociology, and particularly in more specialist fields such as psychiatry, health psychology, family therapy, chiropractic, clinical social work, and clinical psychology. The biopsychosocial paradigm is also a technical term for the popular concept of the 'mind–body connection', which addresses more philosophical arguments between the biopsychosocial and biomedical models, rather than their empirical exploration and clinical application (Sarno, 1998). The biopsychosocial model as described by Engel has been criticized by Richter (1999) who argued that the model cannot adequately depict the system of psychiatric care and its related problems. Although it is generally acknowledged that psychiatry should orientate to the biopsychosocial paradigm, in practice real changes towards this model cannot be found because the biological approach in aetiology and treatment has become more and more important in recent decades (Richter, 1999).

Indeed, some psychiatrists themselves see the biopsychosocial model as flawed, in either formulation or application. Epstein and colleagues describe six conflicting interpretations of what the model might be, and proposes that 'habits of mind may be the missing link between a biopsychosocial intent and clinical reality' (Epstein &Borrell-

Carrio,(2005). Tavakoli (2009) argues that the model should be avoided because it unintentionally promotes an artificial distinction between biology and psychology, and merely causes confusion in psychiatric assessments and training programmes, and that ultimately it has not helped the cause of trying to destigmatize mental health.

2.25.8. Holistic model of mental health

Holistic therapy and medicine refers to treating the whole person. This means that disease is viewed as affecting a person's mind, body and spirit. A holistic view implies that disease doesnot merely inhabit the body, but that it can infiltrate the mind and spirit as well. Therefore, holistic medicine uses both conventional and alternative methods to treat disease. In a sense, holistic medicine is very practical. It seeks to use several avenues to reach and treat disease, rather than the more single-minded approach of other therapies. A holistic model of mental health generally includes concepts based upon anthropological, educational, psychological, religious and sociological perspectives, as well as theoretical perspectives, from personality, social clinical, health and developmental psychology (Witer, 1992; Hattie, 2004).

Holism (from a Greek word meaning *all*, *whole*, *entire*, *total*) is the idea that natural systems (physical, biological, chemical, social, economic, mental, linguistic, etc.) and their properties, should be viewed as wholes, not as collections of parts. Systems function as wholes and their functioning cannot be fully understood solely in terms of their component parts. The ultimate goal of holistic medicine is to use all the available diagnostic and treatment modalities to optimize the health of the person on all levels of well-being, without doing harm to the person. The premise of holistic medicine is to attempt to treat the patient as opposed to the illness. A holistic approach to mental illness means the patient's

physical, mental, and spiritual health will be assessed. The patient's overall health will be analysed according to their physical health, mental health, nutrition and emotional state, as well as lifestyle and social factors. A holistic approach to treatment is particularly important where the patient suffers from more than one disorder or illness at the same time, known as comorbidity. Traditional healing and complementary and alternative medicine use the holistic approach to health care.

The WHO has documented that, in Saudi Arabia, traditional healers or sheikhs (respected persons) continue to play a major part in mental health care and some psychiatrists work in close contact with them (WHO, 2000). Traditional healers can be important agents of 'change' in motivating clients (who do not fall into their 'therapeutic framework') access medical services and above all to adhere to the prescribed treatment and thus help in increasing awareness and reducing stigma (Incayawar et al., 2009). Mental health policies should not be based exclusively on medical models, but incorporate larger socio-cultural and religious dimensions. It is a challenging task, but can help to break barriers to the mental health services (Jaju, 2009). Ali et al. (2005) believed that imams (religious leaders), with support from mental health professionals could fulfil a potentially vital role in improving access to services for minority Muslim communities in the USA, who currently have unmet psychosocial needs. However, some critiques of this model argue that not all components of traditional healing and complementary and alternative medicine are holistic (Klinghardt, 2005).

2.25.9. Kleinman's explanatory model of illness

Kleinman (1978) discussed the importance of the explanatory model:

Eliciting the patient's [explanatory] model gives the physician knowledge of the beliefs the patient holds about his illness, the personal and social meaning he attaches to his disorder, his expectations about what will happen to him and what the doctor will do, and his own therapeutic goals. Comparison of patient model with the doctor's model enables the clinician to identify major discrepancies that may cause problems for clinical management. Such comparisons also help the clinician know which aspects of his explanatory model need clearer exposition to patients (and families), and what sort of patient education is most appropriate. And they clarify conflicts not related to different levels of knowledge but different values and interests. Part of the clinical process involves negotiations between these explanatory models, once they have been made explicit. Eliciting the patient's explanatory model of illness through a set of questions is an important tool for facilitating cross-cultural communication, ensuring patient understanding, and identifying areas of conflict that will need to be negotiated. The wording and number of questions will depend on the characteristics of the patient, the problem and the setting. (Hark & DeLisser, 2009)

Bhui & Bhugra (2002) stated that Kleinman's original approach involved asking questions through an exploratory process of qualitative enquiry. This leads to complex and multi-layered responses which carry information about social rituals, symbols in communication, and forms of knowledge and illness narratives. Kleinman recommended that a patient's explanatory model of illness should be elicited using a mini-ethnographic approach that explored their concerns: 'Why me?' 'Why now?' 'What is wrong?' 'How long will it last?' 'How serious is it?' 'Who can intervene or treat the condition?'The clinician can get a better understanding of the subjective experience of illness, and so promote collaboration and improve clinical outcomes and patient satisfaction. Furthermore, the patients' rich view of the world and of their illness within that world give rise to a better understanding of their illness, including its meaning to them and their expected recovery process.

Kleinman et al. (1988) proposed the explanatory model to aid practitioners in practising culturally sensitive medicine. The eight questions in the model give a practitioner the opportunity to discover how a patient views his or her health issue. The questions are: What do you think has caused your problem? Why do you think it started when it did? What do you think your sickness does to you? How does it work? How severe is your sickness? Will it have a short or long course? What kind of treatment do you think you should receive? What are the most important results you hope to receive from this treatment? What are the chief problems your sickness has caused for you? What do you fear most about your sickness?

2.25.10.   The advantages and the disadvantages of the various models of health-seeking behaviour

Studies of health-seeking behaviour have generally centred on the characteristics of patients for explaining delays in receiving adequate treatment, non-compliance with treatment or non-utilisation of preventive measures. Few models take into consideration health provider factors. This focus on the patient's personal characteristics tends to 'blame the victim', showing the individuals themselves as responsible for inadequate health-seeking behaviour.

In most cases, models of health-seeking behaviour depart from the assumption that individuals generally aim to maximise utility and thus prefer behaviours which are associated with the highest expected benefits. This is, however, a very utilitarian vision, and does not necessarily correspond to reality (Good, 1994), emotional aspects and non-rational behaviour also strongly influence health-seeking behaviour. Decision-making issues are also manifestations of power relations which encompass conflicts of interests and go beyond the strict ambit of health. Actions also have a symbolic value, and much

behaviour is determined by political and politicised discourses. Peer pressure and social relations apply, as do social forces from a more historical perspective. More specifically, the behavioural models attempt to identify key factors, and their weight in behaviour. Key factors cannot, however, be isolated from the context in which they occur. Sauerborn et al. (1996) for example showed how perception of illness severity changed with season; this was related with climatic conditions and work load. The re-interpretation of illness in terms of witchcraft (Hausmann-Muela et al., 1998) has been found to depend on both the perceived failure of biomedical treatment and the social conflicts in which a person or family is involved. In this regard, no single model of health care is capable of meeting the entire range of human needs when a person experiences illness and disease (Sewell, 2008).

3.   METHODOLOGY

3.1.   Introduction: objectives of the study

We chose to combine qualitative and quantitative methodological approaches to achieve the aims of our study that is, to be able to understand the traditional healing system in Sudan. Many aspects of traditional healing in Sudan have not previously been fully explored or investigated and there no previous research has been conducted among patients with mental disorders receiving treatment from traditional healers in Sudan. The general aims of the current research were therefore to study the characteristics of patients attending traditional healer and/or who had sought psychiatric hospital treatment and to ascertain details of these experiences. More specifically, the study was designed:

- to determine the influence of the socio-demographic factors on decisions to attend a traditional healer or hospital for a mental health condition;

- to record the concepts, attitudes and beliefs of the relatives of patients with mental disorders about mental illness, traditional healing and psychiatric services;

- to assess the traditional healers' profiles, as well as their concepts of and beliefs about mental illness;

- to ascertain whether visits to traditional healers were related to perceived causes of the mental illness.

- To explore the pathway to care and identify the reasons and factors for seeking a traditional healers help or the help of psychiatric services.

- to assess the outcome of traditional healing in psychotic patients.

3.1.1. Research questions

- Which socio-demographic factors predict traditional healers' opinion on medical treatment?

- To what extent do socio-demographic factors, illness history variables and family attributions of mental illness increase the likelihood of a patient in the *Massed* (THC) having visited a psychiatric clinic?

- Do people prefer traditional treatment because, patients and the relatives of patients with mental disorders who are under treatment in traditional healer centres in Sudan have concepts, beliefs and understandings of mental illness that are similar to those of the traditional healers. That is, they have the same cultural and belief backgrounds about the origin and causes of the mental illness?

- Is it because of patients certain socio-demographics characteristics (such as low educational level) are more likely to visit traditional healers?

- Are cultural beliefs in the supernatural causes of mental illness the main important determinants of the decision to seek the help of a traditional healer?

- Do patients with psychosis benefit from traditional healing?

- Do the *Massed* healer treatments predict PANSS decrease?

3.1.2. Research hypotheses

- ***Hypothesis 1:*** Socio-demographic factors predict the propensity for traditional healers to hold an opinion on medical treatment.

- ***Hypothesis 2:*** Illness history and family attributions of mental illness increase the likelihood (odds) of a patient having visited a psychiatric clinic, after controlling for socio-demographic factors.

- *Hypothesis 3:* Illness history and family attributions of mental illness increase the likelihood (odds) of a patient with psychotic disorder visiting a psychiatric clinic, after controlling for socio-demographic factors.

- *Hypothesis 4:* There will be no significant change in PANSS psychosis symptoms scores between time 1 (admission) and time 2 (discharge) in patients with psychotic disorders.

- *Hypothesis 5:* There will be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders had not stopped medication.

- *Hypothesis 6:* There will be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders had previously contacted psychiatric services.

- *Hypothesis 7:* There will be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders has shorter duration of untreated illness (DUI).

- *Hypothesis 8:* There will be no significant change in PANSS psychosis symptoms scores, psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders spent more time in the *Massed*.

- *Hypothesis 9:* Treatment in a massed programme has a positive relationship with PANSS decrease scores (post-treatment outcomes).

3.2.   Theoretical and the conceptual framework

Campion & Bhugra (1997) stated that community surveys can be employed to ascertain rates of mental illness and help-seeking from religious healers, but these are not necessarily

cost-effective. One would need large community samples to have an adequate representation of patients with mental illness and those who have sought religious healing. They added that two further methods of ascertaining the role of religious healing in psychiatric care can be used. One is to investigate a group of psychiatric patients and find out whether they have ever sought help from religious healers and the outcome of that help, along with other factors, to determine the accessibility and acceptability of such assistance. The second method is to assess the psychiatric status of those attending places of religious healing. The current study used the latter methodological approach.

The conceptual model (Figure 3.1) adopted for the study was based on various factors that might affect or contribute to the pathway to care (i.e. to formal mental health services) of Sudanese patients with mental disorders.

Figure 3.1: The theoretical and the conceptual framework
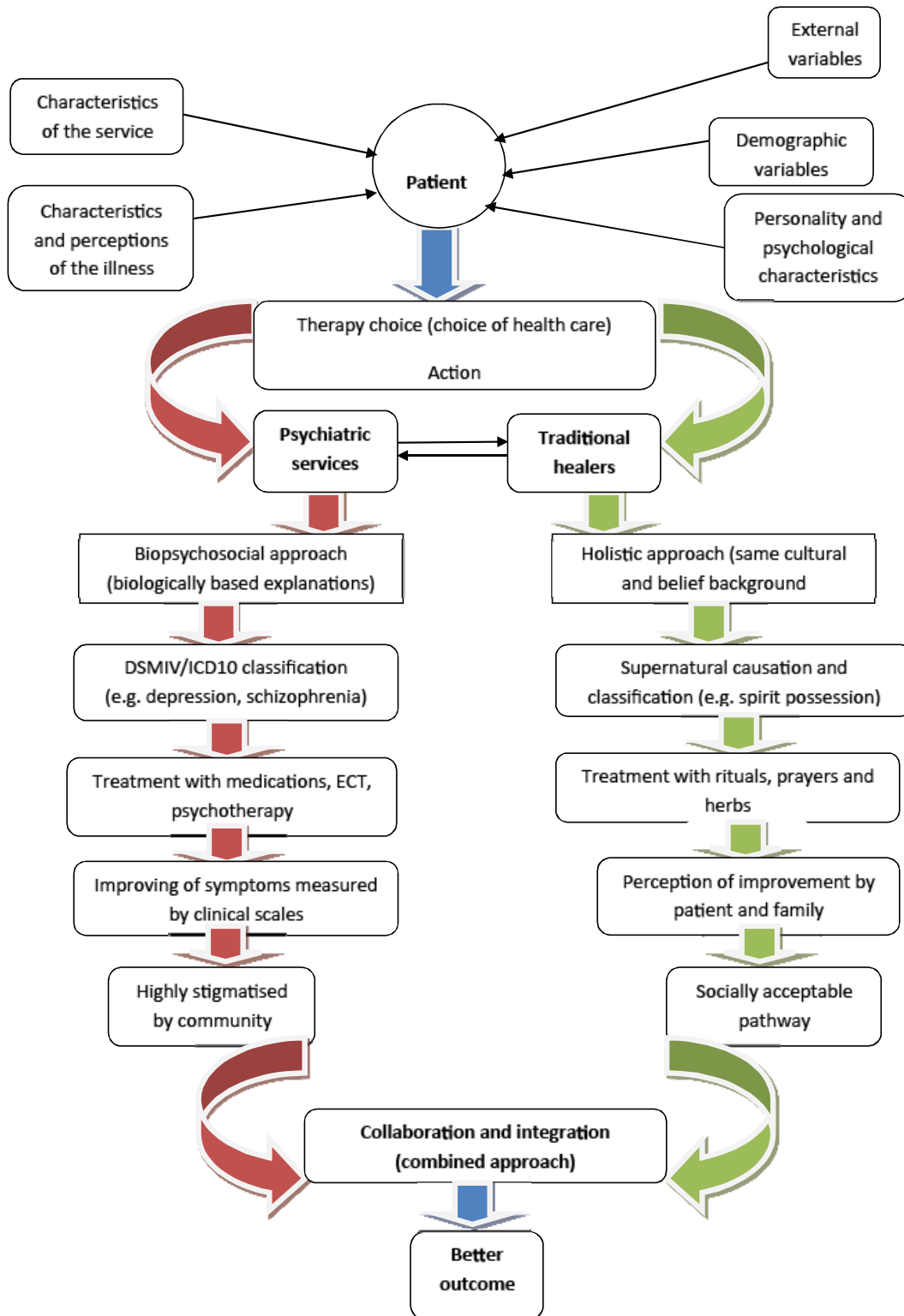
3.3. Research design

Both qualitative and quantitative research methods were used to achieve the study's aims. The study was carried out in four phases as shown in Figure 3.2.

Figure 3.2: The inter-link between the 4 phases of the study

Phase II
FGD to study the concept of mental illness and traditional healing from families and relatives of patient under treatment in the THC

Phase I
To study the traditional healers profile and characteristics and their opinion on medical treatment and collaboration with mental health professional

Phase III
To study the characteristics of patients who are under treatment in the THC

Cross-sectional study: designed questionnaire & MINI

Phase IV
The outcome of traditional healing on psychotic patients – PANSS

Follow-up of psychotic patients from admission until discharge

FGD, focus group discussion; THC, traditional healer centre; MINI, Mini International Neuropsychiatric Interview; PANSS, Positive and Negative Syndrome Scale.

3.3.1. The phases of the study

- *Phase I.* We interviewed the traditional healers to study their profile, their socio-demographic characteristics and their opinions of medical treatment and

collaboration with mental health professionals and the possibilities for collaboration with psychiatric services.

- *Phase II*. Focus group discussions were carried with the relatives accompanying patients with mental disorders receiving treatment in the traditional healer centres to explore their concepts of and beliefs about mental illness, as well as about traditional healings and psychiatric treatment.

- *Phase III*. We interviewed the patients with mental disorders receiving treatment in the traditional healer centres in Sudan to assess their socio-demographic characteristics and the type of mental disorders they have

- *Phase IV*. We followed up the group of the psychotic patients (schizophrenia only) to see the outcome of the traditional healing. Psychotic patients were selected for this outcome study because only few studies worldwide have been done in this area, whereas the outcome of (non-psychotic) common mental illnessess such as depression, anxiety and somatoform disorders have been proved in previous studies to have a good outcome in the THC setting.

Figure 3.2 shows the four phases of the study.

3.4. Ethical approval, informed consent and confidentiality

The design of the study was in keeping with the guidelines of the FMOH and the Sudanese Health Research Council. Ethical approval was obtained from the health research technical and ethical committee in the Ministry of Health Sudan. An ethical clearance certificate was obtained before the start of the data collection (Appendix E). The director of each traditional healer centre was approached personally by the principal investigator and the research team. An official letter was delivered to each centre explaining the purpose of the

study and consent for joining the study was obtained from each centre before the start of data collection from patients.

Informed consent was obtained from each participant before joining the study; each patient was approached individually by the interviewer, and each patient's privacy and confidentiality were respected. In each centre the purpose of the study was explained to the participant and it was explained that if any patient did not wish to participate they would not need to do so. If the patients agreed to join the study they signed a consent form. All information obtained was kept confidential according to international guidelines.

3.5. Research area (geographical coverage)

Thirty traditional healer centres in and around the Sudanese capital, Khartoum, and the adjacent states were each assigned a number (1–30) and the researchers asked a third party to randomly choose 10 of these numbers. This resulted in 10 randomly selected traditional healer centres in central Sudan in and around Khartoum: Khartoum State, Geziera State, White Nile State and Blue Nile State.

It is worth mentioning that the various healers at the selected centres seemed to be a largely homogeneous group, in terms of culture, socio-economic characteristics and methods of healing. The only inclusion criteria for the traditional healer centres were that they had to have facilities for admitting mentally ill patients. Each of these centres was given the name of the elder traditional healer who was its founder.

3.6.   The traditional healer centres (*Massed*)

3.6.1. *Massed Umm Dwanban*

This centre is located in Khartoum North, 40 km from central Khartoum. It is one of the biggest traditional healer centres in Sudan. The current responsible sheikh learned this profession a long time ago from his grandfather Al sheikh Wad Badur, one of the famous khalifas in Sudan. The village where there traditional healer centre is located has a population of 30,000; most of the people in the village are educated and very hospitable to visitors. In Umm Dwanban village, there are two basic primary schools and secondary schools both for males and for females. There is also an academic Quran college, and a general hospital built in 1992 with many specialties including psychiatric referral clinic. The hospital receives 15–20 patients every day. The floods few years before the study had destroyed most of the village and the hospital buildings which are now under renovation.

3.6.2. *Massed Al Sheikh Abou Groun*

This village is situated in Khartoum North, about 90 km away from central Khartoum and has a population of 2,5000. Farming is the predominant local occupation. It is one of the biggest traditional healer centres in Sudan. The current Sheikh learned his job from his father, but is also a graduate of the Faculty of Law, University of Khartoum and has his own website (http://abugroon.com/index.htm). The centre accommodates the mentally ill patients in special rooms.

3.6.3. *Massed Sheikh Alyagout*

This centre is situated in Jabal Awlya City (which means the 'mountain of the holy people'), which is 40 km south of Khartoum. This area has a population of 40,000. Again, farming is the predominant occupation, although many people commute to Khartoum to

work. Electricity and water supplies are available in the area, and a medical health centre, some primary schools, and a secondary school provide services within the area. The *massed* and the *khalwa* (Quran school) are crowded and busy with visitors; the average number of visitors is 50 people for different purposes. There are rooms for accommodating the mentally ill.

3.6.4. *Massed Tayba Sheikh Abdelbagi*

This centre is located in Tabat village 200 km east of Khartoum. The founder of this massed was Sheikh Al-Samani Abdl Mahmoud, the founder of Tarriga Al-Samania in Sudan. People from all over Sudan come seeking cures, and to obtain his blessing by touching his tomb. His successor now is Sheikh Al-Gieli, a graduate of the Faculty of Art in University of Khartoum; he learned the job of healing from his father. Visitors come from different parts of Sudan as well as from outside Sudan.

3.6.5. *Massed Elshiekieneba*

This centre is 400 km from Khartoum, in Al Geziera State. It is a famous *massed* which dates back 400 years. The locality is a rural area with a population of around 15,000 many living in mud houses. They depend on sheep for food (milk and meat). The water supply is largely from wells that are often far away from people's houses. Previously there was no electricity in the area except for the *massed*. The sheikh meets visitor sat the *massed* and thousands of children learn the Quran and spiritual teaching in the *Khalwa*. The *massed* also encompasses a dome with the tomb of the sheikh, the father of present sheikh. The sheikh is very cooperative with researchers and psychologists, who have been there many times.

3.6.6. Massed Shiekh AlKabashi

It is located in Khartoum North, 20 km from central Khartoum, and was founded by sheikh AlKabashi. He was very famous for healing scorpion and snake bites; the current khalifa is a friendly and cooperative person. The local village is largely populated by the children and grandchildren of that sheikh. The centre has rooms (with facilities for chaining) to accommodate mentally ill patients. People come from different parts of Sudan to collect the sand of the grave of that sheikh (the Baraka) to hang it in front of their houses as a charm against animal poisons.

3.6.7. Massed Al-SaimDeama

This centre is situated in Ombada in Omdurman city. The grandfather of the current sheikh fasted every day, it is claimed. It is a very big centre with many daily visitors and is situated in the heart of the city. The centre has rooms to accommodate the mentally ill.

3.6.8. Massed Wad Husona

It is located in Khartoum North. One of the oldest villages in Khartoum state, in an area with a rich religious heritage and contains the tomb of Sheikh Hassan Husona. It is one of the oldest areas in eastern Nile away from the capital, Khartoum, a distance of 84 km^2. It accommodates 75,000 people. It is contains a famous *massed* which dates back 300 years. The massed have facilities to accommodate people with mental disorders

3.6.9. Massed Al Nekhaira

This centre is 200 km from Khartoum in Geziera state. The *massed* have *khalwa* and facilities to accommodate people with mental illness. the resident of this village are famous, that, they have a major role in repairing the social fabric of solving social problems and of reconciliation between members of the community and removed the obstacles and all the

manifestations of social solidarity. The sheikh is famous for using alternative medicine, most therapists for many incurable diseases such as body and eye diseases and psychiatric disorders.

3.6.10. Massed Abuharaaz

This centre is 300 km from Khartoum, in Al Geziera State. Abuharaz is located at the eastern side of the Blue Nile. The near by cities are Hantoob, Wad Madani and Rufa'a. Most of its populations are farmers and have tied and strong social relations. It is *massed* is famous. The *massed* have facilities to accommodate people with mental illness.

3.7.   Research population

The research populations are the traditional healers, the patients with mental disorders receiving treatment in the traditional healer centres and the relatives accompanying the patients.

All the in-patients with mental disorders and relatives were interviewed on admission to the traditional healer centres, but only patients with psychotic disorders were interviewed again, on discharge from the centres. These discharge interviews were intended to assess whether there had been any progress (improvement or deterioration) in the patient's symptoms. The patients were interviewed by the principal investigator and a trained research team.

3.7.1. Inclusion criteria

The main criteria for the selection of the patients in this study were that the participants had a mental illness and came or were brought by their families for treatment and were admitted as inpatients in the traditional healer centres. Patients could be of either sex but had to be aged above 16 years.

3.7.2. Exclusion criteria

We excluded patients with mental disorders due to organic causes or due to underlying medical illness as well as patients with epilepsy or mental retardation.

3.8. Data collection

3.8.1. The traditional healers' profile and the semi-structured questionnaire

The traditional healers were interviewed using a 15-item semi-structured questionnaire (Appendix B) that covered: age, education level, occupation, place of work, previous job, length of practice treating people with a mental illness, how the treatment of people with a mental illness had been learnt, method of diagnosis, methods of treatment of the mental illness, length of time it typically took patients to respond to treatment (length of time for which patients with mental illness were generally kept in the centre), how many patients with mental illness were seen every day, what the healer thought about medical treatment for mental illness, what the healer thought about patients who took traditional treatment and medical treatment at the same time, whether it was possible to collaborate with medical treatment, and if so, how to do that.

3.8.2. Qualitative research (focus group discussions)

Focus groups are group interviews. A moderator guides the interview while a small group (typically 6–8 participants) who come from similar background discuss the topics that the interviewer raises (Morgan, 1998). The recommended number of people per group is usually 6–10 (MacIntosh, 1981), but some researchers have used up to 15 people (Goss & Leinbach, 1996). Focus group sessions usually last from 1–2 hours (Gibbs, 1997). Focus group interviews are a method for collecting qualitative data and have enjoyed a surge in popularity in health care research over the last 20 years; they are a rich source of

information (McLafferty, 2004). Focus group sessions are widely used to gain insights into attitudes, opinions, motivations, and problems as they relate to human behaviour. The keys to the success of the discussion are the construction of the group, the direction given by the moderator, and the interpretation of the results (Folch-Lyon & Trost, 1981). Focus groups capitalize on communication between research participants in order to generate data. They are often used simply as a quick and convenient way to collect data from several people simultaneously as, instead of the researcher asking each person to respond to a question in turn, people are encouraged to talk to one another: asking questions, exchanging anecdotes and commenting on each other's experiences and points of view. The method is particularly useful for exploring people's knowledge and experiences and can be used to examine not only what people think but how they think and why they think that way. Focus groups are a popular method for assessing health education messages and examining public understandings of illness and of health behaviours (Kitzinger, 1995). Focus groups have advantages for researchers in the field of health and medicine; they do not discriminate against people who cannot read or write, and they can encourage participation from people who are reluctant to be interviewed on their own, or people who feel they have nothing to say. Focus groups are well suited for eliciting people's opinions and experiences, or for searching for deeper understanding of opinions and attitudes to certain issues. The strength of focus groups is the ability to capitalize on the interactions, discussions and relationships among group participants (Kitzinger, 1995).

We conducted the focus groups of discussions with the relatives of patients with mental illness in the traditional healer centre because the patients were usually brought involuntarily by their families to the centres for treatment. In addition, resorting to traditional healers for help was usually a family decision in which the patient had only say

(El-Islam & Ahmed, 1971). Young patients with mental illness in particular usually have lack of personal choice and inability to make a decision for help-seeking, as parents and grandparents' take an important role in the decision to seek help (Campion & Bhugra, 1997).

Setting, sample and procedure of the focus group discussions

Participants were the relatives of patients with mental illness undergoing treatment in the traditional healer centres in central Sudan. They were invited to join discussion groups carried out in the centres. Participants shared their opinions and experiences regarding mental illness, the signs and symptoms of mental illness, the reasons for the mental illness, the precipitating factors for the illness, the treatment available, the role of traditional healers and the role of modern psychiatric treatment for treating mental illness. The only inclusion criterion was that participants had to be a close relative accompanying the patient under treatment to the centre at the time of study. Participants were advised that they could leave the discussion at any time, although none did so. The focus groups were led by a moderator, whose primary role was to introduce the questions and to ensure that every member of the group was heard and that the participants' conversation was focused on the main purposes of the study. The moderator was present to guide the focus group, but any interference in the discussion was kept to a minimum. The length of time of each session was about one hour, and the discussion was contemporaneously recorded as written notes. It could not be tape-recorded because of the policies of the centres. Facial expressions and non-verbal comments were also noted. Participants were probed about issues raised by previous groups in addition to the standard interview schedule structuring each of the discussions. We arranged two focus group discussions in each traditional healer centre, one

for males and the other one for females; to respect local culture and the traditions(in Arab culture men and women do not mix together in social gatherings). In any case, if we included both males and females in one focus group the men would talk more and the women much less, and would be shy of asserting their own ideas and opinions. The 10 female focus groups were moderated by a qualified and trained female clinical psychologist. We conducted only two focus group of discussions per week, one for males and the other for females, to allow time for immediate thematic and content analysis before moving to the other centre to conduct another two focus groups. Triangulation was used in the study to verify the answers given by the participants. After all 20 focus group discussions, had been conducted, saturation of data themes emerged in our interpretative analysis. Five clinical research psychologists in addition to the principal investigator, all qualified and trained in qualitative research data collection and analysis moderated the 20 focus groups. Focus group members were very active during the discussions and no participant reported difficulties during the discussion. Each group followed a schedule that explored seven areas (Table3.1). We used these areas to explore families' concepts of, beliefs about and attitudes towards mental illness, traditional healing and modern psychiatric treatment.

Table 3.1: Focus group interview schedule

1. How you define mental illness?
2. What are the signs and symptoms of mental illness?
3. What are the reasons for mental illness?
4. What are the precipitating factors for mental illness?
5. How should mental illness be treated?
6. What is the role of traditional healers in treating mental illness?
7. Is there any modern treatment for treating mental illness?

3.8.3. Data collection technique for assessing the characteristics of patients receiving treatment

In this research we used both qualitative and quantitative research methods. The quantitative data were collected through face-to-face interviews using: a structured questionnaire which had been tested before the start of the data collection; the Mini International Neuropsychiatry Interview (MINI), Arabic Version 5; and the Positive and Negative Syndrome Scale (PANSS). The interview was conducted by the principal investigator and five trained clinical psychologists, who had been offered a training course on the research instrument before the start of the data collection. These five clinical psychologists had been trained in the use of the study instruments to carry out the interviews in Arabic and to apply the clinical scales (MINI-Arabic version 5 and the PANSS). An inter-rater reliability analysis using the kappa statistic was performed to determine consistency among raters. The inter-rater reliability for the raters was found to be kappa = 0.72, which indicates substantial agreement or good level of agreement. Interviewers were able to conduct interviews with patients from 10 traditional healers' centres. The patients and their relatives who accompanied them were interviewed.

3.8.4. The Patient and Family Structured Questionnaire

The patient questionnaire covered all the basic information, including socio-economic and the demographic characteristics (Appendix A). The main scope of this research project was to assess the mentally ill patients' condition. The patients were first interviewed on admission by the principal investigator and trained clinical psychologists. The socio-demographic profile of the patients was obtained first: basic information such as name, age,

education level, occupation or working status, area of original residence in Sudan, religion, and marital status.

The next questions covered the symptoms of the present complaints, the duration of untreated illness (DUI), and how many times the patient had been brought to a traditional healer centre. Patients were then asked if they had had any medical illness, family history of mental illness, or history of abusing drugs or alcohol. Following that, patients wereasked why they had come to the centre, and whether they had been to any psychiatric services before and if not, why not (in particular, whether it was because they did not know anything about those services).

If the patients had been to any psychiatric services before, they were asked whether they had been given any medication. Moreover, they were asked about the type of intervention that had probably been ordered in the traditional healer centres including limitation of food, on the use of chains, putting patients in a dark room, restricting visitors, stopping psychotropic medications, beating patients, or any other interventions. The next item covered the type of traditional healing services that had been provided by the healers with the patients such as recitation of the holy Quran, the providing of *Bakhara*, or *Mehaya*, drinking holy water and washing the body with holy water.

Then, patients were asked about their attribution of their mental illness to a cause including possession by jinn, Satan, an evil spirit, wrong-doing, or any other reason. After that patients were asked whether there were any precipitating factors for their current illness. They were also asked whether the prices were expensive or not affordable, and whether the services were far away from their home. After patients had completed this questionnaire, they were given the MINI.

3.8.5.   The Mini International Neuropsychiatry Interview (MINI)

The MINI is the most widely used psychiatric structured diagnostic interview. It is used by mental health professionals and health organizations in more than 100 countries. It has been validated against the much longer Structure Clinical Interview for DSM diagnoses (SCID-P) in English and French and against the Composite International Diagnostic Interview for ICD-10 (CIDI) in English, French and Arabic, and has higher reliability and validity scores than either of these instruments (Pinninti et al., 2003). It has also been validated against expert opinion in large samples in four European countries (France, the UK, Italy and Spain). The principal authors of the MINI are David V. Sheehan, M.D., Professor of Psychiatry and Director of Psychiatric Research, University of South Florida College of Medicine, and Yves Lecrubier, M.D., Centre Hospitalier Sainte-Anne-Paris, France (Sheehan et al., 1998).

Thus, the MINI is a short structured diagnostic interview, developed jointly by psychiatrists and clinicians in the United States and Europe, for DSM-IV and ICD-10 psychiatric disorders. With an administration time of approximately 15 minutes, it was designed to meet the need for a short but accurate structured psychiatric interview for multicenter clinical trials and epidemiological studies (Sheehan et al., 1997). It is fully structured as this allows its administration by non-specialized interviewers. In order to keep it short it focuses on current disorders. For each disorder, one or two screening questions rule out the diagnosis when answered negatively (Lecrubier et al., 1997). It is also used to generate positive diagnosis for the main Diagnostic and Statistical Manual (DSM)-III-R/IV Axis I disorders, to explore the symptoms of criterion A' for schizophrenia, and to rule out the presence of psychotic disorders (Amorim et al., 1998). As well as being a short and inexpensive tool that is simple, clear and easy to administer, it is also highly sensitive and

specific; that is a high proportion of patients with a disorder are detected by the instrument and it has the ability to screen out-patients without disorders. It is compatible with both ICD-10 and DSM-IV and is able to capture important subsyndromal variants (Salem & El Ela, 2010).

The MINI Arabic Version5 used in this study was previously validated (Ghanem, 2002) through its use in many studies and surveys that were conducted in Arab countries (Ghanem et al., 2009). It was validated in Sudan in 2007–08 by a team of researchers from the Department of Psychiatry, University of Khartoum, and the Institute of Psychiatry, Oslo University, Norway; and has been used in many studies conducted in Sudan (Salah et al., 2012).

3.8.6. Sampling procedure

The sample size for the study's group of patients was calculated using the Kish Leslie formula for single proportions for a descriptive study (Kish & Frankel, 1974). The calculation assumed a frequency of 48% for mental disorders at the traditional healer centres at a 95% confidence interval, and a precision of 0.05. The figure of 48% was taken from a study by Ngoma et al. (2003), who examined traditional healers in urban Tanzania; this figure concurred with the researchers' impression that around half of patients at the centres were presenting primarily with a mental disorder of some sort.

According to Kish & Leslie, the sample size = n / [1− (n / population size)], where:

n (uncorrected sample size) =$Z^2[P(1–P)]$ / D^2;

where Z is the standard normal deviate corresponding to the required confidence level;

P is expected frequency;

D is the deviation between *P* and the worst acceptable frequency.

The prevalence of mental disorders in the traditional healer services users was assumed to be 48%; therefore, *P* was 0.48;

Z for 95% level of confidence = 1.96;

D the desired marginal error = 0.05.

Therefore the sample size, $n = 1.96 \times 1.96 \times [0.48 \times (1 - 0.48)] / 0.0025 = 383.54$.

So we needed a minimum of 384 patients as a sample size to carry out this study. We were able to include in-patients from each of the 10 selected traditional healer centres; and to collect a total sample of 405 patients, which was quite acceptable according to the above equation.

Out of these 405 patients with mental disorders, we followed up 129 with psychotic disorders (schizophrenic patients) to assess their outcome.

3.8.7. *Data collection for assessing the outcome of the psychotic patients*

We did a prospective follow-up of the cohort of inpatients with psychotic disorders receiving treatment in traditional healer centres in central Sudan. All inpatients with psychotic disorders receiving treatment in the selected traditional healer centres during the period of the study were recruited. The patients and their relatives were interviewed on admission and at the time of their discharge from the centre.

Inclusion and exclusion criteria

We included all adults male and female, over the age of 16 years with psychotic disorders who came to the selected traditional healer centre or who were staying in their rooms and had just arrived at the start of the study.

Patients' families had to give their consent before patients could be included in the study.

Only people with schizophrenia (according to the MINI assessment) were included in this psychotic group of patients: we did not include individuals with major depressive/bipolar mood disorder with psychotic features or dementia or delirium with psychotic features. We also excluded patients with psychosis due to organic causes or medical conditions.

Sampling

Sample size was again calculated using the Kish &Leslie formula. For a 95% confidence interval and a precision of <0.05, a total of 129 inpatients with psychotic disorders were included in the follow-up study.

Data collection

We used the structured questionnaire (Appendix A) and the PANSS to assess the severity of the psychotic symptoms on both admission to and discharge from the THC. The patient's initial questionnaire covered all the basic information (as above), including socio-economic and demographic characteristics. The main scope of this phase was to study the outcome of treatment of psychotic disorders by the traditional healers.

The Positive and Negative Syndrome Scale (PANSS)

The Positive and Negative Syndrome Scale (PANSS) is a 30-item scale with 16 general psychopathology symptom items, 7 positive-symptom items and 7 negative symptom items. The instrument is completed by the physician. Each item is scored on the same 7-point severity scale, resulting in a range of possible scores of 30–210. The positive- and negative-symptom item groups are often reported separately, with a possible range of 7–49.

A patient with schizophrenia entering a clinical trial typically scores 91 (Rosack, 2003). The 30-item PANSS was conceived as an operationalized, drug-sensitive instrument that provides a balanced representation of positive and negative symptoms, and gauges their relationship to one another and to global psychopathology. It thus constitutes four sub-scales, measuring positive and negative syndromes, their differential, and the general severity of illness (Kay et al., 1987). In clinical studies a reduction of at least 20%, 30%, 40% or 50% of the initial PANSS score has been used as a cut-off to define 'response'.

Despite the frequent use of the PANSS for rating the symptoms of schizophrenia, the clinical meaning of its total score (and of the cut-offs) has been open to question. In this regard, Leucht et al. (2005) compared the PANSS with simultaneous ratings on the Clinical Global Impression (CGI) scale. PANSS and CGI ratings at baseline ($n = 4,091$), and after one, two, four and six weeks of treatment were taken from a pooled database of seven pivotal, multi-centre antipsychotic drug trials of olanzapine or amisulpride in patients with exacerbations of schizophrenia were compared using equi-percentile linking. Being considered 'mildly ill' according to the CGI approximately corresponded to a PANSS total score of 58, 'moderately ill' to a PANSS score of 75, 'markedly ill' to a PANSS score of 95, and 'severely ill' to a PANSS score of 116. To be 'minimally improved' according to the CGI score was associated with a mean percentage PANSS reduction of 19%, 23%, 26% and 28% at weeks 1, 2, 4 and 6, respectively. The corresponding figures for a CGI rating of 'much improved' were 40%, 45%, 51% and 53%. Such studies suggest the use of at least a 50% reduction from baseline cut-off to define response, rather than lower thresholds. In treatment-resistant populations, however, even a small improvement can be important, so that a 25% cut-off might be appropriate (Leucht et al., 2005).

The PANSS has been used in a study in Uganda, which borders Sudan to the south, by Abbo et al. (2012) in a traditional healer setting. It has also been validated for use in Sudan by the Department of Psychiatry, Faculty of Medicine, University of Khartoum, and has been used in many studies conducted in Sudan.

3.9.   Data management and analysis

3.9.1. *Qualitative data management, analysis and validation*

Focus group discussion was chosen as a useful tool for exploring topics connected with group norms and the group meanings that underlie those norms (Ekblad & Baarnhielm, 2002). Focus groups generate alternative views on an issue and the intention is not to reach consensus. Focus group discussion does not require formal training of moderators and observers but the literature does recommend that they have good interpersonal skills (Ekblad & Baarnhielm, 2002). An advantage of using the focus group discussion to collect original data is the connection with oral traditions, which makes it preferable when participants have little or no educational background. Furthermore, focus group discussion is relatively easy to arrange, inexpensive and flexible in terms of format, types of question and desired outcomes. Contemporaneous notes were made and supplemented with field notes and observations of non-verbal communication. These transcriptions were checked, evaluated and edited by another bilingual speaker. After transcription, the principal investigator and the research team read through the transcript several times and grouped the content by themes with the help of an experienced medical anthropologist. The whole discussion was translated literally from Arabic into English after the content analysis was completed, for the purpose of publication. To enhance the data's credibility, discussions between moderators were held at the end of every focus group session. Notes about the

central themes in the focus group discussions were made at the end of each. We conducted only two focus group discussions per week. Feedback was obtained from participants: drafts of the interviews were presented orally to some of the participants, who made comments. The participants agreed that the drafts represented what had transpired in the interviews. Reliability was achieved by means of consistency checks between the research investigators, who continuously discussed the content and inductive coding of the focus group discussions. The content analysis was organized manually by comparing various themes within the same focus group and between the other focus groups.

3.9.2. *Manual thematic and content analysis of the focus group discussions*

Content analysis of data from focus group discussions followed steps the described by Warden & Wong (2007). The qualitative data analysis for this study was conducted using the framework approach, familiarization, identifying a thematic framework, indexing, charting and interpretation. The emergent themes of the discussion were coded. A bilingual researcher wrote down the contemporaneous note of discussions verbatim in Arabic and then after content analysis was completed the results were translated into English. The principal investigator and the research team then read through the transcripts several times to become familiar with the data. Each transcript was read and coded by the investigators to identify emergent themes. Coding (highlighting ideas, categories or themes) of the data according to the questions discussed took place as the researchers read through the transcripts. This was done by placing (sorting) expressions, lines or paragraphs that described similar codes on the left-hand side. Common themes or patterns that emerged were then placed together and interpreted. Selected extracts of text are provided; names have been changed to preserve anonymity.

3.9.3. *Quantitative data analysis*

The data were analysed using the Statistical Package for the Social Sciences (SPSS), Version 19 for Windows. Descriptive statistics were prepared by constructing frequency tables and graphs for the socio-demographic characteristics of the patients and traditional healers. Mean scores and standard deviations were calculated for the quantitative variables, and one-way ANOVA was used to compare these means (PANSS scores); modes and median were calculated for qualitative variables. The chi-square statistical procedure was used to generate cross-tabulations, to examine the association between variables, and to test the significance of relationships such as the effect of the traditional healers' socio-demographic profile on their opinion regarding medical treatment for mental illness. All data were tabulated and expressed as proportions. Descriptive statistics were reported as frequencies and percentages for categorical variables, means (SD) for normally distributed continuous variables and medians (SD) for non-parametric variables. The chi-square test was used to assess the correlates of psychiatric service contact versus socio-demographic factors, and other service choice factors and the diagnosis. Dichotomized variables were analysed with the chi-square test or Fisher's exact test if any expected cell frequency was lower than 5. Fisher's exact test was performed wherever required. Provided that the distributions were approximately normal or non-skewed (criteria $0:5 < \alpha > 1:5$), mean scores on continuous variables were compared with parametric methods using Student's *t*-tests for independent samples and one-way ANOVAs. Statistical significance was set at $p <$ 0.05. We also performed multivariate analysis to estimate the relative importance of predictors of contact with psychiatric services among patients treated in the traditional healer centres (Tabachnich & Fidell, 2001). We also performed logistic regression and the

significance of the individual indicators was assessed by the Wald statistic. In order to compare the relative importance of the predictors, odds ratios were calculated.

3.9.4. *Multivariate data analysis*

This section summarizes the multivariate analysis of data that were collected from the three different samples, namely: (1) the overall patient sample (*n*=405), which comprised patients from11 diagnostic categories of mental illness –major depressive disorder, dysthymia, manic episode, panic disorder, agoraphobia, social phobia, obsessive-compulsive disorder, alcohol dependence/abuse, drug dependence/abuse, psychotic disorders, and general anxiety disorder; (2) the psychosis sample (*n*=129), which comprised only patients with schizophrenia from among the overall sample; and (3) the healer sample (*n*=28), which comprised the traditional healers of the *massed* in central Sudan.

Predictors of having visited a psychiatric clinic

To test the relationships between categorical variables, contingency table (crosstabs) analysis by Pearson chi-squared statistics was initially performed on the three datasets. However, this two-dimensional perspective may miss the complex nature of relationships. Therefore, the data were subjected to statistical modelling, to determine which, if any, socio-demographic factors, illness history variables, or mental illness attributions were independently related to a *massed* patient having previously visited a psychiatric clinic. As the outcome variable 'visited a psychiatric clinic' is a binary categorical variable rather than continuous, simple logistic regression modelling (SLR) and hierarchical logistic regression modelling (HLR) were performed. The SLR models investigated the impact of socio-demographic factors on the outcome. The HLR models then investigated the impact of illness history, and illness attributions on the outcome, after controlling for the influence

of socio-demographic factors on the outcome. The binary dependent variable was posited as 'visited psychiatric clinic' (with '1' representing had visited psychiatric clinic and '0' representing had not). The socio-demographic independent variables were posited as age, gender, residence, marital status, education, occupation and distance from health service. The illness history independent variables were posited as diagnosis, duration of untreated illness, previous history of mental illness, previous history of medical illness, family history of medical illness, alcohol abuse, drug abuse, and precipitating factors. The mental illness attribution independent variables were posited as jinn, Satan, evil spirit, wrong-doing, magic, or something else. SLR and HLR modelling were performed using SPSS (IBM Corporation, Version 19.0). The criterion for statistical significance was $p<0.05$, with $p<0.01$ meaning very significant, and $p<0.001$ meaning highly significant (Field, 2009).

Sample size for logistic regression

For logistic regression, the minimum ratio of valid cases to independent variables is 10 to 1, or preferably 20 to 1. In the *massed* sample, there are 405 valid cases and 7 independent variables for the SLR socio-demographic model (ratio of 57.86 to 1); 8 independent variables for the HLR illness history model (ratio of 50.63 to 1); and 6 independent variables for the HLR illness attributions model (ratio of 67.50 to 1). This ratio of cases satisfies the minimum ratio of 10 to 1 and even the preferred ratio of 20 to 1. In the psychosis sample, there are 129 valid cases and 7 independent variables for the SLR socio-demographic model (ratio of 18.43 to 1); 8 independent variables for the HLR illness history model (ratio of 16.13 to 1); and 6 independent variables for the HLR illness attributions model (ratio of 21.50 to 1). This ratio of cases satisfies the minimum ratio of 10 to 1, and satisfies the preferred ratio of 20 to 1 for the HLR attributions model.

Pre–post treatment outcomes for patients with psychotic disorders

Evaluation of the pre–post treatment outcomes for patients with psychotic disorders were analysed using 16 mixed 2×2 ANOVAs, with interval (time 1, time 2) as the within-subject repeated measures in all analyses, and four between-subject groups as: (a) stopped medication, with two levels (yes, no), (b) visited psychiatric clinic, with two levels (yes, no), (c) duration of untreated illness, with two levels (1–12 months, 13–96 months), and (d) time spent in the *massed*, with three levels (1–6 months, 7–12 months, 13–18 months). All with-in-subject comparisons are reported using adjustments of degrees of freedom for Greenhouse–Giesserepsilon statistics (when Mauchly'sssphericity assumption was violated) to adjust the probability of F (Lix & Keselman, 2010). Eta-squared effect sizes (η^2) for the effects observed across time are reported, and interpreted according to Bakeman (2005) as small at 0.02, medium at 0.13 and large at 0.26 for repeated measures. Further univariate tests of hypotheses for between-groups effects and main effects are reported where main effects and interaction effects are significant. All mixed ANOVAs were analysed using IBM SPSS Version 19.0.

4.   RESULTS

Data were collected over a period of 18 months, from July 2009 to December 2010. We approached all the available inpatients supervised by the traditional healers and during the period of the study were able to interview all those with mental disorders. No patients or family member refused to participate in the study. We managed to interview28 traditional healers, 405 inpatients with mental disorders receiving treatment in 10 traditional healer centres (THC) in central Sudan, from and around the capital Khartoum, Gezeira State, White Nile State, and Blue Nile State. We manage to follow up 129 (psychotic– only schizophrenic patients) from admission until discharge. We conducted focus group discussionswith160 relatives of patients with mental disorders receiving treatment in the THCs. The number and percentage of patients collected from each THC is displayed in Table 4.1.

Table 4.1: Number and percentage of inpatients with mental disorders treated in traditional healer centres (THC) in central Sudan

Name of THC	No. of patients (% of total sample)
Abuharaz	14 (3.5%)
Alkhabashi	17 (4.2%)
Abugroon	18 (4.4%)
Alnekhera	20 (4.9%)
Alyagoot	72 (17.8%)
Alshikheneba	60 (14.8%)
Tayba	37 (9.1%)
Saimdeama	29 (7.2%)
Umm Dwanban	88 (21.7%)
Wadhusona	50 (12.3%)

4.1.   Profile and characteristics of the traditional healers

We are able to approach 30 traditional healers. Twenty-eight agreed to be interviewed (a 93% response rate). There were no differences in characteristics between those who agreed and those who did not agree to be interviewed. The age of the traditional healers ranged from 38 to 75 years (mean 52 years). Ten (36%) had received no formal training in their practice but had learnt it only in their centre. Six (21%) had been educated up to primary level, 7 (25%) up to secondary level and 5 (18%) to university level. Eleven (39%) had been farmers before they became full-time healer, nine (32%) teachers (in the traditional centres), four (14%) traders and another four (14%) had previously been government employees (Table 4.2).

The number of years of practice of the healers (specifically in relation to treating mental illness) ranged from 10 to 50 years. They had learnt the methods of treatment from their parents and other healers. Half of them followed certain criteria to diagnose mental illness (Table 4.3). They divided mental illness into that which needs the intervention of a traditional healer, such as possession by evil spirits, jinn or Satan, and that which needs a doctor's intervention, such as some cases of acute fever or epilepsy. The other half of the healers instead looked at the overall symptoms of the patients. Those who had features of anxiety, mild depression, somatoform disorders or adjustment disorders were considered mild cases of mental illness, while those who had lost their sense of reality and who were severely agitated or aggressive or socially withdrawn and neglecting their personal hygiene and were unable to function were considered psychotic and to have severe mental illness. According to the traditional healers, patients could take a few weeks, months or even years to get well (Table 4.4).

Table 4.2: Socio-demographic characteristics of the traditional healers (*n*=28)

Characteristics	*n*	Percentage
Age (years) (mean 52, SD 10)		
38–55	22	78.8
56–75	6	21.2
Sex		
Male	28	100
Female	0	0
Method of learning		
traditional healing		
From parents	8	28.6
From previous healer	20	71.4
Years of practice (mean 21)		
10–25 years	23	82.1
26–50 years	5	17.9
Educational level		
Khalwa (pre-school)	10	35.7
Primary school	6	21.4
Secondary school	7	25
University	5	17.9
Previous occupation		
Teacher	9	32.1
Farmer	11	39.3
Trader	4	14.3
Government employee	4	14.3

Table 4.3: The traditional healers' methods for diagnosing mental illness

Method of diagnosis	*n*	Percentage
From symptoms	14	50
Using certain criteria	14	50
Total	28	100

Table 4.4: Time reported by the traditional healer for patients to respond to treatment

Time	*n*	Percentage
Few weeks	9	32.1
Few months	15	53.6
Years	4	14.3
Total	28	100

Table 4.5: Number of patients the traditional healers saw per day

Number patients	*n*	Percentage
<3 people	8	28.6
3–5 people	13	46.4
5–10 people	7	25.0
Total	28	100

Table 4.6: The traditional healers' opinions of medical treatment

Opinion	*n*	Percentage
Useful	15	53.6
Not useful	13	46.4
Total	28	100

Table 4.7: The traditional healers' opinions on taking medical and traditional treatment simultaneously

Simultaneous treatment is of value	*n*	Percentage
Yes	15	53.6
No	13	46.4
Total	28	100

Thirteen (46%) of the healers saw on average 3–5 patients per day, while seven (25%) saw 5–10 patients a day and the remaining eight (29%) saw fewer than three patients a day (Table 4.5). Fifteen (54%) of the healers believed that psychiatric medication was useful for treating mental illness and they believed that combining traditional treatment and psychiatric medication could be useful. The other 13 (46%) did not believe in medical treatment and thought that psychiatric medication was not useful (Table 4.6); neither did they see any value in combining medical and traditional treatment (Table 4.7). A belief in the value of psychiatric medication and modern psychiatric management depended on the educational level of the traditional healer: the more years of formal education the healer had received, the stronger was the belief in modern methods of management and the use of psychiatric medication for treating people with mental illness (Table 4.7). A large majority

(25, or 89%) of the traditional healers were ready to collaborate with psychiatrists and mental health services (this was not associated with educational level). Only three (11%) would refuse to collaborate (Table 4.8). The traditional healers suggested three possible methods of collaboration: 56% (14 out of the 25 healers who agreed with the idea of collaboration) suggested that they could refer some patients to a psychiatrist (while continuing with their traditional treatment) or for medical investigations; 32% (eight healers) suggested that psychiatrists or doctors trained in the management of people with mental illness could visit the traditional healer centres regularly to manage patients and give them medication; and the remaining 12% (three healers) would prefer joint clinics with a psychiatrist to manage people with mental illness (Table 4.9). The healers used similar methods of management to treat people with mental illness, such as *mehaya*, *bakhara* and *rogya* as well as controlling food intake and putting the patient in chains in the initial phase of management (Table 4.10).

Table 4.8: The traditional healers' opinion on the possibilities for collaboration between healers and psychiatrists

Collaboration possible	*n*	Percentage
Yes	25	89.3
No	3	10.7
Total	28	100

Table 4.9: The traditional healers' opinion on how to collaborate with psychiatrists in the treatment of people with mental illness

How to collaborate	*n*	Percentage
Referring some patients to doctors	14	50
Having joint clinic with doctors	3	10.7
Doctors visiting patients regularly at the *massed*	11	39.3
Total	28	100

Table 4.10: Methods used by the traditional healers for treating mental illness in their centres

Method	*n*	Percentage
Controlling food		
Yes	25	89.3
No	3	10.7
Chaining patients		
Yes	23	82.1
No	5	17.9
Rogya		
Yes	27	96.4
No	1	3.6
Bakhrat		
Yes	28	100
No	0	0
Mehayat		
Yes	28	100
No	0	0

4.1.1. *Socio-demographic correlates of healers' opinions of medical treatment*

- **Research question 1**. Which socio-demographic factors predict traditional healers' opinion on medical treatment?

- **Hypothesis 1**. Socio-demographic factors predict the propensity for traditional healers to hold an opinion on medical treatment

Logistic regression analysis did not support the idea that socio-demographic factors predict the propensity for traditional healers to hold an opinion on medical treatment, but it was partially supported by Pearson chi-square analysis.

A binary logistic regression analysis was performed on the healer data (*n*=28), with opinion on medical treatment as the criterion and socio-demographic characteristics as the predictor variables, to see if socio-demographic factors, in particular education level, predict traditional healers' opinions on medical treatment. As Table 4.13 shows, none of the

healers' socio-demographic characteristics significantly predicted their propensity to hold a positive (useful) or negative (not useful) opinion of medical treatment.

It is not possible to conclude whether this finding is a true effect, given the small sample size (n=28), which does not satisfy the desired minimum ratio of 10 cases to 1 variable for logistic regression (the absolute minimum ratio is 4.67 to 1). A bivariate Pearson chi-square analysis was performed on the data (Tables 4.11 and 4.12), which found that 75% of traditional healers with secondary-level education and above held the opinion that medical treatment is useful. In contrast, 62.5% of traditional healers with only primary-level education and below held the opinion that medical treatment is not useful. This difference was, though, not statistically significant (χ^2 (1)=3.877, p=0.055). But healers with secondary-level education and above (75%) were more likely to believe that medical treatment is useful, and vice versa.

Table 4.11: Cross-tabulation between healers' education level and their opinion on medical treatment (n=28)

Opinion of medical treatment		Primary school and below	Secondary school and above
Useful	Count	6	9
	% within education	37.5%	75.0%
Not useful	Count	10	3
	% within education	62.5%	25.0%

Pearson chi-square = 3.877, d.f. = 1, p = 0.055, n = 28.

Table 4.12: X^2 association and correlation of the socio-demographic characteristics of traditional healers in relation to their opinion on the medical treatment of mental disorders

Socio-demographic characteristics	Opinion of medical treatment					
	Useful		Not useful			
	n	%	*n*	%	X^2	*p*-value
Age						
38–55 years	11	(50)	11	(50)	19.2	0.8
56–75	4	(60)	2	(40)		
Educational level						
Primary education and below	6	(37.5)	10	(62.5)	3.87	0.055
Secondary school and above	9	(75)	3	(25)		
Years of practice						
10–25 years	12	(48)	13	(52)	12.0	0.6
26–50 years	3	(75)	1	(25)		
Method of learning healing						
From parents	5	(62.95)	3	(37.5)	0.35	0.4
From previous healer	10	(10)	10	(50)		

Table 4.13: Healer sample: binary logistic regression with opinion on medical treatment as criterion and demographic characteristics as predictors (*n*=28)

		B	S.E. (B)	Sig.	OR Exp(B)	95% CI for EXP(B) Lower	Upper
Step 1[a]	Constant	−27.762	19826.471	0.999	0.000		
	Education			0.469			
	(1) Primary	21.738	40192.984	1.000	2.759	0.000	.
	(2) Secondary	19.390	40192.984	1.000	2.637	0.000	.
	(3) University	20.480	40192.984	1.000	7.845	0.000	.
	Age	0.155	0.240	0.517	1.168	0.730	1.868
	Previous occupation			0.994			
	(1) Farmer	1.770	44817.016	1.000	5.869	0.000	.
	(2) Trader	2.107	44817.016	1.000	8.227	0.000	.
	(3) Government	2.105	44817.016	1.000	8.203	0.000	.
	Number years of practice	−0.120	0.202	0.551	0.887	0.597	1.317
	Method of learning (1)	−0.783	1.555	0.615	0.457	0.022	9.628
	Method of diagnosis (1)	0.336	1.315	0.798	1.399	0.106	18.435

Note: Dependent variable: Opinion on medical treatment. S.E. (B) = standard error of B coefficient; OR=odds ratio for each independent variable. Hosmer&Leme show (final model): X^2 (7) = 7.018, p = 0.427; R^2 = 0.358 (Cox & Snell); R^2 = 0.479 (Nagelkerke); Model: X^2 (10) = 12.423, p = 0.258.

4.2. Experience, attitudes and beliefs of relatives of patients

One hundred and sixty relatives (92 men, 68 women; age range 20–70 years) of patients with mental illness in the traditional healer centres participated in the focus group discussions (FGDs).

We identified four major themes based on the thematic and content analysis. We provide below some selected responses from some of the participants in the FGD where these seem important and representative; the maintain anonymity, the names used here are not the real names of the participants. The responses are translated but otherwise reproduced verbatim, without any attempted correction of the usual slippages made in speech.

4.2.1. Theme 1: Definition and naming of the mental illness

The participants identified, classified and named the person with mental illness in terms of different definitions and names. For example, *Majnoon* means those possessed by jinn; *Mamsus* means those touched by jinn or Satan or evil spirits; *Matouh* means those who are born mentally ill; *Mastul* means those who ingested or abused a substance such as alcohol, hashish or other forms of cannabis; *Mayoun* means those affected by the evil eye; and *Mas-hur* means those affected by black magic. These definitions mentioned in the FGDs to describe the person with mental disorder were usually based on a supernatural aetiological cause of the mental illness. Below are some quotations regarding the definition and naming of the mental illness:

- Ali said we called the person with mental illness *Majnoon*.

- Fatima said we called the person with mental illness *Mamsus*.

- Halima said we called the person with mental illness *Mayoun*.

- Ibrahim said we called the person with mental illness *Matouh*.

- Ahmad said we called the person with mental illness *Mastul*.

- Zeinab said we called the person with mental illness *Mas-hur*.

- Khalid said we labelled him as *Faka-Mino*, i.e. has no logical thinking.

- Yousef expressed that he is *La-agl-lah*, i.e. without mind

4.2.2. *Theme 2: Description, identification and the symptoms of the mental illness*

The participants in the FGDs expressed the view that the most important sign was the inability to perform the same personal family and social activity as before the patient developed the mental illness. In other words, deterioration in functioning was considered the most important symptom – for instance, if a farmer could not work on the farm, if a trader could not practice his trade, or if a student could not go to school or study. In addition, some said that talking to oneself was a sign mental illness, as was neglecting personal hygiene, walking in the streets aimlessly, or becoming violent and aggressive. Some also thought that people with mental illness have illogical thinking and are always living in their own world.

- Suleiman said 'the person with mental illness always wonders around in the street aimlessly and wearing dirty clothes, smiling and laughing inappropriately, taking to himself'.

- Taha said 'the person with mental illness is always not aware about what is going around him and his mind is away'.

- Shihab said 'the person with mental illness may be talking excessively and have strange thoughts and ideas, is always careless about himself and others sometimes tend to be violent and aggressive'.

4.2.3. *Theme 3: Origin, nature and cause of the mental illness*

Some participants mentioned that jinn possession, Satan, the evil eye or spirits, magic and doing things against God's will (wrong-doings) are the most important reasons for mental illness. For example, they believed that jinn can enter the human body and disrupt body function.

Some participants stressed that mental illness can be precipitated by family or social problems, or disappointment in love or marriage. All participants thought that mental illness could be precipitated by a car accident or injury to the head, or abuse of drugs such as hashish. They mentioned that mental illness can be inherited and they gave examples of families where parents or grandparents or other relatives had a mental illness that was passed on.

Supernatural causes

- Salma said 'my brother who is quite okay until he got possessed by jinn, then he started to behave abnormally and talking nonsense and sometimes talking to himself, we brought him to the traditional healer to get him treated from jinn possession.

- Ibrahim said 'my sister who has been stroked by an evil eye and now her mental symptoms improved a lot after she started the traditional healer treatment. Although we have a psychiatric clinic near to us but it is not helpful in her case, how far the traditional centre is not important to us, but the most important is to get her cured'.

Substance abuse, drugs and chemicals:

- Sara said 'the mental illness could be due to substance abuse such as hashish'.

Organic causes

- Alaa said 'the mental illness could be due brain damage, head trauma and road traffic accident'.

- Alrawda said 'the mental illness could be due infection such as malaria, typhoid fever or meningitis; my neighbour Halima developed abnormal behaviour after she got fever'.

- Zienab indicated that mental illness may develop during pregnancy or after delivery of a baby. She said, 'My daughter developed the mental illness after the delivery of her first baby'.

Genetic or inherited causes

- Ahmad said 'the mental illness could be inherited; a baby may be born mentally retarded'.

Early childhood events or experiences

- Fatima said 'a person may develop mental illness due to loss of parents and maltreatment by relatives or due to traumatic life events during childhood such as being kidnapped or sexually abused or if he witnesses excessive violence, killing or war events'.

Life events and stress

- Alhaj said 'the mental illness could be due to failure in love and marriage or relationship, loss of money or job'.

4.2.4. Theme4: Management and treatment of mental illness

Some participants mentioned that traditional healing for a mental illness can be very successful and said that getting the jinn or the evil spirit out of the body can be done only through traditional healing. Devices or means frequently used were: charms (*hegab*, *waraga*, *kilab*, *hirz*, *hafez*); incantation (*azema*, *taweza*); fumigation (*bakhour*) and purification (*mehaya*). *Rogya* is reciting specific verses from the Holy Quran to the patient. Verses from the Hoy Quran are written on pieces of paper and according to severity of the disease the patients burns a number of them and inhales the fumes; this is called *Bakhra*. Purification with holy water is a universal practice called *mehaya* among certain traditional Arab communities. Alternatively, on a specially designed board (*loah*) the traditional healer writes certain symbols, signs, Quranic verses names of angels and healing invocations which are traditionally known for their divine power. The writing on the *loah* is then washed off, the liquid is collected and the patient either drinks it or washes his body with it (Baasher, 1975).

Role of traditional healers

- Osman said that 'traditional healers play an important role in the management of the people with mental illness in Sudan in a country where there are very limited government resources and facilities for treating mental illness'.

- Khalid added more by saying: 'Traditional healers can accommodate the people with illness until they get improved; they provide food and accommodation for the patient with mental illness. They also accommodate his family in the traditional healer's centre for many days or months or even years until the patients improve.

They provide treatment and management that is acceptable to us and within our cultural and religious beliefs'.

- Saleh added more by mentioning that 'the patient in the traditional healer centre after he gets improved becomes an active member of a therapeutic community. Life in these centres is based on communal welfare. Besides having his regular doses of *Rogya*, *Bakhra* and *Mehaya* and observing all religious rites the patient participates fully in all activities and is assigned a specific job in the fields; he may draw the water from well or canal, cut the wood, cultivate the land or look after the animals'.

Role of modern psychiatric treatment

Some family members said visiting psychiatrists for treating their people with mental illness is a waste of time and money. In general, they thought that modern psychiatric treatment is not useful and not effective, and if has any effects they are minimal and the medications usually make the person sleep a lot and they think that it poisons the body. They strongly believe that those who take modern psychiatric treatment usually they develop shakiness in their body and slurred speech and hyper-salivation (this is a reference to some common side-effects of antipsychotic medications – the extra-pyramidal symptoms). Furthermore, participants also believed that electroconvulsive therapy (ECT) could do more damage than cure.

- Ghada in a female FGD mentioned that: 'my sister was quite well when she started to become socially withdrawn, she lose weight and have lack of interest in everything. We took her to the doctor, given medication and she was referred to psychiatrist; her condition was diagnosed as depression and was given medication and Electricity [ECT] in the hospital but her condition did not improve significantly.

Then we decided to bring her to the traditional healer centre. After many sessions of traditional healer treatment her condition improved and she started to eat normally and now she can talk, smiles and mixes with people'.

4.3. Socio-demographic characteristics of the patients with mental disorders treated in the THCs

The age range of the patients who attended at the THCs was 16–60 years (mean 31.5, median 30.0, SD 9.8) 309 were male (76.3%) and 96 (23.7%) were female. All the participants were Muslims. Regarding residence, 69.4% (281) were from central Sudan, 10.6% (43) were from eastern Sudan, 10.1% (41) from northern Sudan, 7.4% (30) from western Sudan and 2.5% (10) from southern Sudan. Regarding the marital status, 64.4% (261) were single, 29.9% (121) were married and 5.7% (23) were divorced. Regarding education, 34.1% (138) were illiterate and had never had a formal school education, 39.3% (159) had studied only to primary level, 19.5% (79) had studied to secondary level and 7.2% (29) had attended university. Regarding occupational status before the illness, 46.9% (190) of the participants were unemployed, 41.2% (167) had had a job and 11.9% (48) were students (Table 4.14).

4.3.1. Medical history and precipitating factors of the mental illness

Of all participants, 35.1% (142) reported a history of medical illness, 21.2% (86) reported a history of mental illness and 23.7% (96) reported a family history of mental illness. A history of alcohol and drug abuse was reported by 17.5% (71) and 11.6% (47), respectively.

Of all the patients, 28.6% (116) claimed that family and social problems were the most likely precipitating factors for their mental illness; 18% (73) attributed their mental

illness to financial and legal issues, 5.7% (23) to physical illness and 47.7% (193) related no specific cause of their illness (Table 4.15).

4.3.2. Perceived reasons for the mental illness

Of the total sample, 20.7% (84) attributed their mental illness to jinn, 19.3% (48) to Satan, 28.4% (115) to evil spirits, 16.8% (68) to wrong-doing, 43.7% (177) to magic and 42.2% (171) attributed it to other unknown causes (Table 4.16).

4.3.3. Choices of treatment for the mental disorder

The service choices for the treatment of people with mental disorders in Sudan included a variety of information which is reported in Table 4.17, along with the reasons provided for these choices. Of all participants, 41.7% (169) said they had visited other THCs and 55.3% (224) had visited the present THC more than once.

Regarding the availability of health services, 70.1% (284) said they had facilities near to their home. Concerning service use, 51.9% (210) said they had not visited any mental health facilities; 48.1% (195) had visited psychiatric services in the past and were given psychiatric medication. Of those who had not visited mental health facilities before, 45.7% (96) said this was because they did not know about the service, 40% (84) thought that psychiatric services and mental health services were not helpful or useful for them, 8.1% (17) said that these services were costly and 6.2% (13) said they were too far away. Of all patients and their families, 95.5% (391) said they sought treatment in the THCs because they believed that the methods used by the healer were effective. Only 16.3% (66) said they sought treatment in the THC because it was near to their home and 23% (93) because they believed that it was cheaper than psychiatric and mental health services (Table 4.16).

4.3.4. Methods of treatment in the THC

A variety of treatment methods were employed the THCs to cure the patients. For example, *Rogya* and recitation of Holy Quran were used as a method of treatment for almost all patients across centres. *Bakhara* was used as a method of treatment in 99.3% (402) of cases, and *Mehaya* in 93.1% (377) of cases (Table 4.17).

4.3.5. Cost of treatment in the THCs

The cost of treatment in the THCs varied; some 78% (316) of the patients paid up to 1,000 SDG (Sudanese Genaih (pound) (1US\$ = 2SDG at the time of the study) for their treatments. In 16.8% (68) of cases the cost might reach up to 2,000 SDG, and in 5.2% (21) it might cost up to 3,000 SDG.

4.4. Methods of bringing patients to the THC

A variety of methods had been used to bring the patients to the THCs. As shown in Table 4.17, 77% (312) of the patients were brought involuntarily and that other 23% (93) had come voluntarily. Moreover, 95.1% (385) of the patients were brought by their families and relatives, and only 4.9% (20) had come alone (Table 4.17).

4.4.1. Reasons for treating patients in the THC

The reasons why most people with mental illness sought treatment in the THCs are reported in Table 4.16. Overall, 95.5% (391) of the patients and their families in the THCs believed that the treatments methods used there were effective in treating mental illness, compared with 3.5% (14) of the patients who did not believe so.

Only 16.3% (66) of the people with mental disorder sought treatment in the THCs merely because it was near home. This is significant compared with the83.7% (339) of patients who did not find a THC near their home.

Overall, 23% (93) of the people with mental disorder sought treatment in the THC because they believed that it cost less than psychiatric and mental health services. However, 77% (312) did not believe so (Table 4.16).

4.4.2. Duration of admission to the THC

Time spent at the traditional healer centre ranged from less than 1month to 48 months.

4.4.3. Duration of untreated illness (DUI)

The mean duration of untreated illness was14 months, and the median 8 months (Table 4.15).

4.4.4. Time spent in treatment at the THC

The mean duration of treatment in the THCs was5 months (median 3 months, SD7). Most patients (324; 80%) spent1–6 months receiving treatment in the THCs; 48(11.9%) spent between 7–12 months (Table 4.17).

Table 4.14: Socio-demographic characteristics of patient with mental disorders receiving treatment in the THC in Sudan

Socio-demographic characteristics of patient receiving treatment in the THC	Frequency (*n*)	Percentage (%)
Age (years)		
16–20	42	10.4
21–30	171	42.2
31–40	129	31.9
41–50	40	9.9
51–60	23	5.6
Sex		
Male	309	76.3
Female	96	23.7
Residence		
North Sudan	41	10.1
South Sudan	10	2.5
East Sudan	43	10.6
West Sudan	30	7.4
Central Sudan	281	69.4
Marital status		
Single	261	64.4
Married	121	29.9
Divorced	23	5.7
Education level		
Never been to school	138	34.1
Primary school	159	39.3
Secondary school	79	19.5
University	29	7.9
Occupation		
Employed	167	41.2
Unemployed	190	88.1
Student	48	11.9

Table 4.15: Medical-social history, precipitating factors, and reasons of mental illness of patients with mental disorders receiving treatment in the THC in Sudan

Medical-social history, precipitating factors, and reasons of mental illness	Frequency (*n*)	Percentage (%)
Duration of untreated illness (mean=14m)	(median=8m)	(SD=19)
1–6 (months)	149	48
7–12	107	26.4
13–24	51	12.6
25–48	39	9.6
49–120	14	3.4
Past history of mental illness		
Positive	86	21.2
Negative	319	78.8
Family history of mental illness		
Positive	96	23.7
Negative	309	76.3
Past medical illness		
Yes	142	35.1
No	263	64.9
History of alcohol abuse		
Yes	71	17.5
No	334	82.5
History of drug abuse		
Yes	47	11.6
No	358	88.4
Precipitating factors for mental illness		
Family-social factors	116	28.6
Financial-legal	73	18
Ill-health	23	5.7
Others	193	47.7
Perceived reasons for mental illness		
jinn	84	20.7
Satan	48	19.3
Evil spirit	115	28.4
Wrong-doing[*]	68	16.8
Black magic	177	43.7
Do not know	171	42.2

*Committing sins, doing things against God's will.

Table 4.16: Service choices and the reasons of the mental disorders among patients with mental disorders receiving treatment in a traditional healer centre (THC) in Sudan

Characteristics	Frequency (*n*)	Percentage (%)
Number of visits to THC		
Only one time	181	44.7
More than one time	224	55.3
Previous visits to other THC		
Yes	169	41.7
No	236	58.3
Availability of health services near home		
Yes	248	70.1
No	121	29.9
History of visit to psychiatric services		
Yes	195	48.1
No	210	51.9
Reasons of 51.9% patients for not visiting psychiatric services		
Far away from home	13	6.2
Costly	17	8.1
Not useful	84	40.0
Do not know about it	96	45.7
Effectiveness of treatment in THC		
Yes	391	96.5
No	14	3.5
Near their home		
Yes	66	16.3
No	339	83.7
Cost of THC compared to psychiatric services		
cost is less	93	23
cost is not less	312	77

Table 4.17: Intervention methods and the treatment procedure for treating people with mental disorders in the THC in Sudan

Intervention methods and the treatment procedure in the THC	Frequency (*n*)	Percentage (%)
Intervention methods		
Restriction of food		
Yes	352	86.9
No	53	13.1
Chaining patient		
Yes	383	69.9
No	122	30.1
Beating the patient		
Yes	70	17.3
No	335	82.7
Isolation in dark room		
Yes	135	33.3
No	270	66.7
Restriction of visitors		
Yes	64	15.8
No	341	84.2
Stop psychiatric treatment if any		
Yes	73	18
No	332	82
Treatments procedures		
Rogya*	405	100
Bakhra2**	402	99.3
Mehaya3***	377	93.1
How the patient came to the THC		
Alone	20	4.9
By family	385	95.1
How the patient was brought		
Voluntarily	93	23
Involuntarily	312	77
Treatment time spent in THC(mean=5 m)	(median=3m)	(SD=7)
1 – 6 (months)	324	80
7 – 12	48	11.9
13– 24	24	5.9
25 – 48	9	2.2

*Recitation of some verses of the holy book to the patient.
**Writing verses of the holy book on a paper or tree leaves and burning it to get the smoke for treating the patient.
***Writing some verses of the holy book on a board, papers or tree leaves, wash it in water and then giving the liquid to the patient to drink, or to use it wash the body with.

4.4.5. Diagnosis according to the MINI

In terms of diagnosis according to Mini International Neuropsychiatry Interview (MINI) (Table 4.18): 15.8% (64) of the patients were found to have major depressive disorder; 27.4% (111) had manic episode; 34.6% (140) were found to have psychotic disorders; 5.9% (24) had generalized anxiety disorder; 3% (12) had panic disorder;0.7% (3) suffered from agoraphobia; 3% (12) suffered from social phobia; 1.7% (7) had obsessive compulsive disorder; 4% (16) had alcohol dependency; and only 0.7% (3) reported drug dependency.

Table 4.18: Frequencies and percentages of diagnosis according to the Mini Neuropsychiatric Interview (MINI) of patients with mental disorders receiving treatment in the THC in Sudan

Diagnosis according to MINI	Frequency (*n*)	Percentage (%)
Major depressive episode (current)	64	15.8
Dysthymia (past 2 years)	13	3.2
Manic episode (current)	111	27.4
Panic disorder (current)	12	3
Agoraphobia (current)	3	0.7
Social phobia (current)	12	3
Obsessive-compulsive disorder (current)	7	1.7
Alcohol dependence/abuse (past 12 months)	16	4
Drug dependence/abuse (non-alcohol) (past 12 months)	3	0.7
Psychotic disorders (current)	140	34.6
Generalized anxiety disorder (current)	24	5.9
Total	405	100

4.5. Pathways to care and experience of contact with psychiatric services among people with mental disorders treated in THCs

Here we provide information on help-seeking pathways and experiences of contact with psychiatric services. Of the 405 patients, 195 (48.1%) had had contact with psychiatric services, while the other 210 (51.9%) had not (Table 4.16).

Table 4.19 shows the associations and correlates of contact with psychiatric services versus the socio-demographic characteristics of the people with mental disorders treated in the THCs in Sudan. Regarding the correlation of the patient gender and contact with psychiatric services we found that 155 (50.2%) of the males receiving treatment in the THCs had had contact with psychiatric services and 154 (49.8%) had not. Of the females, 40 (41.7%) had had contact with psychiatric services and 56 (58.3%) had not. The correlation between gender and contact with psychiatric services was not significant (p=0.09). Psychiatric service contact in relation to patient age (p=0.1), area of residence in Sudan (p=0.6) and marital status (p=0.5) showed no statistical significance.

Contact with psychiatric services in relation to the education level of the patients did show significant results (p=0.02): 55.7% of those who had had secondary education and 62.1% of those with university degrees had had contact with psychiatric services, compared with 43.5% of those who never been to school and45.9%of those who had had only primary school education.

Psychiatric service contact in relation to the occupational status of the patients also shows significant results (p=0.001): 102 (61.1%) of the employed patients had contacted psychiatric services, while 65 (38.9%) of this group had not. In contrast, 74 (38.9%) of those not employed had contacted psychiatric services, while 116 (61.1%) of that group had

not. Only 19 (39.6%) of the students had contacted psychiatric services while 29 (60.4%) had not.

Table 4.19: Associations and correlates of contact with psychiatric services versus socio-demographic characteristics of the people with mental disorders treated in THCs in Sudan

Socio-demographic characteristics	Psychiatric service contact					
	Yes		No		X^2	p-value
	n	%	n	%		
Age						
16–40	163	(47.7)	179	(52.3)	2.09	0.1
41–60	32	(50.8)	31	(49.2)		
Gender						
Male	155	(50.2)	154	(49.8)	2.11	0.09
Female	40	(41.7)	56	(58.3)		
Residence						
North Sudan	18	(43.9)	23 (56.1)	5.03	0.6	
South Sudan	8	(80)	2	(20)		
East Sudan	23	(53.5)	20	(46.5)		
West Sudan	14	(46.7)	16	(53.3)		
Central Sudan	132	(47)	149	(53)		
Marital status						
Single	122	(46.7)	139	(53.3)	0.67	0.55
Married	62	(51.2)	59	(48.8)		
Divorced	11	(47.8)	12	(52.2)		
Education level						
Never been to school	60	(43.5)	78	(56.5)	5.57	0.02
Primary school	73	(45.9)	86	(54.1)		
Secondary school	44	(55.7)	35	(44.3)		
University	18	(62.1)	11	(37.9)		
Occupation						
Employed	102	(61.1)	65	(38.9)	19.03	0.001
Unemployed	74	(38.9)	116	(61.1)		
Student	19	(39.6)	29	(60.4)		

Table 4.20 shows the associations and correlates of contact with psychiatric services versus medical and social precipitating factors possibly underlying the mental illness. Of

those with a history of medical illness, 60 (69.8%) had contacted psychiatric services, while 26 (30.2%) had not (p=0.001). Also, among those with a history of alcohol abuse (p=0.003) or drug abuse (p= 0.001) there was a significant association with contact with psychiatric services.

Many attributed precipitating factors for the mental illness, such as family/social factors, financial/legal and ill-health, showed significant correlations with previous contact with psychiatric services (p=0.001).

Most of those who had contacted psychiatric services did not relate their illness to supernatural causes such as evil spirits (157; 54.1%) or jinn possession (161; 50.2%). On the other hand, only 38 (33%) of those who attributed their mental illness to evil spirits had contacted psychiatric services. There was a significant association (p=0.001) between attributing the mental illness to evil spirits (77; 67%) and *not* having contact with psychiatric services.

Furthermore, there were significant correlations and associations between contact with psychiatric services and those who did not attribute their mental illness to wrong-doing (sins, or going against God's will) (p=0.01): of those who did not attribute their mental illness to wrong-doing, 153 (45.4%) had visited psychiatric services, while and 42 (61.8%) of those who attributed their mental illness to wrong-doing had done so.

Table 4.20: Associations and correlates of contact with psychiatric services versus medical and social precipitating factors for the mental illness of people with mental disorders treated in the traditional healer's centres in Sudan

Medical-social history reason for mental illness	Psychiatric service contact					
		Yes	No			
	n	%	*n*	*%*	x^2	*p-value*
Duration of untreated illness						
1–12 months	135	(44.9)	166	(55.1)	31.2	0.01
13–120	60	(57.7)	44			
				(42.3)		
Past history of mental illness						
Positive	67	(47.2)	75	(52.8)	0.08	0.4
Negative	128	(48.7)	135	(51.3)		
Family history of mental illness						
Positive	49	(51)	47	(49)	0.4	0.29
Negative	146	(47.2)	163	(52.8)		
Past medical illness						
Yes	60	(69.8%)	26	(30.2)	20.4	0.001
No	135	(42.3)	184	(57.7)		
History of alcohol abuse						
Yes	45	(63.4)	26	(36.6)	8.0	0.003
No	150	(44.9)	184	(55.1)		
History of drug abuse						
Yes	35	(74.5)	12	(25.5)	14.7	0.001
No	160	(44.7)	198	(55.3)		
Precipitating factors for mental illness						
Family/social factors	69	(59.5)	47	(40.5)	29.0	0.001
Financial/legal	45	(61.6)	28	(38.8)		
Ill health	15	(65.2)8	(34.8)			
Other factors	66	(34.2)	127	(65.8)		
Jinn						
Yes	34	(40.5)	50	(59.5)	2.4	0.07
No	61	(50.2)	160	(49.8)		
Satan						
Yes	42	(53.8)	36	(46.2)	1.2	0.16
No	153	(46.8)	174	(53.2)		
Evil spirit						
Yes	38	(33)	77	(67)	14.6	0.001
No	157	(54.1)	133	(45.9)		
Blackmagic						
Yes	82	(46.3)	95	(53.7)	0.4	0.2
No	113	(49.6)	115	(50.4)		
Wrong-doing						
Yes	42	(61.8)	26	(38.2)	6.0	0.01
No	153	(45.4)	184	(54.6)		

Table 4.21 shows the associations and correlates of contact with psychiatric services versus the service choices for treatment of people with mental disorders in Sudan and the reasons provided for that choice. Of those patients who contacted psychiatric services before coming to a THC, 52 (71.2%) had had their psychiatric medications stopped by the traditional healers; the other 143 (73.3%) who had contacted psychiatric services continued taking psychiatric medication while receiving traditional treatment. This important result was statistically significant (p=0.001).

Of those who had a health service facility near to their home, 156 (54.9%) nevertheless had not made any attempt to contact the psychiatric services there. This result was statistically significant (p=0.03). Furthermore, people came to the traditional healer because of the perceived effectiveness of the traditional treatment, and 183 (46.8%) of those who had contacted psychiatric services still believed in the effectiveness of traditional healing, as did 208 (53.2%) of those who had not contacted psychiatric services (p=0.004)

Among the patients who had come voluntarily to the THC, 46 (49.5%) had visited psychiatric services and 47 (50.5%) had not. There was no statistical significant association between voluntary THC attendance and visits to psychiatric services (p=0.4) (Table 4.21).

Table 4.21: Association and correlates of psychiatric services contact versus the Service choices for treatment of the people with mental disorders in Sudan and the reasons provided for that choice

| Service choices | Psychiatric service contact | | | | x^2 | p-value |
| | Yes | | No | | | |
	n	%	n	%		
Number of visits to the THC						
Only one time	79	(43.6)	102	(56.4)	2.6	0.06
More than one time	116	(51.8)	108	(48.2)		
Previous visits to other THC						
Yes	100	(59.2)	69	(40.8)	14.1	0.001
No	95	(40.3)	141	(59.7)		
Availability of health services near home						
Nearby	128	(45.1)	156	(54.9%)	3.6	0.03
Far away	67	(55.4)	54	(44.6)		
Reasons for seeking treatment in the THC: Effectiveness						
Yes	183	(46.8)	208	(53.2)	8.1	0.004
No	12	(85.7)	2	(14.3)		
Near to their home						
Yes	29 (43.9)	37	(56.1)	0.5		0.2
No	166 (49)	173	(51)			
*Cost of treatment in THC**						
Cost is less compared to psychiatric services	35	(37.6)	58	(62.4)	5.3	0.01
Cost is not less	160	(51.3)	152	(48.7)		
How patient came to the THC						
Alone	8	(40)	12	(60)	0.5	0.3
By family	187	(48.6)	198	(51.4)		
Method patient brought						
Voluntarily	46	(49.5)	47	(50.5)	0.08	0.4
Involuntarily	149	(47.8)	163	(52.2)		
Psychiatric treatment stopped by THC						
Yes	52	(71.2)	2	(28.8)	19.0	0.001
No	143	(43.1)	189	(59.9)		

4.6. Method patients brought to receive treatment in the traditional healer centres and the perceived reason for the mental illness

Of the total sample, 93 (23%) patients came voluntarily to receive treatment at the THC, while the other 312 (77%) were brought involuntarily by their families. Of those who came

voluntarily, 11 (13.1%) attributed their mental illness to jinn possession, compared with 73 (86.9%) of those who were brought involuntarily by their relatives; this was a statistically significant association (p=0.009). Of those who came voluntarily, 17 (14.8%) attributed their mental illness to an evil spirit, compared with 98 (85.2%) of those who were brought involuntarily; this, too, was a statistically significant association (p=0.008). Of those who came voluntarily, 32 (18.1%) attributed their mental illness to black magic, compared with 141 (85.1%) of those who were brought involuntarily; this again was a statistically significant association (p=0.026) (Table 4.22).

Table 4.22: X^2 associations and correlates of the perceived causes of the mental illness among those with mental illness who came voluntarily and those brought involuntarily by their relatives for treatment in the traditional healer centres in Sudan

Perceived causes of the mental illness	Method by which patient was brought to THC					
	Voluntary		Involuntary		X^2	p-value
	n	%	n	%		
Jinn possession						
Yes	11	(13.1)	73	(86.9	5.8	0.009
No	82	(25.5)	239	(74.5)		
Belief in Satan						
Yes	18	(23.1)	60	(76.9)	0.001	0.5
No	75	(22.9)	252	(77.1)		
Evil spirit						
Yes	17	(14.8)	98	(85.2)	6.07	0.008
No	76	(26.2)	214	(73.8)		
Wrong-doing						
Yes	18	(26.5)	50	(73.5)	0.56	0.2
No	75	(22.3)	262	(77.7)		
Black magic						
Yes	32	(18.1)	145	(81.9)	4.2	0.026
No	61	(26.8)	167	(73.2)		

Table 4.23 shows there were no correlations with the type of mental disorders and the psychiatric diagnosis versus contact with psychiatric services (p=0.2): 31 (48.7%) of the patients with depression, 47 (42.3%) of the patients with manic episodes, 12 (75%) of the

patients with alcohol abuse, 74 (52.9%) of the patients with psychotic disorders, and 8

(33%) of the patients with generalized anxiety disorders had contacted psychiatric services.

Table 4.23: Diagnosis versus contact with psychiatric services

Diagnosis	Contact with psychiatric services		
	Yes	No	Total
Major depressive episode (current)	31	33	64
	48.4%	51.6%	100.0%
Dysthymia (past 2 years)	5	8	13
	38.5%	61.5%	100.0%
Manic episode (current)	47	64	111
	42.3%	57.7%	100.0%
Panic disorder (current)	0	12	12
	0%	100%	100%
Agraphobia (current)	3	0	3
	100%	0%	100%
Social phobia (current)	7	5	12
	58.3%	41.7%	100%
Obsessive compulsive disorder (current)	5	2	7
	71.4%	28.6%	100.0%
Alcohol dependence/abuse (past 12 months)	12	4	16
	75.0%	25.0%	100.0%
Drug dependence/abuse (non-alcohol) (past 12 months)	3	0	3
	100.0%	.0%	100.0%
Psychotic disorder (current)	74	66	140
	52.9%	47.1%	100.0%
Generalized anxiety disorder (current)	8	16	24
	33.3%	66.7%	100.0%
Total			
	195	210	405
	48.1%	51.9%	100.0%

X^2= 29.5, p= 0.2 (non-significant).

4.7. **Multivariate analysis of the *Massed* sample: predicting the propensity to visit a psychiatric clinic in Sudan**

- *Research question*: To what extent do socio-demographic factors, illness history variables and family attributions of mental illness increase the likelihood of a patient in the *Massed* (THC) having visited a psychiatric clinic?

- *Hypothesis 2*: that illness history and family attributions of mental illness would increase the likelihood (odds) of a patient having visited a psychiatric clinic, after controlling for socio-demographic factors, was supported.

4.7.1. *Massed sample – logistic regression: socio-demographic variables*

The first simple logistic regression model examined the impact of socio-demographic factors on the likelihood of *Massed* patients having visited a psychiatric clinic. The results of this model are presented in Table 4.24, with the *B* coefficient, odds ratio (OR) and 95% confidence interval for each category of the demographic predictor variables for 'visited psychiatric clinic'. Entry of socio-demographic factors in the logistic regression produced a significant model, $\chi^2=40.35$, d.f.=14, $p<0.001$. Education, occupation and distance from the health centre were significant. Examination of the variable categories showed that *Massed* patients with a university education were almost three times more likely to have visited a psychiatric clinic (OR = 2.756, 95% CI 1.115–6.816, $p<0.05$); patients who were employed were 66% less likely to have visited a psychiatric clinic (OR = 0.339, 95% CI 0.210–0.548, $p<0.001$); patients who were unemployed were 63% less likely to have visited a psychiatric clinic (OR = 0.366, 95% CI 0.171–0.784, $p<0.01$); and patients who lived far away from a health centre were almost twice as likely to have visited a psychiatric clinic (OR = 1.753, 95% CI 1.099–2.795, $p<0.05$). Age, sex and marital status were not significant.

4.7.2. Massed sample – logistic regression: illness history variable

Hierarchical logistic regression, carried out in two steps, modelled the extent to which illness history variables predicted the likelihood of *Massed* patients having visited a psychiatric clinic, while controlling for socio-demographic factors in step 1. Entry of illness history variables in step 2 of the logistic regression produced a significant model, χ^2 =115.575, d.f.=33, $p<0.001$. The model fit statistic shows the model significantly improved on the second step (–2LL reduced from 520.541 in step 1 to 449.319 in step 2). The results are presented in Table 4.25, with the *B* coefficient, odds ratio (OR) and 95% confidence interval for each category of the illness history predictor variables for 'visited a psychiatric clinic'. Diagnosis, past history of medical illness, alcohol abuse, drug abuse and precipitating factors were significant. Examination of the variable categories revealed that patients diagnosed with major depressive disorder were almost 3.5 times more likely to have visited a psychiatric clinic (OR = 3.466, 95% CI 1.059–11.346, $p<0.05$); patients with social phobia were over 10 times more likely (OR = 10.390, 95% CI 1.334–80.951, $p<0.05$); patients with obsessive-compulsive disorder were almost 6 times more likely (OR = 5.918, 95% CI 1.049–33.389, $p<0.05$); patients with a history of medical illness were almost 4 times more likely (OR = 3.863, 95% CI 1.929–7.737, $p<0.001$); patients who abused alcohol were 61% less likely to have been visited a psychiatric clinic (OR = 0.386, 95% CI 0.153–0.972, $p<0.05$); and patients who abused drugs were almost 6 times more likely (OR = 5.791, 95% CI 0.153–0.972, $p<0.05$). Duration of untreated illness, past history of mental illness and family history of mental illness were not significant.

4.7.3. Massed sample – logistic regression: family attributions of mental illness

Hierarchical logistic regression, carried out in two steps, modelled the extent to which family attributions of mental illness variables predicted the likelihood of *Massed* patients having visited a psychiatric clinic, while controlling socio-demographic factors in step 1. Entry of attribution variables in step 2 of the logistic regression produced a significant model, $\chi2 = 80.027$, d.f.=23, $p<0.001$. The model fit statistic shows the model significantly improved on the second step (–2LL reduced from 520.541 in step 1 to 480.867 in step 2). The results are presented in Table 4.26, with the *B* coefficient, odds ratio (OR) and 95% confidence interval for each category of the illness history predictor variables for 'visited a psychiatric clinic'. Evil spirits, Satan and wrong-doing were significant. Examination of the variable categories revealed that patients whose family attributed their mental illness to evil spirits were over 3times more likely to have visited a psychiatric clinic (OR = 3.431, 95% CI 1.805–6.524, $p<0.001$); patients whose family attributed their mental illness to Satan were 51% less likely to have been visited a psychiatric clinic (OR = 0.491, 95% CI 0.257– 0.941, $p<0.05$); finally, patients whose family attributed their mental illness to wrong-doing were 58% less likely to have visited a psychiatric clinic (OR = 0.421, 95% CI 0.213–0.828, $p<0.05$). Illness attributions of jinn, magic or something else were not significant.

Table 4.24: *Massed* **sample: binary logistic regression with visited psychiatric clinic as the criterion and demographic variables as predictors (*n*=405)**

Massed sample: Demographic predictors		*B*	S.E. (*B*)	Sig.	95% CI for EXP (*B*) Lower	OR Exp (B)	Upper
Step 1 [a]	Constant	.098	.588	.867		1.103	
	Age	.008	.012	.530	.984	1.008	1.033
	Sex (0=Female, 1=Male)	−.074	.277	.790	.540	.929	1.599
	Residence			.265			
	Residence (1=North)	1.454	.890	.102	.748	4.282	24.500
	Residence (2=South)	.135	.469	.773	.456	1.145	2.870
	Residence (3=East)	−.265	.522	.612	.276	.767	2.133
	Residence (4=West)	−.248	.359	.490	.386	.781	1.577
	Marital status			.915			
	Marital status (1=Single)	−.120	.296	.686	.497	.887	1.585
	Marital status (2=Married)	−.011	.497	.983	.374	.990	2.619
	Education			.066			
	Education (1=Primary)	.124	.283	.662	.650	1.132	1.972
	Education (2=Secondary)	.583	.338	.084	.924	1.791	3.472
	Education (3=University)	1.014*	.462	.028	1.115	2.756	6.816
	Occupation			.000			
	Occupation (1=employed)	**−1.081*****	.245	.000	.210	**.339**	.548
	Occupation (2=unemployed)	**−1.004****	.388	.010	.171	**.366**	.784
	Health Service (0=Far away, 1=Nearby)	**−.561***	.238	.018	1.099	**1.753**	2.795

Note: Dependent variable: Visited psychiatric clinic. S.E. (*B*) = standard error of B coefficient; OR=odds ratio for each independent variable.
Hosmer&Lemeshow (final model): X^2 (8) = 10.109, *p* = 0.257; R^2 = 0.095 (Cox & Snell); R^2 = 0.127 (Nagelkerke); Model: X^2 (14) = 40.352, *p* = 0.001.
*p<0.05, **p<0.01, ***p<0.001.

Table 4.25: *Massed* **sample – hierarchical logistic regression with visited psychiatric clinic as the criterion and illness history variables as predictors, while controlling the influence demographic factors in step 1of the model (*n*=405)**

Massed sample–Illness history variables					95% CI for EXP(*B*)	
	B	S.E. (*B*)	Sig.	OR Exp(B)	Lower	Upper
Step 2 Constant	−.853	1.186	.472	.426		
Diagnosis			.417			
Diagnosis(1=MAJOR DEPRESSIVE EPISODE (Current))	**1.243***	.605	.040	**3.466**	1.059	11.346
Diagnosis(2=DYSTHYMIA (past 2 years))	.511	.877	.560	1.667	.299	9.310
Diagnosis(3=SUICIDALITY (Current))	.647	.562	.250	1.909	.635	5.743
Diagnosis(4=MANIC EPISODE (Current))	−20.596	10483.403	.998	.000	.000	.
Diagnosis(5=PANIC DISORDER (Current))	20.627	23204.732	.999	9.083	.000	.
Diagnosis(6=AGORAPHOBIA (Current))	.708	.875	.418	2.031	.366	11.279
Diagnosis(7=SOCIAL PHOBIA (Current))	**2.341***	1.047	.025	**10.390**	1.334	80.951
Diagnosis(8=OBSESSIVE-COMPULSIVE DISORDER	1.778	.883	.044	5.918	1.049	33.389
Diagnosis(9=PSYCHOTIC DISORDER (Current))	18.933	23205.296	.999	1.669	.000	.
Diagnosis(10=ALCOHOL DEPENDENCE / ABUSE (Past 12	1.061	.578	.067	2.888	.930	8.967
DUI(Duration of untreated illness)	.013	.007	.080	1.013	.998	1.027
PMI(1=Past history of mental illness)	−.042	.274	.879	.959	.560	1.641
PHMI(1=Past history of medical illness)	**1.351***	.354	.000	**3.863**	1.929	7.737
FHMI(1=Family history of mental illness)	−.517	.336	.123	.596	.309	1.151
Alcohol abuse(1)	**−.952***	.471	.043	**.386**	.153	.972
Drug abuse(1)	**1.756***	.550	.001	**5.791**	1.970	17.024
Precipitating Factors			.031			
Precipitating (1=Family-Social)Factors(1=FamilySocial)	.430	.375	.252	1.537	.736	3.208
Precipitating (2=Financial-Legal)Factors(2=FinancialLegal)	.661	.653	.312	1.937	.538	6.970
Precipitating (3=ill health)Factors(3=illhealth)	−.484	.292	.098	.617	.348	1.094

Note: Dependent variable: Visited psychiatric clinic

S.E. (*B*) = standard error of B coefficient; OR=odds ratio for each independent variable.

Hosmer &Lemeshow (final model): X^2 (8) = 18.795, *p* = 0.242; R^2 = 0.095 (Cox & Snell); R^2 = .321 (Nagelkerke); Model: X^2 (33) = 111.575, *p* = 0.001.

*p<0.05, **p<0.01, ***p<0.001.

Table 4.26: *Massed* **sample: hierarchical logistic regression with visited psychiatric clinic as the criterion and mental illness attribution variables as predictors, while controlling the influence demographic factors in step 1 of the model (*n*=405)**

Massed sample –illness attribution variables		B	S.E. (B)	Sig.	OR Exp(B)	95% CI for EXP(B)	
						Lower	Upper
Step 2	Constant	.480	1.498	.749	1.616		
	Jinn	.450	.314	.152	1.568	.847	2.903
	Satan	**−.710***	.331	.032	**.491**	.257	.941
	Evil spirit	**1.233***	.328	.000	**3.431**	1.805	6.524
	Wrong-doing	**−.866***	.346	.012	**.421**	.213	.828
	Magic	−.091	.329	.783	.913	.480	1.739
	Something else	−.253	.310	.415	.777	.423	1.426

Note: Dependent variable: Visited psychiatric clinic

S.E. (B) = standard error of B coefficient; OR=odds ratio for each independent variable.

Hosmer&Lemeshow (final model): X^2 (8) = 4.374, p = 0.822; R^2 = 0.179 (Cox & Snell); R^2 = 0.239 (Nagelkerke); Model: X^2 (23) = 80.027, p = 0.001.

*p<0.05, **p<0.01, ***p<0.001.

4.8.   The socio-demographic characteristics of the psychotic patients

A total of 129 patients with psychotic disorders (schizophrenia only) were followed up from admission to discharge. The age range of the patients with psychotic disorders who came for treatment in the THCs was 16–55 years (mean 29.2 years). Of this group, 92 (71.3%) were male and 37 (28.7%) female; 97 (75.2%) were from central Sudan, 12 (9.3%) from eastern Sudan, 7 (5.4%) from northern Sudan and 13 (10.1%) from western Sudan.

In terms of the socio-demographic profile, 65.1% (84) were single, 26.4% (34) were married and 8.5% (11) were divorced; 31.0% (40) were illiterate and had never been to school, while 42.6% (55) had studied until primary school only, 21.7% (28) had studied until secondary school, and 4.7% (6) had had a university level of education. Of the psychotic patients, 47.3% (61) were unemployed, 45.7% (59) were working before their illness and 7% (9) were students.

Table 4.27 shows the socio-demographic characteristics of the people with psychotic disorders treated in the THCs in Sudan.

Table 4.27: The socio-demographic characteristics of the psychotic patients receiving treatment in THCs in Sudan

Characteristics of the psychotic patients	Frequency (n)	Percentage (%)
Age (years)		
16–20	15	11.6
21–30	65	50.4
31–40	40	31
41–55	9	7
Sex		
Male	92	71.3
Female	37	28.7
Residence		
North Sudan	7	5.4
East Sudan	12	9.3
West Sudan	13	10.1
Central Sudan	97	75.2
Marital status		
Single	84	65.1
Married	34	26.4
Divorced	11	8.5
Education level		
Never been to school	40	31.0
Primary school	55	42.6
Secondary school	28	21.7
University	6	4.7
Occupation		
Employed	59	45.7
Unemployed	61	47.3
Student	9	7

Table 4.28 shows the medical-social history, precipitating factors and reasons attributed for the illness of the patients with psychotic disorder treated in the THCs.

Table 4.28: Medical-social history, precipitating factors, and reasons attributed for the psychotic illness of the psychotic patients treated in the THC in Sudan

Medical-social history, precipitating factors	Frequency (*n*)	Percentage (%)
Duration of untreated illness		
1–12 (months)	100	69.8
13–24	18	13.9
25–48	14	10.9
49–96	7	5.40
Past history of mental illness		
Positive	23	17.8
Negative	106	82.2
Family history of mental illness		
Positive	39	30.2
Negative	90	69.8
Past medical illness		
Yes	50	38.8
No	79	61.2
History of alcohol abuse		
Yes	20	15.5
No	109	84.5
History of drug abuse		
Yes	12	9.30
No	117	90.7
Precipitating factors for mental illness		
Family/social factors	43	33.3
Financial/legal	29	22.5
Ill health	7	5.40
None	50	38.8
Reasons for mental illness		
Jinn	20	15.5
Satan	21	16.3
Evil spirit	33	25.6
Wrong-doing	25	19.4
Magic	59	45.7
Do not know	51	39.5

Table 4.29 shows the service choices for treatment of the people with psychotic disorders in Sudan, and the reasons provided for that choice.

Table 4.29: Service choices and the reasons for the patients with psychotic disorders receiving treatment in the THC in Sudan

Characteristics of service choices	Frequency (n)	Percentage (%)
*Number of visits to THC**		
Only one time	60	46.5
More than one time	69	53.5
Previous visits to other THC		
Yes	65	50.4
No	64	49.6
Availability of health services near home		
Nearby	90	69.8
Faraway	39	30.2
History of visit to psychiatric services		
Yes	67	51.9
No	62	48.1
Reasons of 48.1% for not visiting psychiatric services		
Far away from home	5	3.9
Costly	5	3.9
Not useful	21	16.3
Did not know about them	31	24
Effectiveness of treatment in THC		
Yes	127	98.4
No	2	1.6
Near their home		
Yes	20	15.5
No	109	84.5
Cost of THC compared with psychiatric services		
cost is less	23	17.8
cost is Not less	106	82.2

Table 4.30 shows the interventions, treatment procedures, and the duration of treatment for people with psychotic disorders in the THCs.

Table 4.30: Interventions and treatment procedures of the psychotic patients receiving treatment in the THC in Sudan

Intervention methods and the treatment procedure	Frequency (*n*)	Percentage (%)
Intervention methods		
Restriction of food		
Yes	120	93
No	9	7
Chaining patients		
Yes	106	82.2
No	23	17.8
Beating patients		
Yes	31	24
No	98	76
Isolation in dark room		
Yes	44	34.1
No	85	65.9
Restriction of visitors		
Yes	24	18.6
No	105	81.4
Stop psychiatric treatment if any		
Yes	26	20.2
No	103	79.8
Treatments procedures		
*Rogya**	129	100
*Bakhra2***	126	97.7
*Mehaya3****	118	91.5
How patient come to THC		
Alone	3	2.3
By family	126	97.7
How patient brought		
Voluntarily	12	9.3
Involuntarily	117	90.7
Treatment time spent in THC		
1–6 (months)	103	79.8
7–12	16	12.4
13–18	10	7.8

*Recitation of some verses of the Holy Book to the patient.
**Writing verses of the Holy Book on a paper or tree leaves and burning it to get the smoke for the patient to inhale by way of treatment.
***Writing some verses of the Holy Book on a board, papers or tree leaves, wash it in water and then giving the liquid to the patient to drink it, or to wash the body with it.

4.9.   The psychotic patients' experiences of traditional healing and psychiatric services

As indicated above (Table 4.29), of the 129 patients with psychotic disorders, 67 (51.9%) had contacted psychiatric services before coming to receive treatment in the THC, and the other 62 (48.1%) had had no contact with psychiatric services.

Table 4.31 shows the associations and correlates of contact with psychiatric services versus socio-demographic characteristics, as was done in Table 4.19 for the patient sample as a whole. Data were available for 129 patients. There were two age groups. The age range of the first group was 16–40 years.Out of this group 64 (53.3%) had attended psychiatric services and 56 (46.3%) had not. The age range of the second group was 41–55 years. Out of this group 3 (33.3%) had attended psychiatric services and 6 (66.7%) had not. There were no significant associations between the age of patient and the contact with psychiatric services (p=0.4).

Of the 92 (71.3%) male patients, 52 (56.5%) had contacted psychiatric services and 40 (43.5%) had not. Out of the 37 (28.7%) female psychotic patients, 15 (40.5%) had contacted psychiatric services and 22 (59.5%) had not. There were no significant associations between the sex of patient and contact with psychiatric services (p=0.07).

Among the patients from central Sudan, 47 (58.5) had contacted psychiatric services and 50 (51.5) had not. There were no significant associations between the area of residence in Sudan and the contact with psychiatric services (p=0.4).

Of the married patients, 18 (52.9%) had attended psychiatric services and 6 (47.1%) had not, while 49 (51.6%) of the non-married psychotic patients had visited psychiatric services and 46 (48.4%) had not. There were no significant associations between marital status and contact with psychiatric services (p=0.8).

In relation to level of education, 27 (67.5%) of the patients with psychotic disorders who had had no formal education and 23 (41.8%) with primary school education had visited psychiatric services, while 13 (32.5%) of those not educated and 32 (58.2%) of those with primary education respectively had not. There were only 12 (42.9%) patients with secondary school education and 5 (83.3%) with university education who had contacted psychiatric services, while 16 (57.1%) of those with secondary education and 1 (16.7%) of those with university education had not. There were no significant associations between the educational level of the patients with psychotic disorders and contact with psychiatric services (p=0.2).

Of the patients with psychotic disorders who had had an occupation before they developed mental illness, 41 (69.5%) had visited psychiatric services and 18 (30.5%) had not; of those who had had no occupation (unemployed), 26 (37.1%) had visited psychiatric services and 44 (62.9%) had not. There was a significant association between occupation status before the mental illness and contact with the psychiatric services (p=0.001).

Table 4.32 shows the medical and social factors in relation to contact with psychiatric services for the patients with a psychotic disorder treated in a THC in Sudan. The duration of untreated illness (DUI) is defined in this study as the period between the first onset of symptoms of schizophrenia and the first contact with a formal carer for help. In this sample, the DUI ranged from1 to 96 months (mean 15.8 months, median 13.3 months, SD 18.7 months). Among the 90 patients whose DUI was under 12 months, 47 (52.2%) came directly to a traditional healer for help (i.e. the THC was their first point of call on their pathway to care); the other 43 (47.8%) had visited a psychiatric service before coming to the traditional healers for treatment. Of the other 39 patients, whose DUI ranged between 13 and 96months, 24 (61.5%) had visited psychiatric services and 15 (38.5%) had

not. There were no significant associations between the DUI and contact with psychiatric services (p=0.1). In this regard, 52% of psychotic patients came to traditional healers directly as the first point for help.

There were no significant associations between past history of mental illness, family history of mental illness, past medical illness, history of alcohol abuse or history of drug abuse and contact with psychiatric services among the patients with psychotic disorders receiving treatment at THCs.

Of the patients who related their psychotic illness to family and social problems, 25 (58.1%) had visited psychiatric services; similarly, of the patients who related their illness to financial and legal issues, 19 (65.5%) had visited psychiatric services. There was a significant association between the precipitating factors of the psychotic illness and contact psychiatric services (p=0.04).

Regarding the perceived reasons for the mental illness and contact with psychiatric services, only 5 (25%) who related their illness to jinn possession had visited the psychiatric services, where 62 (56.9%) who did not relate their psychotic illness to jinn had contacted psychiatric services, and here there was a significant correlation (p=0.008). Furthermore, only 4 (12.1%) patients who related their mental illness to evil spirits had visited psychiatric services, whereas 29 (87.9%) patients who related their illness to evil spirits had not. On the other hand, 63 (65.6%) patients who did not relate their mental illness to evil spirits had visited psychiatric services. There was a significant statistical association between the attribution of mental illness to evil spirits and lack of contact with psychiatric services (p=0.001). In addition to that, only 18 (30.5%) of the patients who attributed their psychotic illness to black magic had visited psychiatric services, whereas 41 (69.5%) who attributed their illness to magic had not. On the other hand, 49 (70%) patients

who did not relate their psychotic illness to black magic had visited psychiatric services. There was a significant statistical association between the perceived cause of mental illness due to black magic and lack of contact with psychiatric services(p=0.001).

Table 4.33 shows the correlations and associations of service choices, treatment methods versus contact with psychiatric services of the people with psychotic disorders treated in THCs in Sudan.

There were 26 (43.3%) patients on their first visit to a THC who had previously contacted psychiatric services, whereas 41 (59.4%) patients who visited had visited the same THC for more than one time had earlier contacted psychiatric services. There were 41 (63.1%) patients who had previously made visits to other THCs who had also made previous contact with psychiatric services. There were significant associations between the number of visits to the same THC (p=0.05) and other THCs (p=0.009) and contact with psychiatric services.

'Nearness' to services in this study is defined as less than 5 km. There was no significant association between the nearness of patients' homes to health facilities and contact with psychiatric services (p=0.3); 48 (53.3%) patients with health facilities near to their homes had contacted psychiatric services and 42 (46.7%) with health facilities near to their homes had not contacted psychiatric services.

Patients gave many reasons for seeking traditional healing. When we tested these factors against contact with psychiatric services, none had a significant statistical association. For example, among the 127 psychotic patients who believed in the effectiveness of traditional healing, 65 (51.2%) had contacted psychiatric services and 62 (48.8%) had not done so (p=0.2). In addition to that, 13 (65%) patients who had traditional healing facilities near to their home contacted psychiatric services, whereas 54 (49.5%)

patients who had no traditional healing facilities near to their home had contacted psychiatric services ($p=0.1$). Furthermore, 12 (52.2%) patients who said the cost of traditional healing is less than that of modern psychiatric services had nonetheless contacted psychiatric services, compared with 55 (51.9%) patients who had contacted psychiatric services who said that the cost of the traditional healing was not less than that of psychiatric services ($p=0.5$).

Of the patients who were brought by their families for treatment in the THCs, 67 (53.2%) had contacted psychiatric services and 59 (46.8%) had not. Similarly, around half (58; 49.6%) of the patients brought involuntarily to the THCs had contacted psychiatric services. There were no significant association between how patients came to the THC ($p=0.1$) or the method by which patients were brought for treatment ($p=0.08$) and contact with psychiatric services.

Patients with psychotic disorders spent 1–18 months (mean 4.46 months, SD 4.806 months) in treatment at the THCs. Of the patients who spent1–6 months intreatment, 49 (47.6%) had contacted psychiatric services, whereas only 18 (69.2%) patients who spent longer (7–18 moths) in the THCs had contacted psychiatric services. There was a significant correlation between the time patients spent in the THC and contact with the psychiatric services ($p=0.04$).

Of the 129 patients with psychotic disorders receiving treatment in the THCs, 26 (20.2%) had their psychiatric medications stopped by the traditional healers, whereas the other 103 (79.8) patients were allowed to continue their psychiatric treatment. Only 20 (76.9%) patients with psychotic disorders who had contacted psychiatric services had their medication stopped by the healers, while 47 (45.6%) who contacted psychiatric services did not have their medications stopped. There was a significant association between the

stopping of psychiatric treatment by the traditional healers and contact with psychiatric services (although some patients may have had their medication prescribed to them from private doctors other than psychiatric services). There were no signification associations between the treatment procedures used in the THCs and contact with psychiatric services (p=0.5).

Table 4.31: Associations and correlates of contact with psychiatric services versus socio-demographic characteristics of the people with psychotic disorders treated in THCs in Sudan

Socio-demographic characteristics	Psychiatric service contact				
	Yes		No		
	n	%	*n*	%	*p*-value
Age					
16–40 years	64	(53.3%)	56	(46.3%)	0.4
41–55 years	3	(33.3%)	6	(66.7%)	
Sex					
Male	52	(56.5%)	40	(43.5%)	0.07
Female	15	(40.5%)	22	(59.5%)	
Residence					
North Sudan	3	(42.9%)	4	(57.1%)	0.4
East Sudan	9	(75%)	3	(25%)	
West Sudan	8	(61.5%)	5	(38.5%)	
Central Sudan	47	(58.5%)	50	(51.5%)	
Marital status					
Married	18	(52.9%)	6	(47.1%)	0.8
Not married	49	(51.6%)	46	(48.4%)	
Education level					
Never been to school	27	(67.5%)	13	(32.5%)	0.2
Primary school	23	(41.8%)	32	(58.2%)	
Secondary school	12	(42.9%)	16	(57.1%)	
University	5	(83.3%)	1	(16.7)	
Occupation					
Employed	41	(69.5%)	18	(30.5%)	0.001
Unemployed	26	(37.1%)	44	(62.9%)	

Table 4.32: Medical-social factors in relation to contact with psychiatric services for the patients with psychotic disorder treated in THCs in Sudan

Socio-demographic characteristics	Psychiatric service contact				
	Yes		No		
	n	%	*n*	%	*p*-value
Duration of untreated illness					
1–12 months	43	(47.8%)	47	(52.2%)	0.1
13–96 months	24	(61.5%)	15	(38.5%)	
Past history of mental illness					
Positive	30	(60%)	20	(40%)	0.1
Negative	37	(46.8%)	42	(53.2%)	
Family history of mental illness					
Positive	16	(41%)	23	(59%)	0.07
Negative	51	(56.7%)	39	(43.3%)	
Past medical illness					
Yes	12	(52.2%)	11	(47. 8%)	0.5
No	55	(51.9%)	51	(48.1%)	
History of alcohol abuse					
Yes	9	(45%)	11	(55%)	0.3
No	58	(53.2%)	51	(46.8%)	
History of drug abuse					
Yes	8	(66.7%)	4	(33.3%)	0.2
No	59	(50.4%)	59	(46.6%)	
Precipitating factors for psychotic illness					
Family/social factors	25	(58.1%)	18	(41.9%)	0.04
Financial/legal	19	(65.5%)10	(34.5%)		
Ill health	3	(42.9%)	4	(57.1%)	
No specific cause	20	(40%)	30	(60%)	
Reasons for the psychotic illness*					
Jinn					
Yes	5	(25%)	15	(75%)	0.008
No	62	(56.9%)	47	(43.1%)	
Satan					
Yes	8	(38.1%)	13	(61.9%)	0.1
No	59	(54.6%)	49	(45.4%)	
Evil spirits					
Yes	4	(12.1%)	29	(87.9%)	0.001
No	63	(65.6%)	33	(34.4%)	
Wrong-doing					
Yes	15	(60%)	10	(40%)	0.2
No	52	(50%)	52	(50%)	
Magic					
Yes	18	(30.5%)	41	(69.5%)	0.001
No	49	(70%)	21	(30%)	
Something else					
Yes	37	(72.5%)	14	(27.5%)	0.001
No	30	(38.5%)	48	(61.5%)	

Table 4.33: Service choices and treatment methods versus contact with psychiatric services by people with psychotic disorders treated in THCs in Sudan

Service and methods of treatment	Psychiatric service contact				
	Yes		No		*p*-value
	n	%	*n*	%	
Number of visits to this THC					
Only one time	26	(43.3%)	34	(56.7%)	0.05
More than one time	41	(59.4%)	28	(40.6%)	
Previous visits to other THCs					
Yes	41	(63.1%)	24	(36.9%)	0.009
No	26	(40.6%)	38	(59.4%)	
Availability of health services near home					
Nearby	48	(53.3%)	42	(46.7%)	0.3
Far away	19	(48.7%)	20	(51.3%)	
Reasons for seeking treatment in the THC					
Effectiveness					
Yes	65	(51.2%)	62	(48.8%)	0.2
No	2	(100%)	0	(0%)	
Near to home					
Yes	13	(65%)	7	(35%)	0.1
No	54	(49.5%)	55	(50.5%)	
Cost of treatment in THC					
Cost is less than psychiatric services	12	(52.2%)	11	(47.8%)	0.5
Cost is not less	55	(51.9%)	51	(48.1%)	
How patient came to the THC					
Alone	0	(0%)	3	(100%)	0.1
By family	67	(53.2%)	59	(46.8%)	
Method by which patient was brought					
Voluntarily	9	(75%)	3	(25%)	0.08
Involuntarily	58	(49.6%)	59	(50.4%)	
Time patients spent in the THC for treatment					
1–6 months	49	(47.6%)	54	(52.4%)	0.04
7–18 months	18	(69.2%)	8	(30.8%)	
Stop psychiatric treatment if any					
Yes	20	(76.9%)	6	(23.1%)	0.004
No	47	(45.6%)	56	(54.4%)	
Treatments procedures					
Rogya[1]					
Yes	67	(51.9%)	62	(48.1%)	
Bakhra[2]					
Yes	64	(50.8%)	62	(49.2%)	
No	3	(100%)	0	(100%)	
Mehaya[3]					
Yes	61	(51.7%)	57	(48.3%)	0.5
No	6	(54.5%)	5	(45.5%)	

[1] *Rogya*: recitation of some verses of the Holy Book to the patient.
[2] *Bakhra*: writing verses of the Holy Book on a paper or tree leaves and burn it to get smoke for the patient to inhale.
[3] *Mehaya*: writing some verses of the Holy Book on a board, papers or tree leaves, washing it in water and then giving the liquid to the patient to drink, or to wash the body with.

4.10. Multivariate analysis of the psychotic sample: predicting the propensity to visit a psychiatric clinic in Sudan

- *Research question:* To what extent do socio-demographic factors, illness history variables and family attributions of mental illness increase the likelihood of a patient with psychotic disorder in the *Massed* having visited a psychiatric clinic?

- *Hypothesis 3:* that illness history and family attributions of mental illness would increase the likelihood (odds) of a patient with psychotic disorder visiting a psychiatric clinic, after controlling for socio-demographic factors, was supported.

4.10.1. Psychotic sample – logistic regression: socio-demographic variables

The next simple logistic regression model examined the impact of socio-demographic factors on the likelihood of patients with psychotic disorder having visited a psychiatric clinic. The results of this model are presented in Table 4.34, with the *B* coefficient, odds ratio (OR) and 95% confidence interval. Entry of socio-demographic factors in the logistic regression produced a significant model, χ^2=41.81, d.f.=13, p<0.001. Education and occupation were significant, and place of residence was borderline significant (p=0.098). Examination of the variable categories showed that patients with primary school education were 81% less likely to have visited a psychiatric clinic (OR = 0.193, 95% CI 0.054–0.685, p<0.01); patients who were employed were78% less likely to have visited a psychiatric clinic (OR = 0.216, 95% CI 0.085–0.550, p<0.001). Finally, psychiatric clinic visit rates differed borderline significantly across regions. Relative to the east and south Sudan areas, the north Sudan region had borderline significantly higher rates of visits to psychiatric clinic, the odds ratio being over 17 times more likely to have visited (OR = 17.307, 95% CI

0.808–370.645, p=0.068). Age, sex, marital status and distance from health service were not significant.

4.10.2. Psychotic sample – logistic regression: illness history variables

Hierarchical logistic regression, carried out in two steps, modelled the extent to which illness history variables predicted the likelihood of patients with schizophrenia having visited a psychiatric clinic, while controlling socio-demographic factors in step 1. Entry of illness history variables in step 2 of the logistic regression produced a significant model, χ^2 =65.349, d.f.=22, p<0.001. The model fit statistic shows the model significantly improved on the second step (–2LL reduced from 136.831 in step 1 to 113.289 in step 2). The results are presented in Table 4.35, with the *B* coefficient, odds ratio (OR) and 95% confidence interval. Past history of mental illness, alcohol abuse, drug abuse and precipitating factors were significant. Examination of the variable categories showed that patients with a past history of mental illness were almost six times more likely to have visited a psychiatric clinic (OR = 5.833, 95% CI 1.383–24.599, p<0.05); patients who abused alcohol were 95% less likely to have visited a psychiatric clinic (OR = 0.046, 95% CI 0.006–0.344, p<0.01); patients who abused drugs were almost 15 times more likely to have visited a psychiatric clinic (OR = 14.905, 95% CI 0.998–222.680, p<0.05); and patients a precipitating factor of ill health were 73% less likely to have visited a psychiatric clinic (OR = 0.268, 95% CI 0.073–0.980, p<0.05). Duration of untreated illness, past history of medical illness and family history of mental illness were not significant.

4.10.3. Psychotic sample – logistic regression: family attributions of mental illness

Hierarchical logistic regression, carried out in two steps, modelled the extent to which family attributions of mental illness variables predicted the likelihood of patients with

schizophrenia having visited a psychiatric clinic, while controlling socio-demographic factors in step 1. Entry of attribution variables in step 2 of the logistic regression produced a significant model, $\chi^2 = 99.575$, d.f.=19, $p<0.001$. The model fit statistic shows the model significantly improved on the second step (–2LL reduced from 136.831 in step 1 to 79.063 in step 2). The results are presented in Table 4.36, with the *B* coefficient, odds ratio (OR) and 95% confidence interval for each category of the illness history predictor variables for 'visited a psychiatric clinic'. Evil spirits, wrong-doing and 'something else' were significant. Examination of the variable categories revealed that patients whose family attributed their schizophrenia to evil spirits were over 277 times more likely to have visited a psychiatric clinic (OR = 277.494, 95% CI 11.129–6919.357, $p<0.001$); patients whose family attributed their schizophrenia to wrong-doing were 51% less likely to have visited a psychiatric clinic (OR = 0.141, 95% CI 0.022–0.913, $p<0.05$); finally, patients whose family attributed their schizophrenia to something else were 58% less likely to have visited a psychiatric clinic (OR = 0.045, 95% CI 0.005–0.430, $p<0.01$). Illness attributions of the illness to jinn, Satan or magic were not significant.

Table 4.34: Psychotic sample: binary logistic regression with visited psychiatric clinic as the criterion and demographic variables as predictors (*n*=129)

Psychotic sample: Demographic variables	*B*	S.E. (*B*)	OR Exp (*B*)	95% CI for EXP (*B*) Lower	Upper
Step 1 [a] Constant	1.001	2.721	.571		
Age	−.009	.991	.752	.940	1.046
Sex (0=Female, 1=Male)	.601	.548	.349	.156	1.931
Residence			.264		
Residence (1=North)	**2.851[+]**	**17.307**	.068	.808	370.645
Residence (2=South)	1.129	3.092	.471	.144	66.292
Residence (3=East)	1.623	5.069	.226	.366	70.206
Marital status			.641		
Marital status (1=Single)	−.525	.592	.413	.168	2.079
Marital status (2=Married)	−.916	.400	.403	.047	3.422
Education			.011		
Education (1=Primary)	**−1.646****	**.193**	.011	.054	.685
Education (2=Secondary)	−1.201	.301	.127	.064	1.406
Education (3=University)	1.767	5.854	.290	.222	154.133
Occupation			.006		
Occupation (1=Employed)	**−1.531*****	**.216**	.001	.085	.550
Occupation (2=Unemployed)	−21.864	.000	.999	.000	
Health Service (0=Far away, 1=Nearby)	−.146	.865	.763	.335	2.229

Note: Dependent variable: Visited psychiatric clinic.

S.E. (*B*) = standard error of *B* coefficient; OR=odds ratio for each independent variable.

Hosmer&Lemeshow (final model): X^2 (8) = 24.389, $p = 0.002$; $R^2 = 0.277$ (Cox & Snell); $R^2 = 0.369$ (Nagelkerke); Model: X^2 (14) = 41.808, $p = 0.001$.

*$p<0.05$, **$p<0.01$, ***$p<0.001$.[+]Borderline significant $p<1.0$.

Table 4.35: Psychotic sample: hierarchical logistic regression with visited psychiatric clinic as the criterion and illness history variables as predictors, while controlling the influence demographic factors in step 1of the model (*n=129*)

Psychotic sample–Illness history variables	B	S.E. (B)	Sig.	OR Exp(B)	95% CI for EXP(B) Lower	Upper
Step 2 Constant	−21.233	12838.318	.999	.000		
DUI(Duration of untreated illness)	.007	.017	.676	1.007	.974	1.042
PMI(1=Past history of mental illness)	**1.763***	.734	.016	**5.833**	1.383	24.599
PHMI(1=Past history of medical illness)	1.062	.784	.176	2.891	.622	13.432
FHMI(1=Family history of mental illness)	−1.129	.746	.130	.323	.075	1.397
Alcohol abuse(1)	**−3.080****	1.027	.003	**.046**	.006	.344
Drug abuse(1)	**2.702***	1.380	.050	**14.909**	.998	222.680
Precipitating factors			.038			
Precipitating Factors(1=Family Social)	.836	.827	.312	2.308	.456	11.678
Precipitating Factors(2=Financial Legal)	−.969	1.656	.558	.379	.015	9.743
Precipitating factors(3=ill health)	**−1.318***	.662	.047	**.268**	.073	.980

Note: Dependent variable: Visited psychiatric clinic
S.E. (B) = standard error of B coefficient; OR=odds ratio for each independent variable.
Hosmer&Lemeshow (final model): X^2 (8) = 23.126, p = 0.003; R^2 = 0.397 (Cox & Snell); R^2 = 0.530 (Nagelkerke); Model: X^2 (22) = 65.349, p = 0.001.
*$p<0.05$, **$p<0.01$, ***$p<0.001$.

Table 4.36: Psychotic sample: hierarchical logistic regression with visited psychiatric clinic as the criterion and mental illness attribution variables as predictors, while controlling the influence demographic factors in step 1 of the model (n=129)

Psychotic sample–Illness attributions variables	B	S.E. (B)	Sig.	OR Exp(B)	95% CI for EXP(B) Lower	Upper
Step 2: Constant	3.844	3.134	.220	46.699		
Jinn(1)	.825	1.036	.426	2.282	.300	17.379
Satan(1)	−1.341	1.014	.186	.262	.036	1.908
Evil Sprit(1)	**5.626***	1.641	.001	**277.494**	11.129	6919.357
Wrong-doing(1)	**−1.961***	.954	.040	**.141**	.022	.913
Magic(1)	−.670	1.150	.560	.512	.054	4.873
Something else(1)	**−3.092****	1.147	.007	**.045**	.005	.430

Note: Dependent variable: Visited psychiatric clinic

S.E. (B) = standard error of B coefficient; OR=odds ratio for each independent variable.

Hosmer&Lemeshow (final model): X^2 (8) = 2.897, p = 0.941; R^2 = 0.538 (Cox & Snell); R^2 = 0.718 (Nagelkerke); Model: X^2 (19) = 99.575, p = 0.001.

*p<0.05, **p<0.01, ***p<0.001.

4.11. A post-treatment evaluation of psychosis symptoms in patients with psychotic disorders, including examining the effects of stopping medication, previously visiting a psychiatric clinic, duration of untreated illness, time spent in the *Massed*, and the impact of 10 healer treatments in the *Massed* on treatment outcomes

The sections evaluates the *Massed* treatment programme for patients with psychotic disorders, utilizing paired *t*-tests, mixed ANOVA (pre–post design) and multiple regression. PANSS psychosis symptom scores were assessed for the cohort of 129 patients with psychotic disorders in the10 *Massed* treatment centres in Sudan to measure their schizophrenia-related positive, negative and general psychopathology symptoms at two time points: admission (time 1) and discharge (time 2). There were no patient drop-outs in this study. The change (therapy outcome) in PANSS psychosis symptoms from time 1 to time 2 was evaluated using paired *t*-tests. Next, the potential effects of stopping medication, previously visiting a psychiatric clinic, duration of untreated illness and time spent in the *Massed* on post-treatment PANSS scores were evaluated using mixed ANOVA. The traditional healer treatment programme integrated 11 treatments (see Figure 4.1). The patients' families stayed with them during their treatment. The effect of these treatments on changes in PANSS scores (time 2–time 1) are investigated using multiple regression.

Figure 4.1: Pre–post design
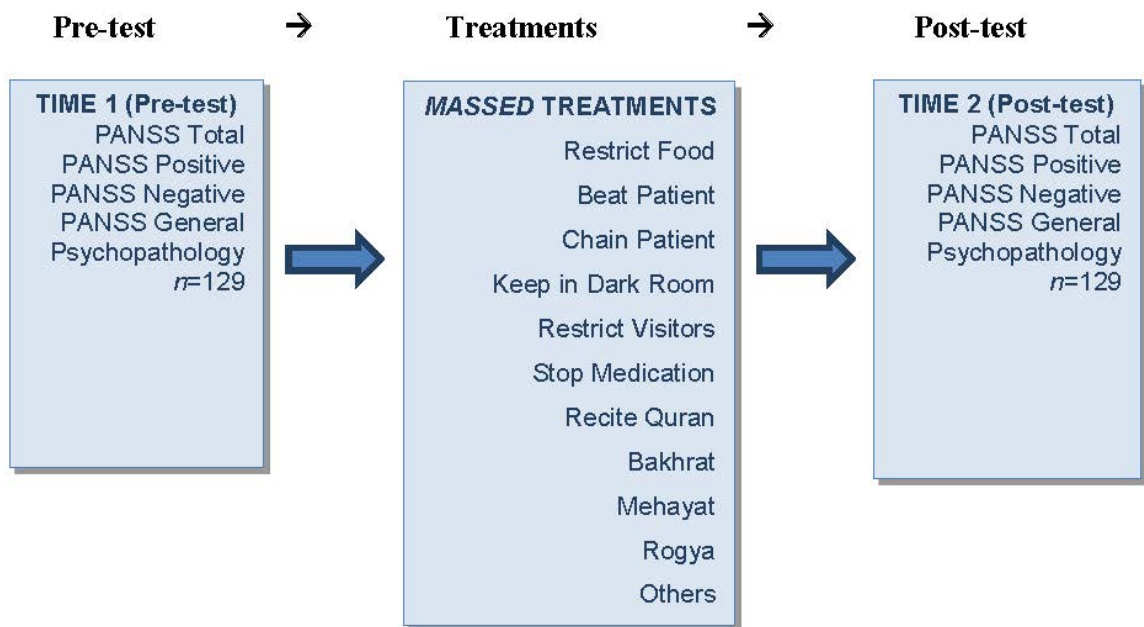
- *Hypothesis 4:* that there will be no significant change in PANSS psychosis symptoms scores between time 1 and time 2 in patients with psychotic disorders, was not supported.

A paired *t*-test found that PANSS total, positive, negative and general psychopathology symptoms scores had all decreased significantly at time 2 ($p<0.01$).

Table 4.37 shows that the PANSS total scores decreased significantly from time 1 (mean 118.36, SD 10.56) to time 2 (mean 69.36, SD 9.46; $t(128)=53.65$, $p<0.001$), a decrease of 49 points. PANSS positive scores decreased significantly from time 1 (mean 35.66, SD 4.22) to time 2 (mean 19.12, SD 2.36; $t(128)=47.04$, $p<0.001$), a decrease of 16.54 points. PANSS negative scores decreased significantly from time 1 (mean 21.82, SD 3.69) to time 2 (mean 14.17, SD 3.32; $t(128)=41.95$, $p<.001$), a decrease of 7.65 points.

Finally, PANSS general psychopathology scores decreased significantly from time 1 (mean 60.81, SD 6.58) to time 2 (mean 35.91, SD 5.29; $t(128)=43.72$, $p<.001$), a decrease of 24.9 points.

Table 4.37: Mean, mean difference, standard deviation (SD) and paired *t*-test results comparing PANSS psychosis symptom scores at time 1 (admission) and time 2 (discharge) (*n*=129)

Variable and time point		Mean	Mean diff	SD	*t*-value	*p*-value	Effect size (*d*)
Pair 1	PANSS Total T1	118.36	−49.00	10.56	53.65***	.001	.96
	PANSS TotalT2	69.36		9.46			
Pair 2	PANSS PositiveT1	35.66	−16.54	4.22	47.04***	.001	.95
	PANSS PositiveT2	19.12		2.36			
Pair 3	PANSS NegativeT1	21.82	−7.65	3.69	41.95***	.001	.93
	PANSS NegativeT2	14.17		3.32			
Pair 4	PANSS General T1	60.81	−24.9	6.58	43.72***	.001	.94
	PANSS General T2	35.91		5.29			

T1=Admission, T2=Discharge. General = General Psychopathology. *d* = Cohen's *d* (1988).
***p<0.001

Figure 4.2 illustrates the significant change (decrease) in patients' psychosis symptoms from time 1 to time 2 in the 10 *Masseds*.
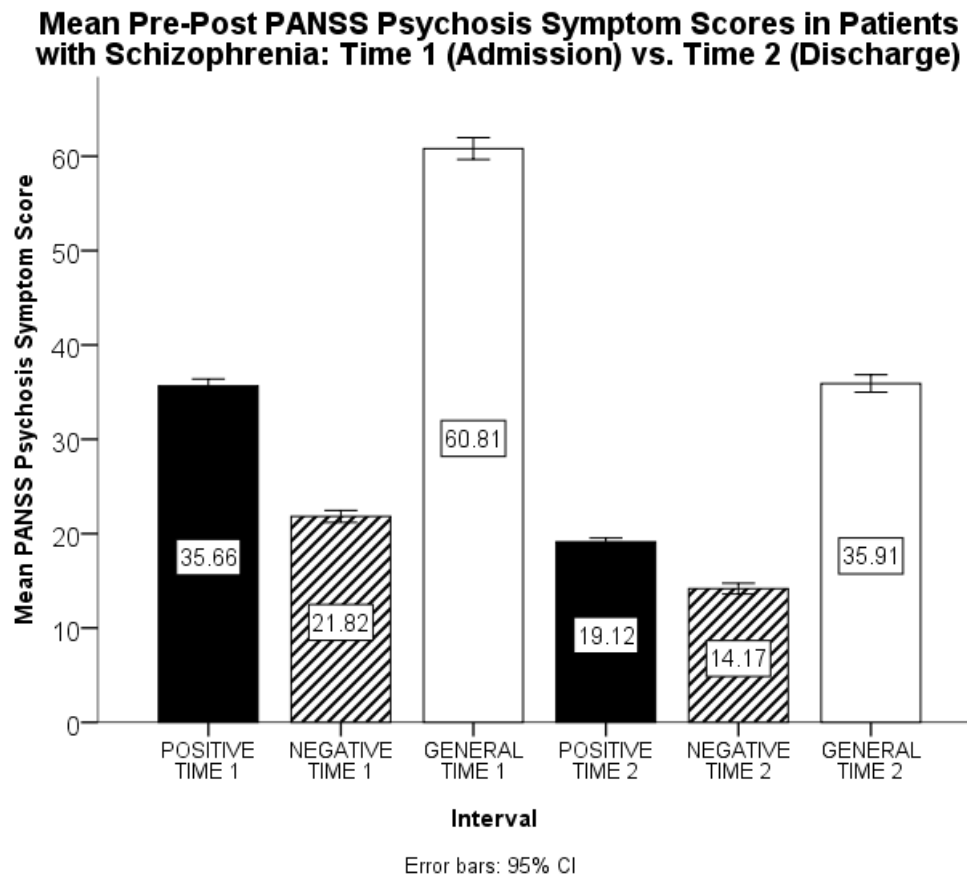
Figure 4.2: Mean pre–post PANSS psychosis symptom scores in patients with psychotic disorders at time 1 (admission) and time 2 (discharge) following *Massed* treatment, Sudan (*n*=129).

4.11.1. Effect size interpretation for (above) paired t-tests

Effect sizes are considered more important than significant *p*-values in determining the magnitude of an effect (Field, 2009), Cohen (1988, cited in Pallant, 2005: 212) defines the effects sizes for paired *t*-tests as: 0.01=small, 0.06=moderate and 0.14=large. Given the eta-squared values in the paired *t*-tests all exceeded 0.90, we can conclude there was a large

effect, meaning the healer programme produced a substantial decrease in post-treatment PANSS total, positive, negative and general psychopathology scores.

4.12. Treatment response

Treatment responses for patients with psychotic disorders were analysed using 16 mixed 2 × 2 ANOVAs, with interval (time 1 to time 2) as the within-subject repeated measure, and four between-subject fixed factors: (1) stopping medication, with two levels (yes, no); (2) having previously contacted psychiatric services, with two levels (yes, no); (3) duration of untreated illness, with two levels (1–12 months, 13–96 months); and (4) time spent in the *Massed*, with three levels (1–6 months, 7–12 months, 13–18 months). Eta-squared effect sizes (η^2) for the effects observed across time are reported and interpreted according to Bakeman (2005) as: 0.02=small, 0.13=medium and 0.26=large, for repeated measures. Further univariate post hoc tests for between-groups and main effects are reported where main effects and interaction effects are significant.

4.12.1. Assumption testing for mixed ANOVA

Levene's assumption of homogeneity of variances was largely met for all mixed ANOVAs. The PANSS data were inspected for normality to check if the scores for each time point by group were normally distributed around the mean. Many Kolmogorov–Smirnov tests with Lilliefors correction (Lilliefors, 1967) were significant ($p<0.05$), and histograms showed varying degrees of positive skewness, which indicated the data were non-normally distributed. The author chose to leave the natural variation in the data, as ANOVA is reasonably robust to modest violations of normality (Myers & Well, 1995: 69, as cited in Cardinal, 2004: 33). All within-subject comparisons are reported using Mauchly'ssphericity for between-subjects factors that have two levels, and Greenhouse–Giesserepsilon statistics

(ε) are reported for between-subjects factors that have three or more levels, to adjust the probability of F, when Mauchly's sphericity assumption is violated (Cardinal, 2004; Lix & Keselman,2010)

- ***Hypothesis 5:*** that there will be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders had not stopped medication, was not supported.

Effect of stopping versus continuing medication on outcomes

A mixed 2×2 ANOVA was performed on the data to ascertain whether stopping medication had significant overall effect on PANSS change scores. Table 4.38 shows the mean change and standard deviation for PANSS scores for psychosis symptoms over time between treatment groups (stopped/continued medication). In term of symptoms reduction, the group who continued medication (n=103) had little difference in symptom levels post-treatment compared with those patients who stopped medication (n=26) (Table 4.38).

Table 4.38: Mean, standard deviation (SD), mean decrease and paired *t*-tests result comparing PANSS total, positive, negative and general psychopathology scores between stopping vs. continuing medication treatment groups

	Time 1 (admission)	Time 2 (discharge)	Mean change (decrease)	*t*-value
Continued medication (n=103)	Mean (SD)	Mean (SD)		
PANSS Total	117.86 (10.55)	68.40 (8.88)	−49.46	50.09***
PANSS Positive	35.37 (4.23)	18.71 (2.09)	−16.66	43.16***
PANSS Negative	21.80 (3.71)	14.01 (3.18)	−7.79	41.64***
PANSS General psychopathology	60.62 (6.69)	35.47 (6.02)	−25.15	39.62***
Stopped medication (n=26)				
PANSS Total	120.31 (10.57)	73.15 (10.82)	−47.16	20.58***
PANSS Positive	36.81 (4.06)	20.77 (2.67)	−16.04	18.92***
PANSS Negative	21.92 (3.68)	14.81 (3.82)	−7.11	13.81***
PANSS General psychopathology	61.58 (6.21)	37.69 (6.01)	−23.89	18.47***

Note: Values in parentheses represent SD. *t*-value = post-hoc paired-samples *t*-test.
***$p<0.001$

Figure 4.3: Effect of stopping medication on mean change in PANSS total, positive, negative and general psychopathology symptom scores at time 2 (post-treatment).

Visualising Results: Means Plots
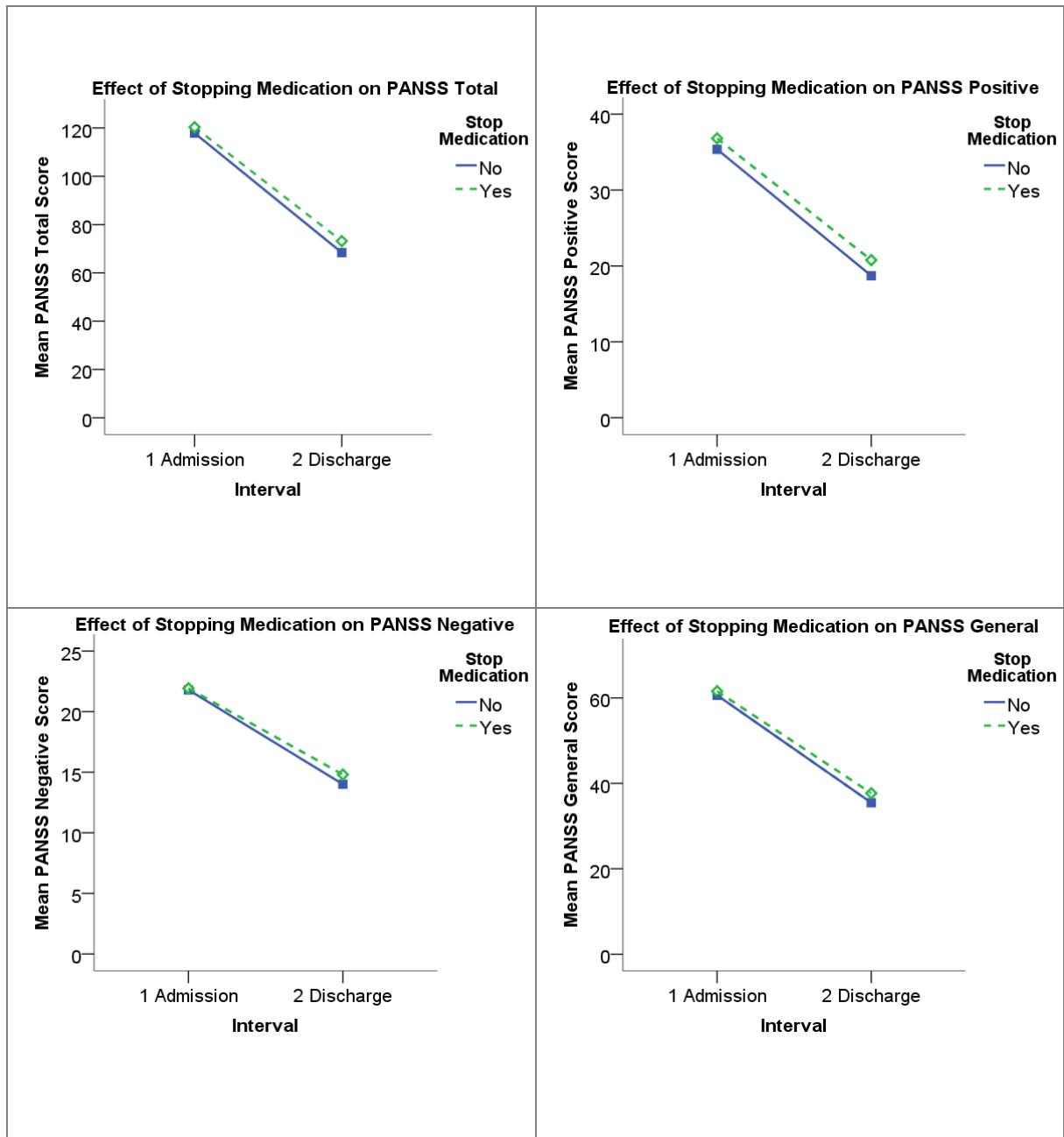
PANSS Total × Stopped medication: The mixed ANOVA results showed a significant between-subjects main effect of stopping medication ($F(1,127) = 3.736$, $p<0.05$), suggesting that patients who continued receiving medication during treatment on average had a slightly greater reduction in symptom levels following treatment than those who stopped medication (Figure 4.3). The effect size was small though ($\eta^2 = 0.029$). There was also a significant within-subjects main effect of interval ($F(1,127) = 0.1801.667$, $p<0.001$), with a substantial reduction in symptoms for all psychosis patients across time. This effect size was large ($\eta^2 = 0.934$). There was no significant interaction effect between treatment group and interval ($F(1,127) = 1.032$, $p= 0.312$). The effect size was small ($\eta^2 = 0.008$). Thus, the *Massed* treatment was helpful on average, regardless of whether the patient stopped or continued medication (see Figure 4.3).

Effect of previously contacting psychiatric services on healer treatment outcomes

- **Hypothesis 6:** that there would be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders had previously contacted psychiatric services, was supported.

A mixed 2×2 ANOVA was performed on the data to ascertain whether previous contact with psychiatric services had a significant overall effect on PANSS change scores. Table 4.39 shows the mean change and standard deviation for PANSS scores for psychosis symptoms, over time between treatments groups (contacted psychiatric services/not contacted psychiatric services). There was not much difference in term of symptom reduction between the patients who had not contacted a psychiatric service ($n=62$) and those patients who had contacted a psychiatric service ($n=67$) (Table 4.39).

Table 4.39: Mean, standard deviation (SD), mean decrease and paired *t*-test result comparing PANSS total, positive, negative and general psychopathology scores between patients who had previously contacted a psychiatric service and those who had

	Time 1 (admission)	Time 2 (discharge)	Mean change (decrease)	*t*-value
Did not contact a psychiatric service (n=62)				
PANSS Total	118.65 (9.56)	68.66 (9.02)	−49.99	41.32***
PANSS Positive	36.24 (3.91)	19.06 (1.87)	−17.18	37.14***
PANSS Negative	21.55 (4.12)	13.98 (3.27)	−7.57	29.12***
PANSS General psychopathology	60.60 (6.04)	35.34 (5.41)	−25.26	31.93***
Did contact a psychiatric service (n=67)				
PANSS Total	118.09 (11.47)	70.00 (9.87)	−48.00	35.48***
PANSS Positive	35.12 (4.54)	19.18 (2.75)	−15.94	30.83***
PANSS Negative	22.07 (3.26)	14.34 (3.37)	−7.73	30.03***
PANSS General psychopathology	61.01 (7.09)	36.45 (5.15)	−24.56	29.95***

Note: Values in parentheses represent *SD*. *t-value* = post-hoc paired-samples t-test.
***$p<0.001$.

Figure 4.4: Effect of visited psychiatric clinic on mean change in PANSS total, positive, negative, and general psychopathology symptom scores at time 2 post-treatment.

Visualising Results: Means Plots
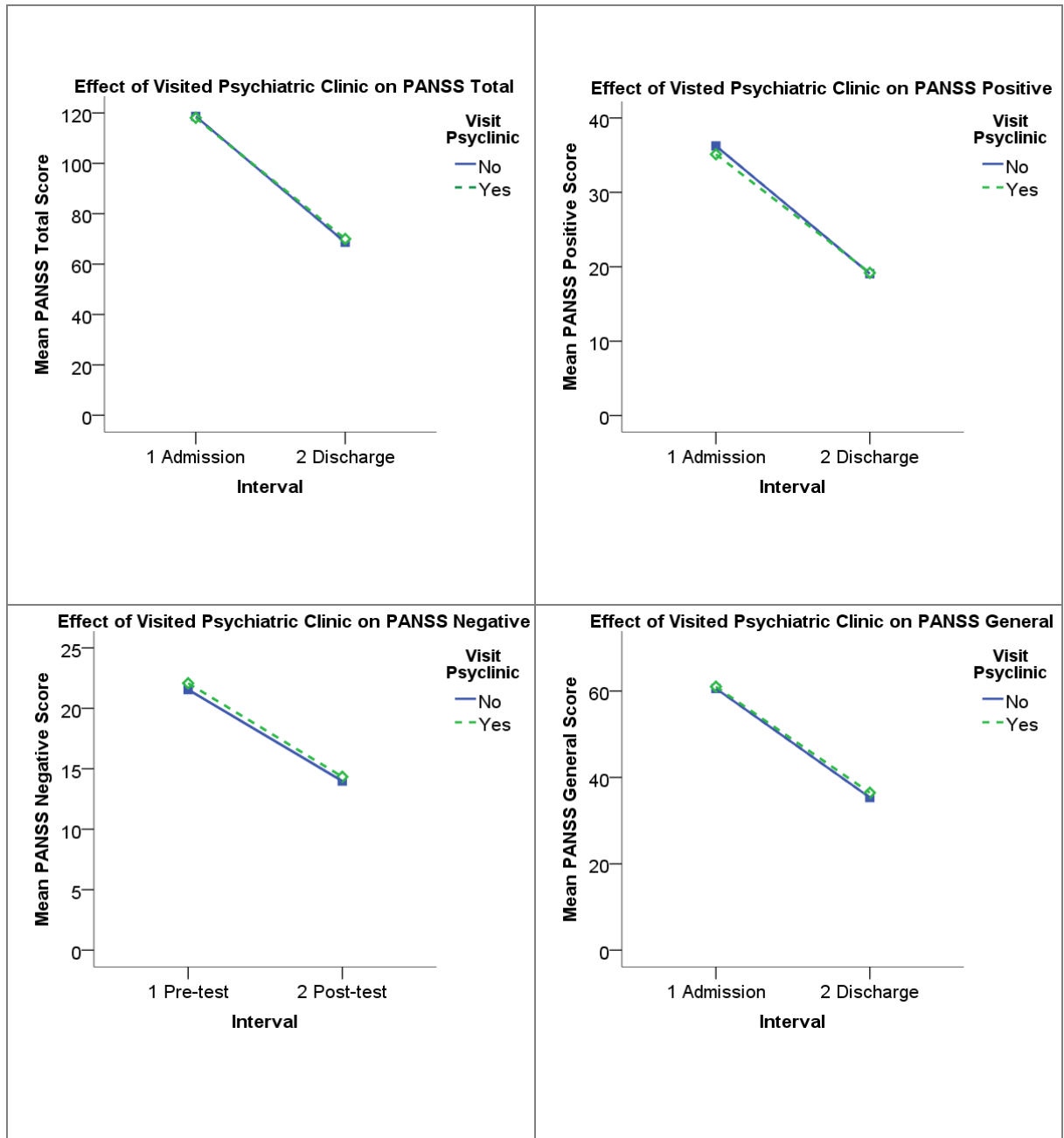
Effect of duration of untreated illness on healer treatment outcomes

- ***Hypothesis 7:*** that there would be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders has shorter duration of untreated illness (DUI), was not supported.

A mixed 2×2 ANOVA was performed on the data to ascertain if the duration of untreated illness (DUI) had a significant overall effect on PANSS change scores. Table 4.40 shows the mean change and standard deviation for PANSS scores for psychosis symptoms, over time between treatment groups: DUI (1–12 months); DUI (13–96 months). As can be seen, the group whose DUI was 1–12 months (*n*=90) had a greater reduction in symptom scores post-treatment than patients whose DUI was 13–96 months (*n*=39).

Table 4.40: Mean standard deviation (SD), mean decrease and paired *t*-test result comparing PANSS total, positive, negative and general psychopathology scores by duration of illness (DUI)

	Time 1 (admission)	Time 2 (discharge)	Mean change (decrease)	*t*-value
DUI (1–12 months)(n=90)	Mean (SD)	Mean (SD)		
PANSS Total	117.86 (9.27)	68.31 (8.23)	−49.55	53.64***
PANSS Positive	35.38 (4.01)	18.89 (2.18)	−16.49	42.00***
PANSS Negative	21.57 (3.46)	13.84 (2.82)	−7.73	38.27***
PANSS General psychopathology	60.66 (5.65)	35.41 (4.77)	−25.25	43.79***
DUI (13–96 months)(n=39)				
PANSS Total	119.51 (13.13)	71.77 (11.57)	−47.47	22.21***
PANSS Positive	36.31 (4.67)	19.67 (2.67)	−16.64	22.58***
PANSS Negative	22.41 (4.16)	14.92 (4.18)	−7.49	19.36***
PANSS General psychopathology	61.18 (8.43)	37.08 (6.23)	−24.1	18.00***

Note: Values in parentheses represent SD. *t*-value =post-hoc paired-samples *t*-test.
***$p<0.001$.

Figure 4.5: Effect of duration of untreated illness on mean change in PANSS total, positive, negative, and general psychopathology scores at time 2 (post-treatment).

Visualising Results: Means Plots
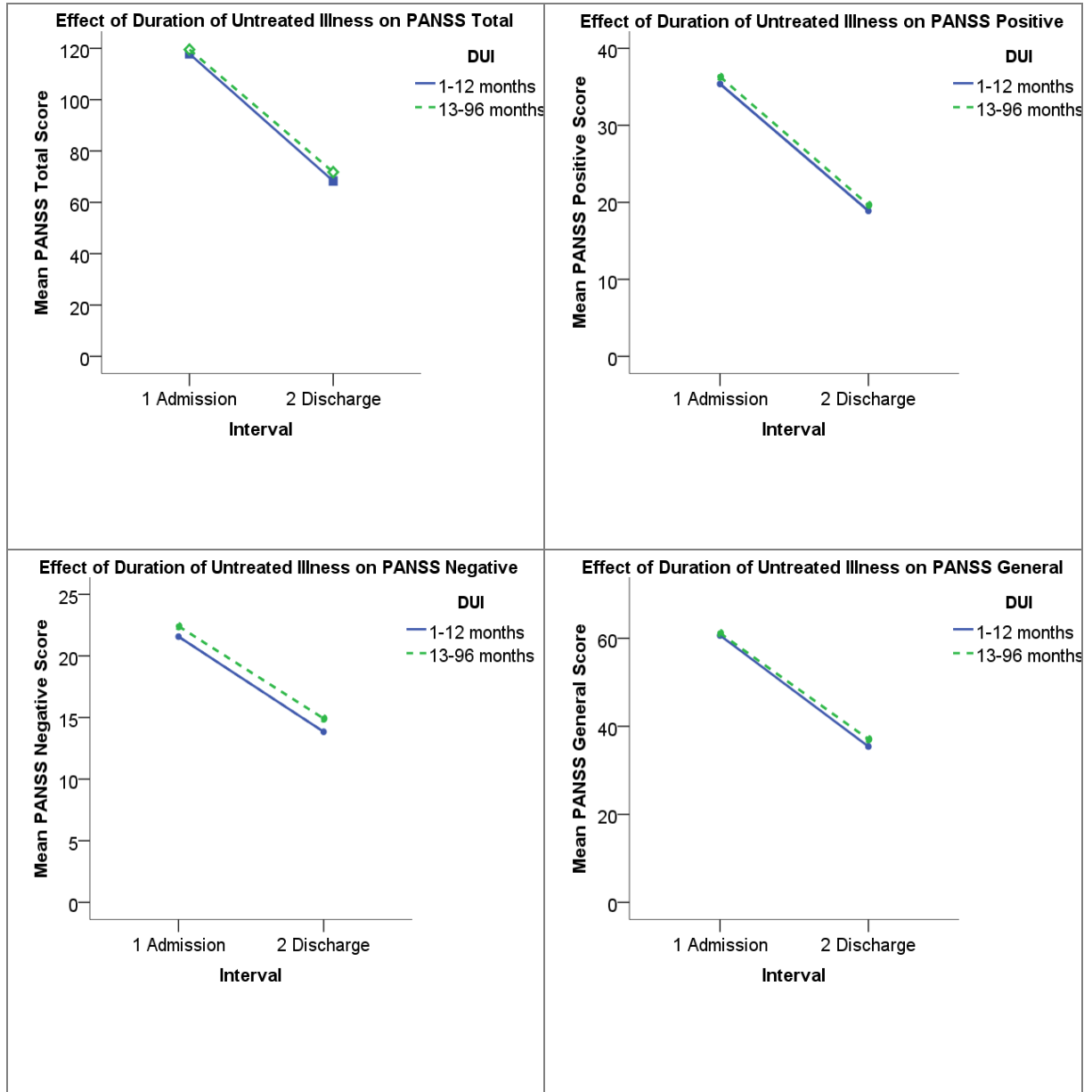
Effect of time spent in the Massed on healer treatment outcomes

- ***Hypothesis 8:*** that there would be no significant change in PANSS psychosis symptoms scores, post-treatment, based on whether a patient with psychotic disorders spent more time in the *Massed*, was not supported.

A mixed 2×2 ANOVA was performed on the data to ascertain whether the duration of time spend in the *Massed* had a significant overall effect on PANSS change scores. Table 4.41 shows the mean change and standard deviation for PANSS scores for psychosis symptoms, over time between the three treatment groups: time spent in *Massed* 1–6 months), 7–12 months or 13–18 months. As can be seen, the groups who spent at least 7 months in the *Massed* had a greater reduction in symptom levels post-treatment, than the patients who stayed only 1–6 months.

Table 4.41: Mean standard deviation (SD), mean decrease and paired *t*-test results comparing PANSS total, positive, negative and general psychopathology scores between three groups staying different lengths of time in the *Massed*

Time spent in *Massed*	Time 1 (admission)	Time 2 (discharge)	Mean change (decrease)	t-value
1–6 months (n=103)	Mean (SD)	Mean (SD)		
PANSS Total	118.49 (11.38)	69.95 (10.15)	−48.54	43.63***
PANSS Positive	35.80 (4.25)	19.24 (2.43)	−16.56	40.82***
PANSS Negative	21.85 (3.77)	14.35 (3.44)	−7.50	35.12***
PANSS General psychopathology	60.85 (7.02)	36.17 (5.60)	−24.68	35.30***
7–12 months (n=16)				
PANSS Total	116.69 (6.90)	68.13 (5.73)	−48.56	45.13***
PANSS Positive	33.25 (3.42)	18.31 (2.12)	−14.94	18.36***
PANSS Negative	22.87 (3.18)	14.25 (2.57)	−8.62	20.20***
PANSS General psychopathology	60.56 (5.05)	35.56 (4.33)	−25.00	37.98***
13–18 months (n=10)				
PANSS Total	119.70 (5.34)	65.20 (4.89)	−54.5	39.83***
PANSS Positive	38.10 (3.45)	19.20 (1.81)	−18.9	23.77***
PANSS Negative	19.80 (3.01)	12.20 (2.53)	−7.60	24.88***
PANSS General psychopathology	60.80 (3.94)	33.90 (2.42)	−26.90	30.74***

Note: Values in parentheses represent SD. *t*-value = post-hoc paired-samples *t*-test. ***$p<0.001$.

Figure 4.6: Effect of time spent in the *Massed* on mean change in PANSS total, positive, negative, and general psychopathology symptoms scores at time 2 (post-treatment).

Visualising Results: Means Plots
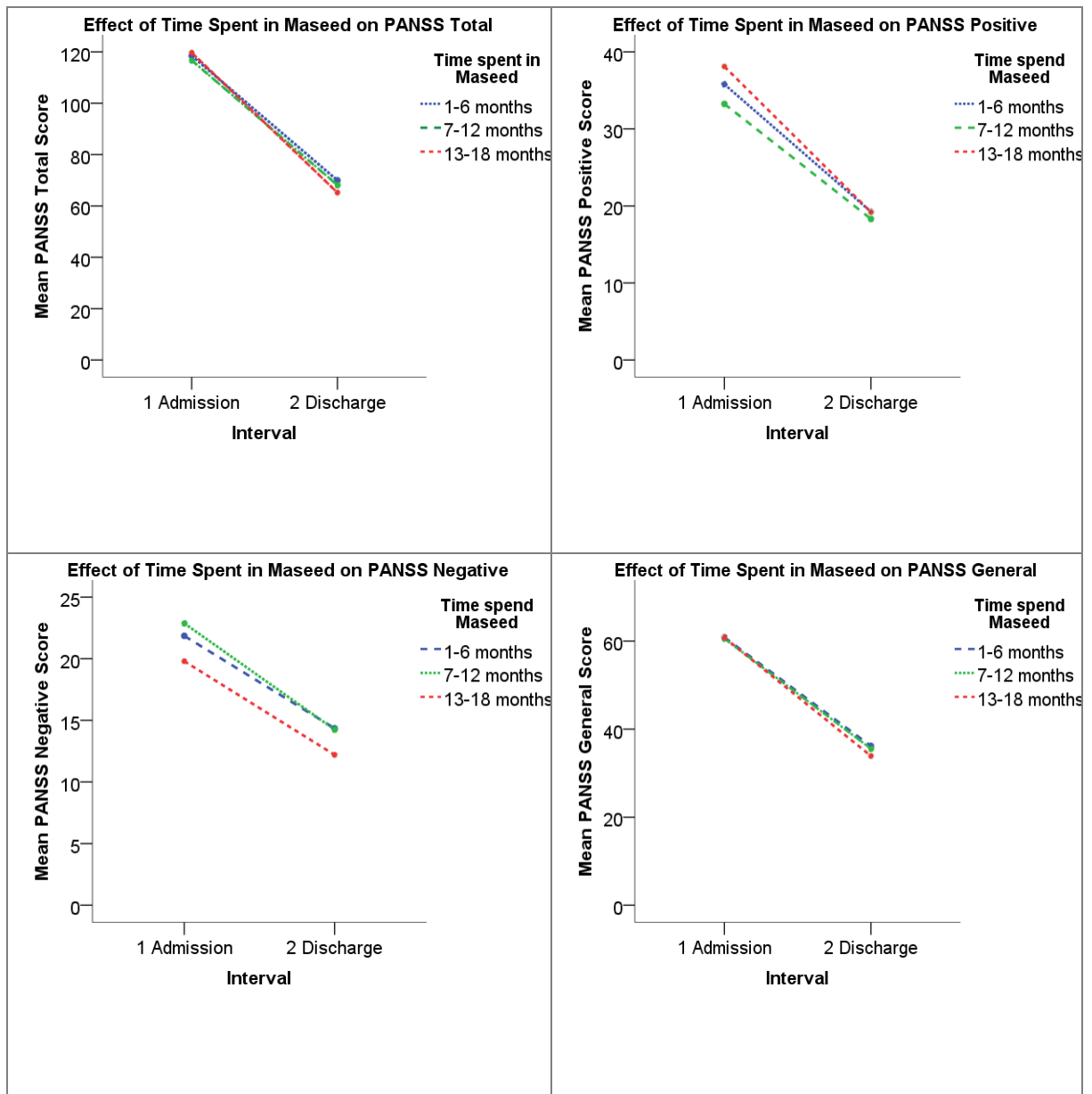
4.13. Multiple regression analysis

4.13.1. Do the Massed healer treatments predict PANSS decrease?

- **Hypothesis 9:** that treatments in the *Massed* programme would have a positive relationship with PANSS decrease scores (post-treatment outcomes) was partially supported.

Standard multiple regression analysis (Enter method) was performed on the PANSS data to investigate the impact of nine traditional healer treatments on post-treatment outcomes for patients with schizophrenia. The independent variables were therefore the nine *Massed* treatments. The dependent variables were the decreases in PANSS scores (total, positive, negative and PANSS general psychopathology). These PANSS decrease variables were created in SPSS using the Transform, Compute command, by subtracting PANSS time 2 from time 1 scores, and standardizing the resulting negative data points (i.e., subtracting the mean from each data point and dividing by the standard deviation), to aid interpretation of the results. Table 4.42 displays the standardised (β) regression coefficients, the *t*-values, R^2 and adjusted R^2.

Table 4.42: *Massed* treatments lead to PANSS decrease

Massed treatment	PANSS Total		PANSS Positive		PANSS Negative		PANSS General psychopathology	
	β	*t*-value	β	*t*-value	β	*t*-value	β	*t*-value
Restrict food	−.243	−2.432*	−.304	−3.053**	.028	.280	−.121	−1.201
Chain patient	−.043	−.403	.077	.721	−.209	−1.937*	−.081	−.753
Beat patient	.012	.131	.089	.954	.021	.225	−.034	−.357
Keep in dark room	−.027	−.271	−.082	−.821	.029	.289	−.064	−.632
Restrict visitors	.186	1.799	.148	1.442	−.083	−.799	.265	2.544**
Stop medication	.088	.925	.102	1.073	.095	.987	.043	.450
Bakhrat	−.018	−.191	−.108	−1.124	.096	.984	.023	.237
Mehayat	−.018	−.193	−.139	−1.533	.136	1.472	.023	.253
Others	.081	.858	.042	.446	−.034	−.353	.113	1.176
R^2	.090		.102		.076		.077	
Adj. −R^2	.022		.034		.006		.007	
F−ratio	1.313		1.496		1.090		1.096	

*$p<0.05$, **$p<0.01$, ***$p<0.001$.

The multiple regression analysis found that three of the healer treatments had a significant impact on post-treatment scores, as follows:

- *Restricting food* significantly reduced PANSS total scores at time 2 (R^2=0.090, B = −0.952, β = −0.243, t = −2.432, $p<0.05$); and significantly reduced PANSS positive scores at time 2 (R^2=0.102, B= −1.188, β= −0.304, t= −3.053, $p<0.01$).

- *Chaining patients* significantly reduced PANSS negative symptom scores at time 2 (R^2=0.076, B= −0.544, β= −0.209, t=1.937, $p<0.05$).

- *Restricting visitors* significantly increased general psychopathology symptom scores at time 2 (R^2=0.077, B=0.679, β=0.265, t=2.544, $p<0.05$).

The finding (above) that restricting visitors was associated with an increase in general psychopathology symptoms at time 2 adds support to the idea that it is the supportive environment of the *Massed* that may be reducing psychosis symptoms in patients with schizophrenia, as opposed to any particular healer treatment. The R^2 values above are all very small, indicating that the 9 traditional healer treatment predictor

variables, as a group, do not explain much of the variation in the decreased PANSS scores post-treatment. As this research is exploratory, these results should be interpreted with great caution.

## 5.	DISCUSSION

In the United States, the biomedical model has become the dominant perspective on psychological disorders, and psychological problems are commonly interpreted as brain chemical imbalances, and treatment often includes medication (Good, 1992). There has been a tendency to neglect the religious dimension and existential components of health care. Nonetheless, many doctors across the world have embraced the biomedical model of mental disorder and have tended to devalue the art of medicine, the wisdom of the experienced clinician, as well as the therapeutic value of a professional relationship (Montgomery, 2006). However, several studies concerning illness beliefs in other cultures highlight the importance of social and religious beliefs in the perceptions of both the causes and the treatments of mental illness (Koenig, 2008) and there is evidence of a beneficial effect of spirituality and religion on mental health (Koenig et al., 2012). Since religious beliefs and spiritual practice are both concerned with core beliefs, values and sense of self, an understanding of these dimensions is important to the practice of much clinical psychiatry (Verhagen et al., 2013).

The important role that religious beliefs may have on perceptions of mental illness cannot be ignored. Many religions endorse witchcraft and spirit possession, which are thought to influence the behaviour of a person much as would a mental illness (Ally & Laher, 2008). Religion and spirituality contribute to shaping representations of disease and attitudes to medical treatment in patients with mental disorders. This dimension should be on the agenda of psychiatrists working with patients with mental disorders (Borras et al., 2007). The predominant Western view of the aetiology and understanding of mental illness

needs to acknowledge the various culturally inclined taxonomies of mental illness so as to better understand and aid clients (Ally & Laher, 2008).

Traditional healing for people with mental illness is popular in many parts of the world, including Sudan, and the present study aims to explore and discuss this subject. The present study is the first research of this design to be carried out to study people with mental illness who are admitted as inpatients to the traditional healer centres in Sudan. In this study, a great effort has been made to explore the Sudanese traditional healers' profile, attitudes, beliefs and practices in relation to people with mental illness, and how collaboration can be established between traditional healers and mental health professionals in a country, like Sudan, with a mixture of Arab and African cultures.

5.1. Socio-demographic characteristics of patients with mental disorders treated in traditional healer centres in central Sudan

Generally, traditional healers make a unique contribution to mental healthcare; that is, their approach is complementary to other approaches. They also tend to be the entry point for care in many low-income communities (Patel, 2011). People of different ages who suffer from mental illness are brought by their families to the traditional healer for treatment. Even some small children with organic problems, such as fever, convulsion or epilepsy, are also brought to traditional healers.

In this study, most of the people with mental illness who were brought for treatment were male, which is perhaps explained by the fact that they can travel more easily than females. These findings were similar to those reported by Farooqi et al. (2007): male patients also had more visits per week to traditional healers than their female counterparts in Pakistan. Most of the patients were from central Sudan, where access to mental health

and other services is much easier; in fact, many people from the more remote regions of the country are migrating to central Sudan for a better life.

The majority of the participants were single, which may be due to the stigma associated with mental illness. Also, most of the participants had a low level of education, with some being illiterate and never having attended school, and a few who had attended only primary school. Improving the educational level in the community will give more insight into mental illness and probably a much better understanding of it. It could also suggest methods of treating mental illness other than traditional healing, as it has been said that education is the key to development.

Almost half of the participants were unemployed. Some remained in the THC after they had improved, to participate in rehabilitation activities, such as working on the centre's farm, looking after visitors to the centre and welcoming guests. Some could also become supervisors or teachers in the THC Quranic school.

5.2. Help-seeking behaviour and the factors that influence the pathways to mental health care among people with mental disorders receiving care at THCs

The limited availability of health services encourages the use of a wide range of alternative systems of care for various ailments, including mental illnesses (Kapur, 1979). Often, due to lack of awareness or the absence of easily accessible treatment facilities, particularly in developing countries, patients and carers prefer to approach alternative service providers. Depending on availability and accessibility, these resources may include traditional healers, family doctors, counsellors, psychologists or physicians (Bhattacharya, 1983; Weiss et al., 1986). Traditional healing is a popular alternative therapy in many countries, even where there are widespread psychiatric and mental health services (Sayed et al., 1999). Mental

illnesses are often accompanied by social stigma, leading to tendency on the part of both sufferers and their families to hide the problem and avoid psychiatric treatment, because such treatment may further increase the social ostracism faced by families (Wig, 1979; Wahl, 1999). There is a need of studies in community to assess the help-seeking behavior of psychiatric patients and factors associated with it (Chadda et al., 2001). What treatment options a patient with mental disorder utilizes before opting for traditional healing would be interesting to know.

In the current study more than half the patients (210 of 405; 52%) receiving a traditional healer's treatment had not contacted psychiatric services prior to coming to the THC. Evidently, traditional healing is the most popular first point of non-psychiatric help-seeking contact. On the other hand, almost half the patients (the other 195; 48%) *had* contacted psychiatric services before consulting a traditional healer. Our current study was based on THCs. Our findings can be compared with those of other hospital-based studies. For example, Phang et al. (2010a) studied the experience of contact with traditional healers among patients with first-episode psychosis in Hospital Kuala Lumpur. They found that 54% of the patients had had at least one contact with a traditional healer prior to consulting psychiatric services and traditional healers were the popular choice of first non-psychiatric contact (48%). Razali & Najib (2000) assessed help-seeking process and delays for Malay psychiatric patients attending psychiatric clinics for the first time in Malaysia. They found that 69% had visited traditional healers. An earlier study in Malaysia found that approximately 73% of psychiatric patients consulted traditional healers before visiting psychiatric clinics; the strength of social support, the availability of the healer and the belief of the patients, friends and relatives in the traditional healer are the main factors that influence patients seeking the help of a traditional healer (Salleh, 1989). Critical factors

leading a patient to resort to traditional healers include the type of affliction, the local interpretation of the mental illness, and the socio-demographic status of the patients and the availability of the healers (Campion & Bhugra, 1997). In a study in South Africa some of those attending a traditional healer claimed that physicians do not have the time to give the attention they need; they are placed in a room with numerous other patients and their individual requirement are hardly addressed; this was contrasted with traditional healers, who are available 24 hours a day, 7 days a week, and often check regularly to ensure the patient is adhering to the traditional treatment and the patient's family is coping (Sorsdahl et al., 2010a). A study in Singapore by Chong et al. (2005) showed that 24% of the respondents had sought help from traditional healers before consulting psychiatric services. Furthermore, a hospital-based study in the United Arab Emirates found that 44.8% of the total sample had consulted faith healers before presenting to psychiatric service (Salem et al., 2009).

5.3. Socio-demographic characteristics of people with mental disorders receiving care in THCs in relation to contact with psychiatric services

In our current study there was no significant association between the sex of the patient, marital status or the area of residence in Sudan and contact with psychiatric services. People come to THCs from all over the country, that is, irrespective of their area of their residence. The residence of the patient did not influence their traditional healer or psychiatric consultation; in contrast, earlier studies suggested that those residing in rural areas are more likely to use traditional healing (Satija & Nathawat, 1984). We found significant associations between both the educational level of the patient and their occupational status and contact with psychiatric services. Those with secondary school

education or a university qualification, and those who were working before they developed their mental illness were more likely to have contacted psychiatric services. This may be because they were aware and knowledgeable about these psychiatric services and their benefits. This finding is consistent with those of Campion & Bhugra (1997) in India, where they found that those who attained postgraduate education were less likely to seek help from religious healers, which reflects Westernization achieved in the educational system.

The presence of medical and psychiatric services near to the patient's home was not significantly associated with contact with these services; there are factors that influence the help-seeking behaviour of patients beyond the availability and accessibility of services. People can travel long distances to seek traditional healing. This may reflect the strength of beliefs in traditional healing and not the modern psychiatric services, and possibly greater faith in traditional treatment. Our results in this study are similar to those Campion & Bhugra (1997) found in India: the geographical distance from the psychiatric service of the traditional healers was not a barrier, which indicates that the physical needs of relief from distress are of paramount importance. It is quite evident in our study that patients are usually brought involuntary by the family for traditional treatment.

5.4. The perceived causes of mental illness

Views about causation of mental illness are strongly associated with help-seeking behaviour. In our study, attribution of the mental illness to supernatural causes was highly associated with consultation with a traditional healer and, further, the majority of those who attributed their illness to evil spirits, jinn possession, Satan or black magic had not contacted psychiatric services. These findings are in agreement with those of other studies. Razali et al. (1996) investigated the understandings of the aetiology of mental illness of 134

Malay patients; 53% of these patients attributed their illnesses to supernatural agents. Witchcraft and possession by evil spirits were regarded as common causes of mental illness. The proportion of patients who believed in supernatural causes of their mental illness was significantly larger among those who had consulted traditional healers than among those who had not consulted them. A belief that mental illness is caused by supernatural agents was firmly held by traditional healers, who reinforced this notion in those who sought their advice. In their study, belief in supernatural causes of mental illness was not significantly associated with age, gender, level of education or occupation of the patients. Patients who believed in supernatural causes of mental illness were also found to show poor drug compliance. Saravanan et al. (2007) assessed qualitatively explanatory models (EMs) of psychosis and their association with clinical variables in a representative sample of first-episode patients with schizophrenia in south India. They found that the majority of patients (70%) considered spiritual and mystical agents to be the cause of their predicament; three factors were associated with the holding of spiritual/mystical models (female sex, low education and visits to traditional healers). In a study of help-seeking for the treatment of mental disorders in Pemba Island, Zanzibar, Mirza et al. (2006) reported that 0.4% of the respondents attributed mental health problems to God's power. Abbo et al. (2008a), in their study in Uganda, confirmed that supernatural causes of mental illness are perceived by many people in African communities. People seek treatment from traditional healers not only because they share these healers' beliefs regarding the cause of mental illness, but also because they (and their families) believe in the effectiveness of the traditional healing, as is evident in our study. A common view is that 'modern' (i.e. Western) treatment are effective in curing medical (i.e. physical) illness but are powerless against black magic or supernatural causes or agents; and psychiatrists do not have the

expertise to deal with supernatural powers (Razali, 1995). Some traditional healers are thought to be helped by jinn (supernatural beings) in treating their patients and harbour spirits to chase away the evil spirit who intrudes on their territory (Razali & Yassin, 2008). Dein et al. (2008) said this close affinity between jinn, spirit possession and mental illness is not unique to Islam, as similar beliefs are held in Hinduism (Halliburton, 2005), Buddhism (Gaw et al., 1998) and Judaism (Greenberg & Witztum,2001). MacLachlan et al. (1995) in Malawi suggested that traditional healers should be incorporated into 'modern' mental health services because good mental health services should consider the beliefs of the patients they seek to serve.

5.5. Prevalence of contact with traditional and psychiatric services among psychotic patients

The delay of psychiatric treatment generally is linked to the use of complementary and alternative medicine, although there may be other factors behind this delay. The use of traditional healers is widely acknowledged in low-income countries, especially among people with psychosis. What treatment options a patient with psychotic disorder utilizes before opting for traditional healing would be interesting to discuss. It is important to understand how various psychiatric facilities are looked upon in the community. Understanding the reasons for seeking help from resources other than the standard medical centres would help in planning cost-effective, accessible facilities in the community for the treatment of mental disorders, and hence better utilization of services.

In the current study, the prevalence of contact with psychiatric services among patients with psychotic disorders receiving treatment in the THCs was 51.9% (67/129). The other 48.1% of the psychotic patients had had no contact with psychiatric services. These

results are comparable to those of other studies. Razali & Yassin (2008) conducted a study based at a university hospital in Malaysia; they found that 61.7% of the psychotic patients had consulted traditional healers prior to contacting psychiatric services. In a study of the prevalence and experience of contact with traditional healers among patients with first-episode psychosis in Hospital Kuala Lumpur in Malaysia, Phang et al. (2010a) reported that54% of the patients had at least one contact with traditional healers prior to consulting psychiatric services. Chadda et al. (2001) studied the help-seeking behaviour of psychiatric patients before seeking care at a mental hospital in Delhi (India); they found that 57.7% of the patients went directly to psychiatrists and only about 30% first chose to attend a traditional healer. In contrast, Weiss et al. (1986) found that the majority of the psychiatric patients were taken to magical or religious specialists before help was sought from medical practitioners like physicians or psychiatrists. Rakhawy (1996) ascertained that patients with mental disorder in the Middle East and the Eastern Mediterranean Region usually seek a traditional healer's help first, before seeking help from psychiatrists. Sayed et al. (1999) studied the traditional healing of psychiatric patients in Saudi Arabia; they found that 70% of their sample reported having resorted to traditional healers at some point during the course of their current illness. Of these, 60% had visited a traditional healer before seeking psychiatric treatment. Lincoln & McGorry (1998) reported that individuals initially look towards non-psychiatric sources of help to avoid with unfamiliar and stigmatizing services. Mental illness has adverse effects on the emotional and socio-economic capabilities of relatives who care for those with mental illness Stengard (2002). Often, the debilitating effects of mental illness are exacerbated by stigma and discrimination (Pinel, 1999). It has been observed that many patients with mental illness begin the process of receiving

treatment through non-psychiatric services, and that this choice of route (i.e. pathway to care) protects patients from the stigma of psychiatric treatment (Chiu & Chan, 2007).

In our current study, the duration of untreated illness (DUI) of the patients with psychotic disorders ranged between 1 month and96 months (mean 15.8 months, median 13.3 months, SD 18.7) before coming in contact with a traditional healer, although for almost half(43; 47.8%) the DUI was under 12 months; these results are comparable with what Chadda et al. (2001) found in a study in India, where the duration of psychiatric illness varied from 4 days to 20 years (median 1 year); the duration was slightly shorter for females, varying from 4 days to 15 years (median 1 year). The time for the first consultation with a psychiatrist ranged from 4 days to 20 years (median 1 year) since the appearance of symptoms.

5.6. Reasons for seeking the help of a traditional healer

In our current study patients sought treatment from a traditional healer because of their strong belief in it is effectiveness. They did not consult traditional healers because it was less costly than psychiatric services, or because it was nearer to their homes; patients and families travelled long distances to seek traditional treatment. This reflects the effect of cultural beliefs of the Sudanese society in help-seeking. This finding is in common agreement with Campion & Bhugra's (1997) study in south India, where they found the residence of the patient did not influence their prior consultation with traditional healers. The findings are, though, in contrast to what Chadda et al. (2001) found in a study in India, where the reasons for visiting faith included their easy accessibility, and also in contrast to findings in Rajasthan (Satija & Nathawat, 1984), which suggested that those residing in rural areas were more likely to use religious healing. Furthermore, in the present study,

there was no significant association between the nearness of patient homes to health services and contact with psychiatric services, this was quite similar to Campion & Bhugra (1997) result that the physical distance from the mental hospital was not found to be important, since half of the patients living within 5 km of the hospital had earlier seen religious healers, in spite of the easier access to formal psychiatric services. This may, of course, reflect the strength of religious beliefs and the religiosity of the individuals, which need to be linked to their usage of traditional religious healing. The geographical distance from the religious healers was not a barrier, which indicates that the need of relief from distress is of paramount importance (Campion & Bhugra, 1997).

In the present study, the second reason for seeking a traditional healer's treatment was the belief, shared by patients, families and traditional healers alike, in the supernatural causation of the mental illness (jinn possession, evil spirits and black magic). This finding is similar to those of previous studies (Abbo et al., 2008b; Ahmed et al., 1999; Al-Shahi, 1984; Al-Adawi et al., 2002; Al-Habeeb, 2003; Appiah-Poku et al., 2004; Dein et al., 2001, 2008; Razali & Najib, 2000; Razali et al., 1996; Saeed et al., 2000; Shankar et al., 2006). Patel et al. studied the pathways to primary mental health care in Harare, Zimbabwe. Different factors have been found to operate in the decision-making process of choosing to consult either the biomedical or the traditional care providers. The latter more often provided their clients with explanations than did the biomedical care providers, and these explanations were most often spiritual (Patel et al., 1997a). Prevailing socio-cultural concepts about the aetiology of mental illness are a powerful determination of help-seeking attitudes. Razali et al. (1996), investigating a sample of mentally ill patients in Malaysia and using a 20-item checklist, found that 53% of the patients attributed their illness to a supernatural agent, particularly witchcraft and possession by evil spirits. A belief in

supernatural causes of mental illness was found significantly more commonly among those who had consulted traditional healers. In Arab culture, the conceptual attribution of mental illness swings between the biomedical and spiritual models. In Saudi Arabia, for example, most traditional healers operate on the widely accepted belief that mental disorders are caused by magic, the evil eye or possession by a (or the) devil. This seems to be a powerful determinant of help-seeking behaviour among vast segments of the population and of the types of therapeutic procedures employed by traditional healers (Sayed et al., 1999). Patel et al. (1997b) argued that psychiatric patients prefer traditional healing because traditional healers tend to give them culturally acceptable interpretations of their conditions.

Chadda et al. (2001) reported that a belief in supernatural causes and recommendations of relatives and friends were the main reasons for patients to contact a traditional healer. On the other hand, the reasons for visiting a mental hospital or other psychiatric service as a first choice were recommendations by significant others, lack of response to other systems of healing, the availability of low-cost treatment, previous contact and acquaintance with the hospital, and to seek a second opinion about the mental illness (Chadda et al., 2001).

Previous studies in this area have suggested that care for psychosis is most often sought from traditional healers. A supernatural view of the origin of mental illness may imply that orthodox medical care would be futile and that help would be more likely from spiritualists and traditional healers (Abbo et al., 2008a). Our current study confirms the view that supernatural causes of mental illness are perceived by many people receiving treatment in THCs in central Sudan. This may affect the propensity to seek psychiatric medical treatment and could also contribute to the traditional healers' non-referral or delayed referral of psychotic patients for psychiatric attention.

5.7. Who decides where to seek help?

In our present study, the patient with psychotic disorders were usually brought involuntary (i.e. against their will or consent) by relatives for treatment in the THCs. The decision to consult a particular healing specialist is often taken by the family or the carer (Nunley, 1998). Socio-cultural factors affect the decision to seek help by the family (Weiss et al., 1986). Psychotic patients usually lack personal choice in such matters. This may be why family attitudes and beliefs play such an important role in the decision to seek help.

In this study, the majority of patients with psychotic disorders who had previously made contact with psychiatric services were not asked to stop their psychiatric medication by the traditional healer, which means that some people consider traditional healing as an adjunct to psychiatric treatment.

5.8. Application of the health seeking behaviour models

5.8.1. Help-seeking behaviour for the people with mental disorders in Sudan in relation to health seeking behaviour models

If we apply the socio-behavioural or Andersen model (Andersen & Newman, 1975) for the Individuals and families of people with mental disorders who receive treatment in the traditional healers centres in Sudan, we can find many applicable areas in the model. Examples of these applications are:

- **Predisposing factors:** that includes the socio-cultural and demographic characteristics of the individuals that exist prior to the illness. We can find that the socio-cultural and demographic characteristics structure of the majority of individuals who contacted traditional healers seeking their help were male, single, unemployed, of low socioeconomic status, and of low educational level. Regarding

their health beliefs; they strongly beliefs in the supernatural causes as a main factors for their mental illness such as, possession by Jinn or evil spirit, evil eye or magical spells.

- **Enabling factors:** Personal, family, community. Individuals are unaware of the availability and benefit of modern health services (modern health services are faraway, costly, and not easily accessible). The family makes the decision for seeking-help. Past family or community members experience of mental illness and the traditional healers management outcome.

- **Needs factors:** Perceived need for traditional healing methods for treating mental illness (*rogya*, *bakhara*, *mehaya*) and the strong belief in the effectiveness of the traditional healing treatment.

Figure 5.1: The application of the socio-behavioural or Andersen model on the characteristics of the people with mental disorders who receive treatment in the traditional healer centres in Sudan.
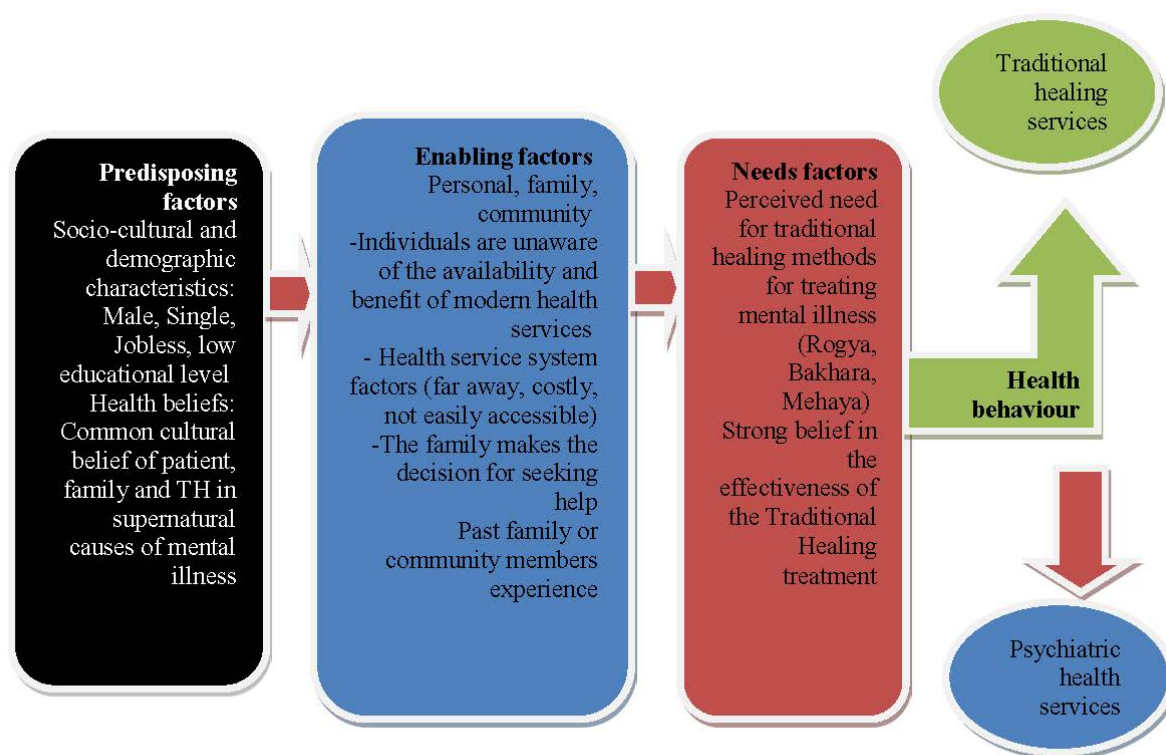
5.9. Popular conceptions of mental disorder in Sudan

5.9.1. Defining and naming the mental illness

The family and relatives of patient with mental illness in the THCs who participated in the focus group discussions defined mental illness according to it is aetiological basis. The word *Majnoon*, which is commonly used to define the person with mental illness, is originally derived from the word *jinn* (the word *jinn* in Arabic has a common origin with overlapping words with different connotations and can be traced to refer to a shelter, screen, shield, paradise, embryo and madness). The current Islamic concept of jinn possession should not be confused with the concept of possession seen in Europe in the

Middle Ages. In Islam, the jinn are not necessarily a demon or evil spirit. It is a supernatural spirit, lower than the angels, and has the power of assuming human and animal forms that can be either good or bad. Indeed, some jinn are believers; they listen to recitations of the Holy Quran and help human endeavours. Moreover, Islam is not devoted to human beings but also to the spiritual world at large. In the Holy Quran, almost always, the jinn and the human being are mentioned together. This has altered the concept and the management of people with mental disorders; although they may be perceived as being possessed, the possession may be by a good or a bad spirit. Consequently, there is no place to generalize punishment or give to condemnation unconditionally (Okasha, 1999). The word *jenun*, which in Arabic is equivalent to *madness*, literally means screened or hidden, and there are 25 terms in Arabic to denote a mad person (Baasher, 1975).

According to Islamic teaching, jinn live alongside other creatures but are from a world other than that of mankind. Though they see us, they cannot be seen. The characteristics they share with human beings are intellect and freedom to choose between right and wrong and between good and bad (Al-Ashqar, 2003) but, according to the Holy Quran, their origin is different from that of man ('And indeed, we created man from dried clay of altered mud and the Jinn we created aforetime from the smokeless flame of fire'). Jinn tempt and seduce mankind to stray from Allah (God); Satan (*shaytan*, devil) is thought to be from their realm. Jinn are said to inhabit caves, deserted places, graveyards and darkness (Al-Ashqar, 2003). According to Sakr (2001) they marry, produce children, eat, drink and die but, unlike human beings, have the power to take different shapes and are capable of moving heavy objects almost instantly from one place to another. The Holy Quran mentions how the Prophet Solomon subjugated the jinn and got them to perform tasks that required strength, intelligence and skill.

Mamsus refers to those touched by jinn and Satan. *Matouh* refers to those who are born mentally ill. *Mastul* refers to those who have ingested or abused substances such as alcohol or hashish, or other forms of cannabis. *Mayoun* refers to those affected by the evil eye. *Mas-hur* refers to those affected by magic. These definitions of various forms of or causes of disorder, used in the focus groups to describe the person with mental disorder, are thus usually based on a supernatural aetiological basis of mental illness.

5.10. Symptoms of the mental illness

From fire, the almighty Allah created both male and female jinn ('spirit' in English) who invisibly live with humans and share their activities. Jinn, good or bad due to their beneficial or harmful effects, can be believers or non-believers in Allah and can take any shape and form. Like jinn, the evil eye and magic are also mentioned in the Holy Quran and can also have disastrous effects on human health and behaviour. The followers of Islam believe that jinn can watch humans and bedevil them (Al-Habeeb, 2003). In Islamic writings true jinn possession can cause a person to have seizures and to speak in an incomprehensible language. The possessed is unable to think or speak from his own will (Khalifa & Hardie, 2005). Possessed patients often report that they perceived jinn entering their bodies and moving in different organs. This is followed by bizarre behaviour and odd movements that may imply psychotic or non-psychotic disorders (Pereira et al., 1995) These disorders are largely diagnosed in female patients who are particularly weak, misinformed, uneducated and of poor backgrounds suffering from both the evil eye and magic, who also present with an array of somatic symptoms, interpersonal conflicts and alleged misfortunes. The trance and possession states, explained by the theories of dissociation, conflictual communication and socio-cultural sanctions, are recognized in

both the International Classification of Disorders (ICD-10) (F44.3) and DSM-IV (300.15). The latter suggests further research into dissociative trance disorders in order to refine the diagnostic criteria.

The symptomatology that is usually attributed to jinn possession, evil eye or magic includes headache, chest pain, abdominal pain, leg pain, eye-ache, ear-ache, pain in all joints and backache. Less common somatic symptoms are vomiting, tiredness, paralysis, giddiness, tremors, anorexia, abortions and dyspnoea. In addition to these apparently somatic symptoms, there are some psychological symptoms that overlay all three disorders and these include anxiety, fear/doubt of developing disease and obsessive thinking. Other important psychological symptoms are insomnia, hate, depression, feeling of having a weight on the chest, talkativeness, hyperactivity, estrangement between wife and husband and also between two/three wives, persistent conflict among family members, seizure-like state, psychotic disturbance and violent behaviour, aggression, bizarre movements and imaginings, aphonia, blindness, altered consciousness and economic loss (Al-Habeeb, 2003).

5.11. Origin, nature and cause of mental illness

Muslims all over the world strongly believe in the existence of supernatural forces such as jinns, magic and the evil eye. Ally & Laher (2008) in a study among Muslims in South Africa said the important role that religious beliefs may have on perceptions of mental illness cannot be ignored. Many religions, including Islam, endorse Witchcraft and spirit possession, both of which are thought to influence the behaviour of a person so as to resemble that of a mentally ill individual. In his research explored Muslim faith healers' perceptions of mental and spiritual illness in terms of their understanding of the distinctions

between the two (mental and spiritual), the aetiologies and the treatments thereof. Six Muslim healers in a Johannesburg community were interviewed and thematic content analysis was used on the data. They found that the faith healers were aware of the distinction between mental and spiritual illnesses. It was also apparent that Islam has a clear taxonomy that distinguishes illness and the causes thereof. Treatments are then advised accordingly. It had been argued that the predominant Western view of the aetiology and understanding of mental illness needs to acknowledge the various culturally inclined taxonomies of mental illness so as to better understand and aid clients.

The participants in the focus group discussions believed in the evil eye and jinn possession as causes of the mental illness. According to traditional healers, they are both a diagnosis and an explanation for many mental symptoms, symptoms which need the attention of a traditional healer. Many people, even those who have a psychiatric clinic near to them, claim that psychiatric services would not be helpful in their case; instead, regardless of how far the THC is from them, the most important thing is to get cured, and so consultation with a traditional is sought.

The participants' comments derived a very important issue: that inspite of easy access to formal psychiatric services in some areas, people still travel long distances to see traditional healers. Why? It may reflect the strength of religious beliefs and the religiosity of the individual and family, which is in turn linked to their usage of traditional (religious) healing. Thus, the nearness of psychiatric services or the geographical distance of the THC does not affect the help-seeking behaviour.

5.12. Management and treatment of mental illness by traditional healers

Traditional healers believe firmly in what they do; and this sense of conviction is equally shared and reciprocated by the sick who seek their help. Thus strong rapport can be established between the healer and the patient. The personality and ability of the healer, together with his reputation, determine to a great extend the outcome of treatment. The forms of religious therapy vary greatly but, on the whole, the focal point of treatment is the invocation made to God (Allah) in order to bring a cure; this is aided by the performance of special practices directed against the underlying cause(Baasher,1975). The unorthodox therapies most frequently prescribed by traditional healers to the patients with evil eye, jinn possession and magic were *roqaya* (reading specific verses from Holy Quran), soothing sayings by the Prophet Mohammed (PBUH), regular performance of prayers, exorcism (of jinn and other devious supernatural spirits), physical punishment, temporary strangulation, cautery, *saaout* (snuff – i.e. inhalation of a herbal powder), local application of a paste made of different types of herbs, drinking water mixed with herbs, water mixed with paper with Quranic verses written on it, and local application of or drinking of special oils. *Saaout* may also imply the use of herbal nasal drops or a similar material mixed with oil or an oily substance used as a nasal spray (Al-Habeeb, 2003).

Somatic and emotional symptoms call for different kinds of explanations and help-seeking behaviours. Somatic symptoms require the aid of physicians while emotional symptoms need religious help (El-Islam, 2008). Socially embarrassing and unprovoked aggressive behaviours are most likely to be attributed by traditional Arabs to the supernatural influence of demons (jinn) and hence call for the help of traditional healers who can exorcise such noxious agents (El-Islam & Abu Dagga, 1992). In cases of supposed jinn possession, underlying organic disorders should be excluded by physical examination

and by such investigations as are necessary. Any underlying mental disorder should be treated by the usual psychiatric methods, but the clinician should respect the cultural issues and avoid directly contradicting statements from the patient or relatives about the reality of possession (Khalifa & Hardie, 2005). Indeed, it may be appropriate for the therapist to call for the involvement of an Imam or religious leader in the management of such cases. The traditional healer must have strong faith in Allah to expel the jinn. This is usually done in one of three ways: remembrance of God and recitation of the Holy Quran (*dhikr*); blowing into the person's mouth, cursing and commanding the jinn to leave; and by calling upon Allah, remembering him and addressing his creatures (*ruqyah*). Some faith healers strike the possessed person, claiming that it is the jinn that suffer the pain. This practice, however, is deplored by Muslim scholars as being far from the principles of Islam and the instructions of the Prophet. Khalifa et al. (2011) reported that the majority of Muslim studied in UK believed in the existence of Jinn, black magic and the evil eye and approximately half of them stated that these could cause physical and mental health problems and that these problems should be treated by both doctors and religious figures.

5.13. The outcome of traditional healing for psychotic patients

Psychosis is a serious and potentially chronic mental disorder with a profound impact on patients and their families and society (Chong et al., 2006). Worldwide, it is ranked third among the most disabling conditions – following quadriplegia and dementia, higher than blindness and paraplegia – and imposes an enormous burden in terms of economic costs and human suffering (WHO, 2001c).

There was a general trend for the PANSS to scores to lessen (reflecting a reduction in symptom severity) between the day of admission to the centre to the time of discharge

for the psychotic patients treated in the THCs in Sudan (on average scores halved). Traditional healers make a unique contribution that is complementary to other approaches. They also tend to be the entry point for care in many low-income communities, including Sudan and other African countries (Richter, 2003). The help that patients received at these THCs serves as an alternative to clinical psychiatric treatment for people with mental disorders. This therefore raises questions about the effectiveness of the help they receive.

The observed reduction in the mean PANSS scores in our study in Sudan is similar to the findings in studies conducted by Abbo et al. (2011), who looked at the outcome of traditional healing in Uganda, where they observed a 30–40% reduction in PANSS scores. Similarly, Raguram et al. (2002), in a study in a temple environment in India, observed a 20% reduction in the Brief Psychiatric Rating Scale scores; they attributed the observed clinical improvement to the cultural power of residency in the healing temple and a supportive, non-threatening and reassuring setting, since their patients had not had any Western treatment. It is interesting to note that these results represent a level of clinical improvement that matches that achieved by many psychotropic agents, including the newer atypical agents (Raguram et al., 2002). In clinical studies, a reduction of at least 20%, 30%, 40% or 50% of the initial PANSS score has been used as a cut-off to define 'response' (Leucht et al., 2005). Because in our study the majority of psychotic patients did not have their psychotropic medication stopped by the traditional healers, it could be that they had medications from the Western health facilities together with the psychosocial input from the traditional healers, and that this combination afforded a good outcome.

Although traditional healing produced significant improvement in the signs and symptoms of psychotic disorders measured on the PANSS, still we cannot recommend traditional healing as an alternative to modern ways of management for people with mental

disorders, because there are issues concerning the approaches practised by the healers in these centres, such as isolating patients in an unhealthy, non-hygienic environment, depriving them of nutritional food, beating them, chaining them to the wall and, in some instances, stopping the patient's antipsychotic medication. Furthermore, administering traditional treatment without the patient's consent raises human rights and ethical issues; patients can be treated this way for up to 18 months.

It is important to mention at this point the effect of war and conflicts and instability in a country like Sudan, which has made a broad segment of the population prone to poverty and to lack access to health services; many patients with mental disorders consequently have no other choice but to approach traditional healers for help.

5.14. The reasons behind the observed clinical improvement in the traditional healing setting

First, the cultural power of staying in a THC in a very positive supportive environment has the effect of reducing severe agitation, aggression, talkativeness and most of the severe psychotic symptoms. Some researchers believe that such improvement is due to residence in the THC rather than the therapeutic interventions practised there. The second reason could be the supportive care and environment, regardless of the duration of stay in the THC. The third explanation for the improvement in our patients concerns the natural course of psychosis and schizophrenia that could be only due to spontaneous relief. The present study suggests that a few weeks staying in a supportive traditional healing environment might be better than long-term institutional care in a modern psychiatric setting. This may explain the better outcomes for schizophrenia reported in low-income traditional communities.

Peltzer & Machleidt (1992) studied the biopsychosocial therapeutic models for schizophrenia in three traditional African settings in terms of organization, environment and culture, family and follow-up, and compared them to the current Western psychiatric model. They concluded that the THC setting is in a number of ways superior to the Western model. On the other hand, things have changed in modern psychiatry: we are in the era of the atypical antipsychotics and have seen a huge shift from long-stay institutional care towards community psychiatric mental health care. Furthermore, the availability of psychiatry departments in general hospitals and the availability of mental health services at primary care level in many countries may have helped to make the management of psychiatric disorderseasierandmore comprehensive. The popularity of alternative medicine in the community should alert decision-makers to look at the difficulty of access to the health system (Al-Faris et al., 2008). The common reasons given for visiting traditional healers were: expectation of treatment success, preference for natural materials and non-response to medical treatment. Complementary and alternative medicine is a reality and it deserves more investigation and appropriate legislation and control (Al-Rowais et al., 2010).

5.15. Naturalistic observation of the outcome of the treatment of psychotic disorders by traditional healers

The outcome phase of the study was simply a naturalistic observation and did not involve any interventions; that is, it was not intended to be like a clinical trail, and the aim was not to compare traditional and medical treatment, to see which is better. Rather, we have just assessed and measured the clinical symptoms of the psychotic patients on admission to the traditional healer centre (THC) and then again when the traditional healer informed the

family that the patient was ready to go home, or when the family decided to take the patient home. These are the two conditions of discharge from a THC, as was also the case in the study in India by Raguram et al. (2002).

The message from the results of this Study, as well as those by Raguram et al. (2002) and Abbo et al. (2012), is that, when people with psychotic disorders stay for some time in a THC, their psychotic symptoms improve. This observation alone is sufficient to demand some collaboration and cooperation between mental health professionals and traditional healers in the management of people with mental disorders; it also suggests the need for further multi-centre collaborative international research in this outcome area.

Again, these three studies are naturalistic outcome studies, and it is not possible to say on the basis of their results alone that the traditional treatments are effective as or more effective than medical treatment. For instance, in this study and that by Abbo et al. (2012) most of the patients combined both medical and traditional treatment; furthermore, it would be unethical to ask patients with psychotic disorders in the THC to stop their medical treatment in order that the researchers could measure the outcomes of the traditional healing alone. The Abbo study has the advantage that it measured and assessed patient outcome after 6-month and 12-month intervals. Abbo et al. (2012) concurred with our view and stated that there is a 'need to acknowledge the role of the traditional healers in the management of the people with psychotic disorders and the need for collaboration between traditional and medical practitioners'.

In summary, there are two main points we would like to deliver to both mental health professionals and policy-makers. First, there is a need to acknowledge the role of the traditional healers in the management of the people with psychotic disorders. And second, collaboration is needed between the two systems, the traditional and medical, since most

patients combine both medical and traditional treatment, especially in developing countries, where mental health services are few and access limited and difficult. Most people have a strong cultural belief in traditional healers. So we can make use of the resources available in the THCs and the therapeutic and social environment and properly introduce medical services in these THC through this collaboration.

5.15.1. The need for international collaborative studies under WHO supervision to study the outcomes of traditional healing for mental disorders

This study and those by Raguram et al. (2002) and Abbo et al. (2012) are the first in which psychiatrists and mental health researchers have used clinical scales in the assessment of people with mental disorders receiving treatment in THCs. Previous studies have mentioned outcome only in term of patients and family subjective opinion regarding the improvement of the symptoms. There is therefore a need for multinational and international collaborative studies under WHO supervision to examine the outcomes of traditional healing for mental disorders, as with the pathways-to-care studies conducted in many countries under WHO supervision (Gater et al., 1991, 2005).

5.15.2. Advantages of the traditional healing approach

In comparisons of many different aspects of care provision, traditional healing approaches can be shown to have advantages over a medical health care system:

- *Culture.* Traditional healers and ritualists share the socio-cultural value system of their clients.

- *Personality of the healer.* Traditional healing recognizes the importance of the personality of the therapist, who has a confidence-inspiring charisma. In contrast, in

modern medicine the therapeutic technique rather than the personality of the therapist is assumed to be the most important factor.

- *Holistic approach.* Traditional healing practices usually integrate physical, psychological, spiritual and social methods, as opposed to modern medicine, which is becoming increasingly fragmented through over-specializing and technologizing.

- *Accessibility and availability.* Traditional healers are the first resort in most developing areas more because of their geographical permanence and accessibility than for their therapeutic merits. Modern health staff tends to be located only in urban areas and are highly mobile; the workforce also tends to experience rapid turn-over.

- *Affectivity therapy and altered state of consciousness.* Traditional healing utilizes suggestion and manipulation of culturally validated images and symbols, working on the patient's affectivity to achieve therapeutic goals, rather than relying on rational understanding and insight in order to correct faulty behaviour. The effective utilization of altered states of consciousness, induced by physiological and psychological means in the ritual therapy of substance dependence, for example, is of special interest in view of the assumed interrelationship of such states with opiate receptors and the neuro-endocrine opioid system.

- *Collective therapy.* Traditional healing in most cases involves the patient's family and other community members, who may join forces with the healer and patient to define the underlying problem and remedial action. Traditional healing in this sense tends to be relational. It also tends to foster kinship and community cohesion to facilitate the patient's reintegration.

- *Social engineering.* The traditional healer's advice carries weight through his prestige and charisma and may in some cases also be sanctioned by supernatural authority. The healer is therefore in a position to manipulate directly or indirectly the patient's immediate human environment to favour the achievement of the therapeutic goals.

- *Cost-effectiveness.* There is no doubt that utilization of the traditional healer is considerably more cost-effective for the public than utilization of the official health services. The actual cost varies of course and is usually individualized; often there are no obligatory fees but instead there is the expectation of donation.

There has been a long-standing debate about differences between African and Western healing (Cheetham & Griffiths, 1982), especially among sociologists and psychologists (Buhrmann, 1984; Cheetham & Griffiths, 1982; Gumede, 1990; Straker, 1994):

- African healers have a practical relationship with the patient, while Western doctors have an idealized (Rogerian) relationship.

- African healers have an open community relationship, while Western doctors have a confiding (private) relationship.

- African healers have a directive approach, while Western doctors mostly adopt a non-directive approach.

- •Traditional healers deal with the supernatural and natural world, while Western doctors deal mostly with the natural world.

- Traditional healers focus on who caused the patient's condition, while Western doctors focus is on what is happening to the patient.

- Traditional healers aim at social cohesion, while Western doctors aim at individual empowerment.

- Traditional healers tell clients why they have come, while in the Western approach clients tells the therapist why they have come.

- Traditional healers mostly incorporate pharmacology in addition to other healing methods, while Western approaches depend mainly on pharmacology.

- Traditional healers generally prescribe a ritual, while Western doctors very rarely prescribe ritual.

- Traditional healers' boundaries are often very wide (e.g. client lives with healer), while Western doctors are much more restricted (e.g. weekly visit).

- Traditional healers seethe client's motivation generally as conscious, while Western doctors see it generally as unconscious.

- Traditional healers believe dreams are direct communication from ancestors, while Western doctors believe dreams are intra-psychic and symbolic.

- Traditional healers' personal values are intrinsic to the process, while Western therapists' personal values are subjugated.

- Traditional healers' main tools are materials like bones, while Western doctors' main tool is verbal.

5.16.   Collaboration between traditional healers and mental health professionals

Traditional healers in Sudan perform many valuable services. Nevertheless, traditional healing is not formally institutionalized, as there is no responsible government body to guide and supervise the delivery of these services. Ahmed et al. (1999) stated that

traditional healers act as family counsellors in critical life events such as building a house, marriage and naming a child, and may have both judicial and religious functions. They often act as an agent between the physical and spiritual worlds. In fact, traditional healers, in the people's eyes, are true representatives of spiritual power (Fadol, 1975).

5.16.1. Methods of collaboration between traditional healers and medical services

The results of the present study suggest that collaboration between traditional healers and medical services in the treatment of people with mental illness is of great importance, because most people who have a mental illness go to traditional healers first, or they alternate between healers and doctors, thereby wasting a lot of resources.

The traditional healers themselves suggested three possible methods of collaboration: some suggested that they could refer some patients to a psychiatrist (while continuing with their traditional treatment) or for medical investigations; some suggested that psychiatrists or doctors trained in the management of the people with mental illness could visit the THCs regularly to manage patients and give them medication; and some suggested that they would prefer joint clinics with a psychiatrist to manage people with mental illness. These three methods of collaboration suggested by traditional healers are practical and achievable and could be incorporated within the national policies promoting collaboration between the two systems of care.

5.16.2. Traditional healer centres as community psychiatric centres

At the very least, we could make use of the THCs as community psychiatric centres in the Western model. Peltzer & Machleidt (1992) studied traditional healing methods in many African societies, as well as the biopsychosocial therapeutic models in a traditional African

setting (in Malawi). In particular, they looked at the therapeutic setting for schizophrenia in three traditional centres in terms of organization, environment, culture, family and follow-up, and compared it with the Western model of psychiatric practice. They concluded that the traditional approach was in a number of ways superior to the Western model. More research into the role of traditional healers in relation to people with mental illnesses is needed.

In the present study, majority (89%) of the traditional healers would accept collaboration with psychiatrists, and more than half (54%) believed that modern psychiatric medications are useful for treating people with mental illness. In fact, in Sudan, over the course of more than 30 years, a symbiotic working relationship has been developed with faith healers working in the area, as part of community-based mental health programmes in Gezira State in central Sudan. There was initially a great deal of resistance by the faith healers, who looked on the mental health professionals as competitors, but a non-confrontational approach brought home the message that there are indeed areas, for example emotional disorders, where collaboration between the two is possible (WHO, 2000).

5.16.3. Traditional healer incorporated as a resource for primary care

In developing countries, traditional medicine plays an important role in the promotional, preventive and curative aspects of health for a large percentage of the population. For this reason, traditional health practitioners should be incorporated as a resource for primary care whenever possible and appropriate. For instance, mental health professionals in a national ministry of health might empower traditional healers by:

- establishing links with them, with a view to working cooperatively;

- teaching mental health practices to traditional healers in order to improve their competencies;

- regulating traditional practice, for example through accreditation;

- establishing referral and counter-referral systems for people with mental disorders (for example, traditional healers could deal with mild and moderate emotional conditions buy refer patients with epilepsy and psychosis to formal health care providers);

- incorporating traditional healers into primary care or mental health facilities as translators (language and culture) and/or providers of some interventions (WHO, 2004).

5.16.4. Collaboration in the form of referral

If Western and traditional medicine are to work side by side, collaboration in the form of referral is essential (Sorsdahl et al., 2013). If, at a THC, patients with mental disorders require urgent standard (Western) treatment, or are not responding to the traditional treatment, the traditional healers should be encouraged to refer them to a Western healthcare professional. Willingness to collaborate does not necessarily equate to referral of patients, however. For example, an intervention focused on HIV/AIDS and tuberculosis, built on collaboration between traditional healers and Western medicine, reported that 99% of the traditional healers indicated a 'willingness' to collaborate, but only 43% actually referred any patients (Peltzer et al., 2006).

5.16.5. Application of the theory of planned behaviour (TPB) in the traditional healer setting

Identification of the factors associated with referral of mentally ill patients by traditional healers is central to the development and design of interventions to ensure traditional healers refer more frequently and appropriately. Behavioural theories such as the Theory of Planned Behaviour (TPB) can assist with identifying the determinants of the referral behaviour of traditional healers (Sorsdahl et al., 2013).

5.16.6. Obstacles on the way to collaboration and how to overcome them

Patel (2011) pointed out that there are many obstacles to collaboration between biomedical and traditional care providers, such as the mutual suspicion between the two sectors and the concerns of the biomedical sector and the religious establishment regarding the 'unscientific' and unorthodox practices of traditional healers. The diversity of traditional healers – who encompass a wide range of practitioners including herbalists, spirit mediums, diviners, traditional and faith healers – is also a major problem. Related to this barrier is the lack of agreement over what constitutes evidence to guide policy and practice when the epistemologies of traditional medicine differ so vastly from that of biomedicine. Furthermore, there is also no doubt that some traditional healers do harm, not least through imposing considerable financial burden on the unwell.

In spite of these obstacles, Patel (2011) highlighted the need for innovative experiments in making traditional healers potential co-partners in mental health care. In order for such a collaboration to succeed, one must begin by acknowledging that different therapies are not competitive but complementary and the preference for complementary care is not simply the result of lack of availability of biomedical care.

The WHO (1991) two decades ago declared that 'the full and proper use of traditional medicine makes an important and clear contribution to countries' efforts to achieve health for all by the year 2000'. But we are still as far from that goal today. Therefore, partnership is needed between biomedical and traditional care providers to reduce the treatment gap for mental illnesses in many African and developing countries. There is a need for linkages between traditional healers and western-style medicine as they play complementary roles (Mbwayo, 2013).

Due to the important role that religious and cultural beliefs may have on perceptions of mental illness there is a need for close collaboration between traditional healers and mental health workers in order to achieve a culturally sensitive health care system (Rashid et al., 2012). Pouchly (2012) argued that working collaboratively between mental health clinicians and traditional healers would address many of the difficulties in access to mental health services.

5.16.7. Need for education and training of traditional healers

It will be necessary to convince traditional healers of the benefits and the importance of giving modern psychiatric medications to their patients, under a psychiatrist's supervision. At the same time, they can continue the beneficial traditional methods of treatment – those that do not do the patient any harm. Moreover, improving the education level of traditional healers might enable them to have a better understanding of mental illness and of the benefits of modern psychiatric treatment.

Asuni (1979) argued that in the course of incorporating traditional healers into the official healthcare system it is likely to be necessary to educate them about the concepts of germs and infection. Moreover, the need to have written records of patients, as illiterate

healers will be unable to maintain such files. These and other administrative issues must be foreseen and tackled appropriately. Makanjuola et al. (2000) reported that many traditional practitioners expressed interest in attending seminars aimed at improving their skills and pointed out the urgent need to organize a training programme for traditional practitioners, to expose them to the general rules in medical care. Such training programmes for the traditional healers can be conducted in Sudan as well. We should take this apportunity that, the majorty of the traditional healers in our study are willing to collaborate with mental health professionals. Mbwayo et al. (2013) suggested that, there is a need to educate healers how to recognize different types of mental disorders and make referrals when patients are not responding to their treatments.

6. CONCLUSION

Use of a traditional healer's services was predicted by lower education level, unemployment and a belief in supernatural causes of mental illness. Use of psychiatric services was predicted by high educational level, being employed, and alcohol and drug abuse. Patients with psychosis in particular benefited from traditional healing. More than two-thirds of the traditional healers were willing to collaborate with psychiatrists in Sudan. Among traditional healers, belief in the effectiveness of psychiatric medication was positively related to their educational level. The perceived reasons for the mental illness determined what kind of help-seeking pathway the patients took. The treatment approaches of the traditional healers were linked to the perceived causes of the mental illness.

Mental health cannot be achieved without achieving a balance in life with others and with the environment. There is little formal interaction between the biomedical and traditional sectors in Sudan; if this situation remains unchanged, it may be impossible to meet patients' needs in the near future. The role of the traditional sector in the mental health care system needs to be addressed. That is, Sudan needs to move towards officially recognizing traditional healers as health care providers for people with mental disorders and to facilitate their working side by side with Western medicine, at least within primary health care. An integrated approach combining Western and traditional medicine may be especially useful and culturally acceptable for the management of patients with psychotic disorders. Further research would be needed to assess different methods of collaboration between the two systems.

6.1. Strengths of the study

This is the first study to have recorded the characteristics of people with mental disorders receiving treatment in the traditional healer setting in Sudan. Few such studies have been conducted in the traditional healer setting worldwide. A full psychiatric diagnostic assessment of patients was undertaken, whereas other studies have used only general evaluations of psychological distress. We produced valuable information about traditional healing in relation to mental disorders that can be used by policy-makers and decision-makers to improve mental health services.

We controlled for selection bias in our sampling of the traditional healer centres by numbering the all 30 centres in the study area (in and around Khartoum) that admitted people with mental disorders and then asking a third party to randomly choose 10 numbers between 1 and 30. Also, we used valid and reliable assessment tools (interview questionnaire) the MINI and the PANSS) that had been tested, validated and used in previous studies in Sudan. The study was conducted by a team of qualified researchers who had been undertaken enough training to use the research instrument. The study was conducted under the supervision of an expert psychiatrist from the University of Malaya. Our study is the first study to use standard clinical assessments to try to evaluate the outcome of traditional healing practices.

6.2. Limitations of the study

Due to lack of security and the poor structure of the road system in some parts of the country, the study was conducted in the central part of Sudan, and the findings cannot necessarily be generalized to other parts of the country, such as western or southern Sudan.

While the study was the first to have used standardized instruments to try to assess the outcome of traditional healing, the findings are only suggestive and not conclusive. It was not feasible to conduct any sort of blinded, controlled evaluation of traditional healing. Further, the picture is complicated by the fact that almost 80% of the psychotic patients were concurrently taking psychotropic medication (for the other 20% medication had been stopped by the traditional healers) and it was not possible for us to insist that patients receive only traditional healing or Western care.

Our study was cross-sectional and can determine only associations, not causation. It is therefore important to be cautious in generalizing conclusions to all users of traditional healing services.

The study relied on respondents' recall of treatment processes, especially with regard to contact with psychiatric services; there may be a recall bias, although we tried to minimize this by cross-checking the information received from patients with the relatives accompanying the patients.

Another factor we need to consider when interpreting these findings is that the respondents may have been reluctant to describe in detail their experience of the traditional healing process. Also, respondents may have tried to provide socially desired answers to a team of researchers perceived as representing Western medicine.

6.3. Future directions

Regardless of the shortcomings and limitations, the research will have a useful role in helping to assess the needs and resources for the development of locally relevant mental health programmes. Future research should focus more on the roles that traditional healers play in delivering mental health services. It is important to investigate the types of mental

illnesses treated by traditional healers, and their methods of identifying and treating mental illness in their patients. There is a need to educate healers on how to recognize different types of mental disorders and make referrals when patients are not responding to their treatments. It is also necessary to carry out detailed assessment of the pathway to psychiatric care among psychiatric patients in Sudan. Large-scale and multinational outcome studies are needed to assess the outcome of traditional healing, with follow-up at regular intervals, such as 6 months and 12 months, and with possibly larger sample sizes, to explain the effects of traditional healing in psychosis. Future studies should also focus on methods of collaboration between traditional healers and mental health professionals for culturally acceptable, combined and integrated management of people with mental disorders.

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Appendix A

The Patient General Interview Questionnaire

1-Traditional Healer Center-------------- Date ---/---/----

2- How many times the patient comes to the service?

  First time ☐   More than one time ☐

3-Age of the patient: ----------

4-Sex: Male ☐   Female ☐

5- Area of residence in Sudan:

  North ☐   South ☐   East ☐   West ☐   Central ☐

6-Religion: Muslim ☐   Christian ☐   Others ☐

7-Marital Status: Single ☐   Married ☐   Separated ☐

8-Education Level:

  Illiterate ☐   Primary School ☐   Secondary School ☐   University ☐

9-Work Status: Working ☐   Unemployed ☐   Student ☐

10-Residence: Near to the Hospital ☐   Faraway ☐

11- Duration of untreated illness? ------------- Months

12- Duration of untreated psychosis? -----------Months

13-History of medical illness: Yes [ ]   No [ ]

14- History of Similar condition: Yes [ ]   No [ ]

15- Family history of mental illness: Yes [ ]   No [ ]

16- History of alcohol abuse: Yes [ ]   No [ ]

17- History of drug abuse: Yes [ ]   No [ ]

18-Have you visited any psychiatric services before?   Yes [ ]   No [ ]

19-If No, why?

     He did not know about the services   [ ]

     Expensive or not affordable prices   [ ]

     Far away from home   [ ]

     not effective in treating the patient   [ ]

20-If yes, was any psychiatric medication given: Yes [ ]   No [ ]

21- Any precipitating factors or psychosocial stressors:

      Intimate relationships problemwith children [ ]   relatives or family [ ]

      Employment or work problem   [ ]

      Financial problems   [ ]

      Housing problem   [ ]

      legal problems   [ ]

      Problem of ill health   [ ]

22-Have you visited any traditional healer before?   Yes [ ]   No [ ]

23- Duration of stay in the traditional healer center: ----------

24- Type of intervention provided in traditional healer center?

Limitation of food ☐

Putting the patient on chains ☐

Putting the patient on dark rooms ☐

Restricting visitors ☐

Stopping psychotropic medications ☐

Beating the patient ☐

25- Type of traditional healer healing services provided:

Recitation of the Holy book ☐

Providing of Bakharat ☐

Providing of Mehaya ☐

Drinking or washing the body with holy water ☐

26- The illness is attributed to:

Jinn ☐

Satan ☐

Evil spirit ☐

Wrong doing ☐

Other reasons ---------

27-How much money spends on traditional healing? -------------SDG

28- The patient goes to the traditional healer:

Alone ☐

By family and friends ☐

The patient was forced to go ☐

Voluntarily ☐

29- The patient came to psychiatry service: Voluntary ☐   Forced ☐

30- Why the patient goes to the traditional healer first because (of):

Effective treatment ☐

Affordable cost ☐

It is near home ☐

APPENDIX B

The Traditional Healers' Profile

1- Age:

2- Education level:

3- Occupation:

4- Place of work:

5- Previous Job:

6- For how long did you practice treating mentally ill people?

7- How did you learn treating the mentally ill people?

8- How do you identify mental illness?

9- What are the methods of treatment?

10- After how long did the patient respond to this treatment (For how long do you keep the mentally ill patients in your center)?

11- How many patients with mental illness do you see every day?

12- What do you think about medical treatment for mental illness?

13- What do you think about patients who take traditional treatment and medical treatment at the same time?

14- Is it possible to have integration and collaboration of medical treatment and traditional treatment?

15- If yes how?

APPENDIX C

Informed Consent for Interview

Department of Psychological Medicine,

Faculty of Medicine, University Of Malaya

Informed Consent for Interview

Dear …………………………………………………………

I am Dr. Ehab Ali Sorketti, a PhD student from the Department of Psychological Medicine, Faculty of Medicine, the University of Malaya, Malaysia. I/We would like to ask you a few questions.

The interview will take between 30 to 60 minutes. All the information obtained and all information that you give us about yourself will be strictly confidential.

You are completely free to take part or not to take part in this study. If you decide that you do not want to be part of this study, this will not be held against you.

If you would like to take part in this study, please sign the form below to allow us to proceed with the interview. If you would like to withdraw from the study at any point or for any reason, please feel free to do so and no question will be asked.

If you do have any questions or queries or would like more information about the study, please contact Dr. Ehab Ali Sorketti Koriana at the telephone number () or e-mail me at: ehabsorketti@yahoo.com

Thank you for your cooperation.

Yours Faithfully, **Dr. Ehab Ali Sorketti Koriana**

I **agree / disagree** to participate in your study

Name (Block Letters): _____

Date: _____   **Signature:** _____

APPENDIX D

Definition of Some Terms

- *Bakhara* are special verses written on paper to burn it in fire and use the smoke.
- *Baraka* is sand taken from a holy person's grave.
- *Fatta* is special meal made of bread rice and meat provided in festivals.
- *Fatiha* are special prayers offered by Sheikhs to their visitors.
- *Faki* is a special name given to holy men in Sudan.
- *Fageer* is a special name given to holy men in Sudan
- *Holliya* is a special ceremony to celebrate the yearly sheikhs' anniversary.
- *Karamat* are unusual things that happened to the Sheikh to show his piety.
- *Kogour* is a special type of healing from African culture.
- *Mehaya* are verses written in a paper, dissolved in water and drunk.
- *Murideen* are the followers of sheikhs.
- *Qurban* is a special gift given from the visitors to sheikhs or their grave.
- *Sharief* is a name given to a person who belongs to a holy family.
- *Shiekh* is a special name given to holy men in Sudan.
- *Tariga* is a name given to the followers of certain sheikhs.
- *Tilawa* is the recitation of the holy Quran.
- *Tajweed* is the reading of the holy Quran correctly.
- *Talasim* are figures and letters and special drawing that have certain meanings.
- *Waly* is a special name given to the pious men who fear God in Sudan.
- *Wara* is strong fear from God.
- *Zikir* is aspecial prayer practiced by traditional healers individually or in group.
- *Zuhd* means not looking for livelihood things.
- *Zowara* is money or any valuable thing that is given to the sheikh or his grave by Visitors.
- *Zar* is a special ceremony for the person possessed by certain spirits.

National Ministry of Health

General Directorate of Planning,
Policy & Research

**Directorate of Health Economic,
Research & Information
Research Section**

وزارة الصحة القومية

الإدارة العامة للتخطيط والسياسات
والبحوث
إدارة اقتصاديات الصحة والبحوث
والمعلومات
قسم البحوث الصحية

Date 26/2/2009

No: fmoh/rd/EC/81.02.09

ETHICAL CLEARANCE CERTIFICATE

This is to certify that, the proposal (No.81-02-09) entitled **(The Traditional Belief System in Relation to Mental Health and Psychiatric Services in Sudan)** introduced by, **Dr. Ehab Ali Sorketti Koriana**, from **Department of Psychological Medicine, Faculty of Medicine, University of Malaya Kuala Lumpur, Malaysia** has been approved by the **National Research committee National Ministry of Health** to be carried out in the Sudan. A final report is requested at the end of the study.

Dr. Iman Abdalla Mustafa
Reporter of the
National Research Ethics Review Committee

APPENDIX F

Table: Description and measurement of variables in logistic regression

Measure	Coding and Reference Category	Level of Measurement
Dependent variable		
Previously visited a psychiatric clinic	0=no, 1=yes. No visit is reference category.	Categorical
Covariates		
Demographic Factors		
Age	Age of patient in years	Continuous
Sex	Gender of patient (0=female, 1=male). Female is reference category.	Binary
Residence	Residence of patient in Sudan. 1=North, 2=South, 3=East, 4=West, 5=Central. North is reference category.	Categorical
Marital status	Marital status of patient. 1=single, 2=married, 3=divorced. Single is reference category.	Categorical
Education level	Education level completed by patient (0=illiterate, 1=primary, 2=secondary, 3=university). Illiterate is reference category.	Categorical
Occupation	Occupational type of patient (1=working, 2=not working, 3=student). Working is reference category.	Categorical
Health centre	Proximity of patient to health centre (0=faraway, 1=nearby). Faraway is reference category.	Binary
Illness History		
Diagnosis	Diagnosis of mental illness of patient (1=major depressive episode, 2=dysthymia, 3=manic episode, 4=panic disorder, 5=agoraphobia, 6=social phobia, 7=obsessive compulsive disorder, 8=alcohol dependence/abuse, 9=drug dependence/abuse, 10=psychotic disorder (schizophrenia), 11=generalised anxiety disorder). Major depressive episode is reference category.	Categorical
Duration of untreated illness	Duration of untreated illness of patient in years	Continuous
Past history of mental illness	0=no, 1=yes. No history is reference category.	Categorical
Past history of medical illness	0=no, 1=yes. No history is reference category.	Binary

Measure	Coding and Reference Category	Level of Measurement
Family history of mental illness	0=no, 1=yes. No history is reference category.	Binary
Alcohol abuse	0=no, 1=yes. No abuse is reference category.	Binary
Drug abuse	0=no, 1=yes. No abuse is reference category.	Binary
Precipitating factors	1=family social, 2=financial legal, 3=ill health, 4=nothing. Family social is reference category.	Categorical

Family Attributions of Mental Illness

Jinn	0=no, 1=yes. No is reference category.	Binary
Satan	0=no, 1=yes. No is reference category.	Binary
Evil spirit	0=no, 1=yes. No is reference category.	Binary
Wrongdoing	0=no, 1=yes. No is reference category.	Binary
Magic	0=no, 1=yes. No is reference category.	Binary
Something else	0=no, 1=yes. No is reference category.	Binary

Table: Logistic Regression Analysis: Predictors of contact with psychiatric services

Predictor variables		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1ᵃ	Maseed			17.738	9	.038			
	Maseed(1)	3.535	1.371	6.645	1	.010	34.286	2.333	503.891
	Maseed(2)	.492	.966	.259	1	.611	1.636	.246	10.864
	Maseed(3)	-1.310	1.534	.729	1	.393	.270	.013	5.459
	Maseed(4)	.404	.672	.361	1	.548	1.498	.401	5.590
	Maseed(5)	.154	.725	.045	1	.832	1.167	.281	4.835
	Maseed(6)	-1.366	.823	2.759	1	.097	.255	.051	1.279
	Maseed(7)	-.109	.788	.019	1	.890	.897	.191	4.205
	Maseed(8)	-.915	.771	1.410	1	.235	.401	.088	1.814
	Maseed(9)	-1.194	1.148	1.081	1	.298	.303	.032	2.876
	Age	.013	.021	.343	1	.558	1.013	.971	1.056
	Sex(1)	.795	.556	2.041	1	.153	2.214	.744	6.589
	Residence			12.021	4	.017			
	Residence(1)	1.218	.615	3.919	1	.048	3.379	1.012	11.282
	Residence(2)	3.850	1.817	4.489	1	.034	47.012	1.334	1656.179
	Residence(3)	-1.085	.690	2.472	1	.116	.338	.087	1.307
	Residence(4)	1.560	.816	3.655	1	.056	4.760	.961	23.565
	Marital status			7.212	2	.027			
	Marital status(1)	-2.796	1.187	5.548	1	.019	.061	.006	.625
	Marital status(2)	-1.618	1.134	2.036	1	.154	.198	.021	1.831
	Education			8.036	3	.045			
	Education(1)	-2.685	1.108	5.875	1	.015	.068	.008	.598
	Education(2)	-1.449	.987	2.152	1	.142	.235	.034	1.627
	Education(3)	-1.452	1.022	2.020	1	.155	.234	.032	1.734
	Occupation			3.528	2	.171			
	Occupation(1)	.649	.808	.645	1	.422	1.913	.393	9.324
	Occupation(2)	-.229	.731	.099	1	.754	.795	.190	3.329
	Health Service(1)	.499	.452	1.216	1	.270	1.646	.679	3.993
	DUI	.008	.010	.682	1	.409	1.008	.989	1.028
	PMI(1)	-.337	.492	.468	1	.494	.714	.272	1.873
	PHMI(1)	2.843	.623	20.802	1	.000	17.162	5.059	58.221
	FHMI(1)	-.854	.556	2.355	1	.125	.426	.143	1.267
	Alcohol abuse(1)	-2.244	.941	5.679	1	.017	.106	.017	.671
	Drug abuse(1)	4.085	1.120	13.307	1	.000	59.436	6.620	533.610
	Pricipitat Fact			11.601	3	.009			
	Pricipitat Fact(1)	.900	.478	3.539	1	.060	2.459	.963	6.282
	Pricipitat Fact(2)	1.835	.561	10.695	1	.001	6.268	2.086	18.829
	PricipitatFact(3)	.576	1.034	.310	1	.578	1.779	.234	13.501

PreviousVisitTH(1)	1.647	.428	14.830	1	.000	5.193	2.245	12.010
Visits(1)	-.415	.414	1.006	1	.316	.660	.293	1.486
TimespendMaseed	-.038	.029	1.737	1	.187	.963	.911	1.018
RestrictFood(1)	-.409	.783	.273	1	.601	.664	.143	3.081
ChainPt(1)	-.532	.585	.828	1	.363	.587	.187	1.848
BeatPt(1)	.288	.475	.367	1	.545	1.334	.525	3.385
KeepDarkRom(1)	-1.999	.556	12.903	1	.000	.136	.046	.403
RestrictVistors(1)	1.457	.736	3.919	1	.048	4.293	1.015	18.166
StopMedication(1)	1.500	.650	5.318	1	.021	4.481	1.252	16.032
Bakhrat(1)	-19.965	22944.805	.000	1	.999	.000	.000	.
Mehayat(1)	.298	.803	.138	1	.710	1.348	.279	6.509
Gin(1)	-2.376	.654	13.200	1	.000	.093	.026	.335
Shiatan(1)	1.077	.630	2.928	1	.087	2.937	.855	10.092
evilSprit(1)	-1.434	.579	6.143	1	.013	.238	.077	.741
wongdoing(1)	1.545	.600	6.641	1	.010	4.688	1.448	15.183
Magic(1)	-.342	.508	.452	1	.501	.711	.262	1.924
Costofttt			13.833	2	.001			
Costofttt(1)	-4.840	1.347	12.913	1	.000	.008	.001	.111
Costofttt(2)	-5.364	1.464	13.422	1	.000	.005	.000	.083
Ptbrought(1)	-1.066	1.230	.752	1	.386	.344	.031	3.834
methodptbrght(1)	1.720	.550	9.775	1	.002	5.584	1.900	16.412
Effectivettt(1)	-5.740	1.636	12.309	1	.000	.003	.000	.079
Nearby(1)	2.376	.751	10.005	1	.002	10.767	2.469	46.949
LowCost(1)	-2.440	.616	15.714	1	.000	.087	.026	.291
Diagnosis			29.540	10	.001			
Diagnosis(1)	4.626	1.062	18.982	1	.000	102.100	12.742	818.086
Diagnosis(2)	1.468	2.210	.441	1	.507	4.342	.057	330.537
Diagnosis(3)	4.000	.998	16.061	1	.000	54.591	7.719	386.070
Diagnosis(4)	-16.906	9378.464	.000	1	.999	.000	.000	.
Diagnosis(5)	25.374	23182.550	.000	1	.999	104702601150.145	.000	.
Diagnosis(6)	2.830	1.298	4.751	1	.029	16.941	1.330	215.767
Diagnosis(7)	9.369	1.933	23.483	1	.000	11715.344	264.930	########
Diagnosis(8)	5.621	1.623	11.988	1	.001	276.038	11.460	6649.001
Diagnosis(9)	17.508	22648.444	.000	1	.999	40151243.154	.000	.
Diagnosis(10)	4.072	1.044	15.203	1	.000	58.681	7.577	454.442
Constant	28.240	22944.805	.000	1	.999	##############		

Dependent Variable: Visit to Psychiatric Clinic,

a. Variable(s) entered on step 1: Maseed, Age, Sex, Residence, Maritalstatus, Education, Occupation, HealthService, DUI, PMI, PHMI, FHMI, Alcoholabuse, Drugabuse, Precipitating Fact, PreviousVisitTH, Visits, Time spend Maseed, Restrict Food,ChainPt, BeatPt, KeepDarkRom, RestrictVistors, StopMedication, Bakhrat, Mehayat, jinn, Satan, evilSprit, Wong doing , Magic, Cost of ttt, Pt brought, method ptbrght, Effective ttt, Near by, Low Cost, Diagnosis

TABLE: PSYCHOSIS SAMPLE: ORIGINAL HIERARCHICIAL LOGISTIC REGRESSION

BEFORE NON-SIGNIFICANT VARIABLES WERE DROPPED FROM THE MODEL

	B	S.E.	Sig.	Exp(B)	95% C.I.for EXP(B)	
					Lower	Upper
Step 1[a] Age	-.312	.107	.003	.732	.594	.902
Residence			.020			
Residence(1)	-1.994	3.145	.526	.136	.000	64.700
Residence(2)	-10.670	3.845	.006	.000	.000	.044
Residence(3)	-4.311	2.628	.101	.013	.000	2.317
Marital status			.005			
Marital status(1)	9.712	3.010	.001	16522.264	45.294	6026951.382
Marital status(2)	-6.781	15.196	.655	.001	.000	9.777E9
Occupation			.003			
Occupation(1)	-11.844	3.492	.001	.000	.000	.007
Occupation(2)	-41.313	10297.616	.997	.000	.000	.
Health Service(1)	5.603	1.964	.004	271.208	5.774	12739.435
PMI(1)	-2.364	1.360	.082	.094	.007	1.353
FHMI(1)	-7.721	2.483	.002	.000	.000	.058
Alcohol abuse(1)	-10.684	3.155	.001	.000	.000	.011
Drug abuse(1)	8.608	2.915	.003	5474.518	18.078	1657856.876
Pricipitat Fact			.006			
Pricipitat Fact(1)	4.224	1.819	.020	68.313	1.932	2414.900
Pricipitat Fact(2)	-5.832	3.065	.057	.003	.000	1.192
Pricipitat Fact(3)	-7.306	2.328	.002	.001	.000	.064
Jin(1)	7.732	3.415	.024	2280.370	2.824	1841327.211
Evil Sprit(1)	12.056	3.631	.001	172208.250	139.615	2.124E8
Wong doing(1)	-4.606	1.755	.009	.010	.000	.312
Magic(1)	-4.733	2.779	.089	.009	.000	2.044
Something else(1)	-12.868	4.235	.002	.000	.000	.010
Constant	19.359	7.932	.015	2.555E8		

Dependent Variable: Visit to Psychiatric Clinic,

a. Variable(s) entered on step 1: Age, Residence, Marital status, Occupation, Health Service,
 PMI (past mental illness), FHMI (family history of mental illness), Alcohol abuse, Drug abuse,
Precipitating Fact,
 , Satan, Evil Sprit, Wong doing, Magic, something else.

APPENDIX G

M.I.N.I.

MINI INTERNATIONAL NEUROPSYCHIATRIC INTERVIEW

English Version 5.0.0

DSM-IV

USA: **D. Sheehan, J. Janavs, R. Baker, K. Harnett-Sheehan, E. Knapp, M. Sheehan**
University of South Florida - Tampa

FRANCE: **Y. Lecrubier, E. Weiller, T. Hergueta, P. Amorim, L. I. Bonora, J. P. Lépine**
Hôpital de la Salpétrière - Paris

DISCLAIMER

Our aim is to assist in the assessment and tracking of patients with greater efficiency and accuracy. Before action is taken on any data collected and processed by this program, it should be reviewed and interpreted by a licensed clinician.

This program is not designed or intended to be used in the place of a full medical and psychiatric evaluation by a qualified licensed physician – psychiatrist. It is intended only as a tool to facilitate accurate data collection and processing of symptoms elicited by trained personnel.

M.I.N.I. 5.0.0 (July 1, 2006)

Patient Name:			*Patient Number:*		
Date of Birth:			*Time Interview Began:*		
Interviewer's Name:			*Time Interview Ended:*		
Date of Interview:			*Total Time:*		

	MODULES	TIME FRAME	MEETS CRITERIA	DSM-IV	ICD-10	
A	MAJOR DEPRESSIVE EPISODE	Current (2 weeks)	☐	296.20-296.26 Single	F32.x	❑
		Recurrent	☐	296.30-296.36 Recurrent	F33.x	❑
	MDE WITH MELANCHOLIC FEATURES	Current (2 weeks)	☐	296.20-296.26 Single	F32.x	❑
	Optional			296.30-296.36 Recurrent	F33.x	❑
B	DYSTHYMIA	Current (Past 2 years)	☐	300.4	F34.1	❑
C	SUICIDALITY	Current (Past Month) Risk: ☐ Low ☐ Medium ☐ High	☐			❑
D	MANIC EPISODE	Current	☐	296.00-296.06	F30.x-F31.9	❑
		Past	☐			
	HYPOMANIC EPISODE	Current	☐	296.80-296.89	F31.8-F31.9/F34.0	❑
		Past	☐			
E	PANIC DISORDER	Current (Past Month)	☐	300.01/300.21	F40.01-F41.0	❑
		Lifetime	☐			
F	AGORAPHOBIA	Current	☐	300.22	F40.00	❑
G	SOCIAL PHOBIA (Social Anxiety Disorder)	Current (Past Month)	☐	300.23	F40.1	❑
H	OBSESSIVE-COMPULSIVE DISORDER	Current (Past Month)	☐	300.3	F42.8	❑
I	POSTTRAUMATIC STRESS DISORDER	Current (Past Month)	☐	309.81	F43.1	❑
J	ALCOHOL DEPENDENCE	Past 12 Months	☐	303.9	F10.2x	❑
	ALCOHOL ABUSE	Past 12 Months	☐	305.00	F10.1	❑
K	SUBSTANCE DEPENDENCE (Non-alcohol)	Past 12 Months	☐	304.00-.90/305.20-.90	F11.1-F19.1	❑
	SUBSTANCE ABUSE (Non-alcohol)	Past 12 Months	☐	304.00-.90/305.20-.90	F11.1-F19.1	❑
L	PSYCHOTIC DISORDERS	Lifetime	☐	295.10-295.90/297.1/	F20.xx-F29	❑
		Current	☐	297.3/293.81/293.82/ 293.89/298.8/298.9		
	MOOD DISORDER WITH PSYCHOTIC FEATURES	Lifetime	☐	296.24/296.34/296.44	F32.3/F33.3/	❑
		Current	☐	296.24/296.34/296.44	F30.2/F31.2/F31.5 F31.8/F31.9/F39	❑
M	ANOREXIA NERVOSA	Current (Past 3 Months)	☐	307.1	F50.0	❑
N	BULIMIA NERVOSA	Current (Past 3 Months)	☐	307.51	F50.2	❑
	ANOREXIA NERVOSA, BINGE EATING/PURGING TYPE	Current	☐	307.1	F50.0	❑

| O | GENERALIZED ANXIETY DISORDER | Current (Past 6 Months) | ☐ | 300.02 | F41.1 | ☐ |
| P | ANTISOCIAL PERSONALITY DISORDER
Optional | Lifetime | ☐ | 301.7 | F60.2 | ☐ |

Which problem troubles you the most? Indicate your response by checking the appropriate check box(es). ⬏

GENERAL INSTRUCTIONS

The M.I.N.I. was designed as a brief structured interview for the major Axis I psychiatric disorders in DSM-IV and ICD-10. Validation and reliability studies have been done comparing the M.I.N.I. to the SCID-P for DSM-III-R and the CIDI (a structured interview developed by the World Health Organization for lay interviewers for ICD-10). The results of these studies show that the M.I.N.I. has acceptably high validation and reliability scores, but can be administered in a much shorter period of time (mean 18.7 ± 11.6 minutes, median 15 minutes) than the above referenced instruments. It can be used by clinicians, after a brief training session. Lay interviewers require more extensive training.

INTERVIEW:

> In order to keep the interview as brief as possible, inform the patient that you will conduct a clinical interview that is more structured than usual, with very precise questions about psychological problems which require a yes or no answer.

GENERAL FORMAT:

> The M.I.N.I. is divided into **modules** identified by letters, each corresponding to a diagnostic category.
> •At the beginning of each diagnostic module (except for psychotic disorders module), screening question(s) corresponding to the main criteria of the disorder are presented in a **gray box**.
> •At the end of each module, diagnostic box(es) permit the clinician to indicate whether diagnostic criteria are met.

CONVENTIONS:

> *Sentences written in* « normal font » should be read exactly as written to the patient in order to standardize the assessment of diagnostic criteria.
>
> *Sentences written in* « CAPITALS » should not be read to the patient. They are instructions for the interviewer to assist in the scoring of the diagnostic algorithms.
>
> *Sentences written in* « **bold** » indicate the time frame being investigated. The interviewer should read them as often as necessary. Only symptoms occurring during the time frame indicated should be considered in scoring the responses.
>
> *Answers with an arrow above them* (➡) indicate that one of the criteria necessary for the diagnosis(es) is not met. In this case, the interviewer should go to the end of the module, circle « **NO** » in all the diagnostic boxes and move to the next module.
>
> When terms are separated by a *slash (/)* the interviewer should read only those symptoms known to be present in the patient (for example, question H6).
>
> *Phrases in (parentheses)* are clinical examples of the symptom. These may be read to the patient to clarify the question.

RATING INSTRUCTIONS:

> All questions must be rated. The rating is done at the right of each question by circling either Yes or No. Clinical judgment by the rater should be used in coding the responses. The rater should ask for examples when necessary, to ensure accurate coding. The patient should be encouraged to ask for clarification on any question that is not absolutely clear.
>
> The clinician should be sure that <u>each dimension</u> of the question is taken into account by the patient (for example, time frame, frequency, severity, and/or alternatives).
> <u>Symptoms better accounted for by an organic cause or by the use of alcohol or drugs should not be coded positive in the M.I.N.I.</u> The M.I.N.I. Plus has questions that investigate these issues.

A. MAJOR DEPRESSIVE EPISODE

(➡ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

A1	Have you been consistently depressed or down, most of the day, nearly every day, for the past two weeks?	NO	YES
A2	In the past two weeks, have you been much less interested in most things or much less able to enjoy the things you used to enjoy most of the time?	NO	YES
		➡	
	IS **A1** OR **A2** CODED **YES?**	NO	YES

A3 **Over the past two weeks, when you felt depressed or uninterested:**

a Was your appetite decreased or increased nearly every day? Did your weight decrease or increase without trying intentionally (i.e., by ±5% of body weight or ±8 lbs. or ±3.5 kgs., for a 160 lb./70 kg. person in a month)?
IF **YES** TO EITHER, CODE **YES**. .... NO   YES *

b Did you have trouble sleeping nearly every night (difficulty falling asleep, waking up in the middle of the night, early morning wakening or sleeping excessively)? .... NO   YES

c Did you talk or move more slowly than normal or were you fidgety, restless or having trouble sitting still almost every day? .... NO   YES *

d Did you feel tired or without energy almost every day? .... NO   YES

e Did you feel worthless or guilty almost every day? .... NO   YES

f Did you have difficulty concentrating or making decisions almost every day? .... NO   YES

g Did you repeatedly consider hurting yourself, feel suicidal, or wish that you were dead? .... NO   YES

ARE **5** OR MORE ANSWERS (**A1-A3**) CODED **YES**?

> **NO   YES ***
>
> *MAJOR DEPRESSIVE EPISODE, CURRENT*

IF PATIENT HAS CURRENT MAJOR DEPRESSIVE EPISODE CONTINUE TO A4,
OTHERWISE MOVE TO MODULE B:

A4 a During your lifetime, did you have other episodes of two weeks or more when you felt depressed or uninterested in most things, and had most of the problems we just talked about?   ➡   NO   YES

b In between 2 episodes of depression, did you ever have an interval of at least 2 months, without any depression and any loss of interest?

> **NO   YES**
>
> *MAJOR DEPRESSIVE EPISODE, RECURRENT*

* If patient has Major Depressive Episode, Current, use this information in coding the corresponding questions on page 5 (A6d, A6e).

MAJOR DEPRESSIVE EPISODE WITH MELANCHOLIC FEATURES (optional)

(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

IF THE PATIENT CODES POSITIVE FOR A CURRENT MAJOR DEPRESSIVE EPISODE (**A3** = **YES**), EXPLORE THE FOLLOWING:

A5	a	During the most severe period of the current depressive episode, did you lose almost completely your ability to enjoy nearly everything?	NO	YES
	b	During the most severe period of the current depressive episode, did you lose your ability to respond to things that previously gave you pleasure, or cheered you up? **IF NO:** When something good happens does it fail to make you feel better, even temporarily?	NO	YES
		IS EITHER **A5a** OR **A5b** CODED **YES**?	➡ NO	YES

A6 **Over the past two week period, when you felt depressed and uninterested:**

	a	Did you feel depressed in a way that is different from the kind of feeling you experience when someone close to you dies?	NO	YES
	b	Did you feel regularly worse in the morning, almost every day?	NO	YES
	c	Did you wake up at least 2 hours before the usual time of awakening and have difficulty getting back to sleep, almost every day?	NO	YES
	d	IS **A3c** CODED **YES** (PSYCHOMOTOR RETARDATION OR AGITATION)?	NO	YES
	e	IS **A3a** CODED **YES** FOR ANOREXIA OR WEIGHT LOSS?	NO	YES
	f	Did you feel excessive guilt or guilt out of proportion to the reality of the situation?	NO	YES

ARE **3** OR MORE **A6** ANSWERS CODED **YES**?

NO	YES
Major Depressive Episode **with** *Melancholic Features Current*	

B. DYSTHYMIA

(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

IF PATIENT'S SYMPTOMS CURRENTLY MEET CRITERIA FOR MAJOR DEPRESSIVE EPISODE, DO NOT EXPLORE THIS MODULE.

		➡	
B1	Have you felt sad, low or depressed most of the time for the last two years?	NO	YES

		➡	
B2	Was this period interrupted by your feeling OK for two months or more?	NO	YES

B3   **During this period of feeling depressed most of the time:**

a	Did your appetite change significantly?	NO	YES
b	Did you have trouble sleeping or sleep excessively?	NO	YES
c	Did you feel tired or without energy?	NO	YES
d	Did you lose your self-confidence?	NO	YES
e	Did you have trouble concentrating or making decisions?	NO	YES
f	Did you feel hopeless?	NO	YES
		➡	
	ARE **2** OR MORE **B3** ANSWERS CODED **YES**?	NO	YES

B4   Did the symptoms of depression cause you significant distress or impair
your ability to function at work, socially, or in some other important way?

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┌─────────────────────────────┐
│  NO                  YES     │
│                              │
│         DYSTHYMIA            │
│          CURRENT            │
│                              │
└─────────────────────────────┘
```

C. SUICIDALITY

In the past month did you:

				Points
C1	Suffer any accident?	NO	YES	0
	IF NO TO C1, SKIP TO C2; IF YES, ASK C1a,:			
C1a	Plan or intend to hurt yourself in that accident either passively or actively?	NO	YES	0
	IF NO TO C1a, SKIP TO C2: IF YES, ASK C1b,:			
C1b	Did you intend to die as a result of this accident?	NO	YES	0
C2	Think that you would be better off dead or wish you were dead?	NO	YES	1
C3	Want to harm yourself or to hurt or to injure yourself?	NO	YES	2
C4	Think about suicide?	NO	YES	6

IF YES, ASK ABOUT THE INTENSITY AND FREQUENCY OF THE SUICIDAL IDEATION:

Frequency   Intensity

Occasionally ❑	Mild ❑	Can you control these impulses			
Often ❑	Moderate ❑	→ and state that you will not act			
Very often ❑	Severe ❑	on them while in this program?			
		Only score 8 points if response is NO.	NO	YES	8

C5	Have a suicide plan?	NO	YES	8
C6	Take any active steps to prepare to injure yourself or to prepare for a suicide attempt in which you expected or intended to die?	NO	YES	9
C7	Deliberately injure yourself without intending to kill yourself?	NO	YES	4
C8	Attempt suicide?	NO	YES	10

Hoped to be rescued / survive   ❑
Expected / intended to die   ❑

In your lifetime:

C9	Did you ever make a suicide attempt?	NO	YES	4

IS AT LEAST **1** OF THE ABOVE (EXCEPT C1) CODED **YES**?

IF YES, ADD THE TOTAL NUMBER OF POINTS FOR THE ANSWERS (C1-C9) CHECKED 'YES' AND SPECIFY THE LEVEL OF SUICIDE RISK AS INDICATED IN THE DIAGNOSTIC BOX:

MAKE ANY ADDITIONAL COMMENTS ABOUT YOUR ASSESSMENT OF THIS PATIENT'S CURRENT AND NEAR FUTURE SUICIDE RISK IN THE SPACE BELOW:

NO	YES
SUICIDE RISK CURRENT	
1-8 points Low	❑
9-16 points Moderate	❑
≥ 17 points High	❑

D. (HYPO) MANIC EPISODE

(➡ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

D1 a Have you **ever** had a period of time when you were feeling 'up' or 'high' or 'hyper'   NO   YES
       or so full of energy or full of yourself that you got into trouble, or that
       other people thought you were not your usual self? (Do not consider
       times when you were intoxicated on drugs or alcohol.)

       IF PATIENT IS PUZZLED OR UNCLEAR ABOUT WHAT YOU MEAN
       BY 'UP' OR 'HIGH' OR 'HYPER', CLARIFY AS FOLLOWS: By 'up' or 'high' or 'hyper'
       I mean: having elated mood; increased energy; needing less sleep; having rapid
       thoughts; being full of ideas; having an increase in productivity,
       motivation, creativity, or impulsive behavior.

       IF NO, CODE NO TO **D1b**: IF **YES** ASK:

    b Are you currently feeling 'up' or 'high' or 'hyper' or full of energy?   NO   YES

D2 a Have you **ever** been persistently irritable, for several days, so that you   NO   YES
       had arguments or verbal or physical fights, or shouted at people outside
       your family? Have you or others noticed that you have been more irritable
       or over reacted, compared to other people, even in situations that you felt
       were justified?

       IF NO, CODE NO TO **D2b**: IF **YES** ASK:

    b Are you currently feeling persistently irritable?   NO   YES
       ➡
       IS **D1a** OR **D2a** CODED **YES**?   NO   YES

D3   IF **D1b** OR **D2b** = **YES**: EXPLORE THE **CURRENT** AND THE MOST SYMPTOMATIC **PAST** EPISODE, OTHERWISE
         IF **D1b** AND **D2b** = **NO**: EXPLORE ONLY THE MOST SYMPTOMATIC **PAST** EPISODE

During the times when you felt high, full of energy, or irritable did you:

		Current Episode		Past Episode	
a	Feel that you could do things others couldn't do, or that you were an especially important person? IF **YES**, ASK FOR EXAMPLES. THE EXAMPLES ARE CONSISTENT WITH A DELUSIONAL IDEA. ❏ No ❏ Yes	NO	YES	NO	YES
b	Need less sleep (for example, feel rested after only a few hours sleep)?	NO	YES	NO	YES
c	Talk too much without stopping, or so fast that people had difficulty understanding?	NO	YES	NO	YES
d	Have racing thoughts?	NO	YES	NO	YES
e	Become easily distracted so that any little interruption could distract you?	NO	YES	NO	YES
f	Become so active or physically restless that others were worried about you?	NO	YES	NO	YES
g	Want so much to engage in pleasurable activities that you ignored the risks or consequences (for example, spending sprees, reckless driving, or sexual indiscretions)?	NO	YES	NO	YES

		Current Episode		Past Episode	

D3 (SUMMARY): ARE **3** OR MORE **D3** ANSWERS CODED **YES**   NO   YES   NO   YES

(OR **4** OR MORE IF **D1a** IS **NO** (IN RATING PAST EPISODE) AND **D1b** IS **NO (**IN RATING CURRENT EPISODE)?

RULE: ELATION/EXPANSIVENESS REQUIRES ONLY THREE D3 SYMPTOMS WHILE

IRRITABLE MOOD ALONE REQUIRES **4** OF THE **D3** SYMPTOMS.

VERIFY IF THE SYMPTOMS OCCURRED DURING THE SAME TIME PERIOD.

D4   Did these symptoms last at least a week **and** cause significant problems at home,   NO   YES   NO   YES

at work, socially, or at school, **or** were you hospitalized for these problems?

                                ↓   ↓   ↓   ↓

THE EPISODE EXPLORED WAS A: ❑   ❑   ❑   ❑

                         HYPOMANIC *MANIC*   *HYPOMANIC* *MANIC*

                         EPISODE   *EPISODE*   *EPISODE* *EPISODE*

      IS **D4** CODED **NO**?

	NO	YES
HYPOMANIC EPISODE		
CURRENT		❑
PAST		❑

SPECIFY IF THE EPISODE IS CURRENT OR PAST.

      IS **D4** CODED **YES**?

	NO	YES
MANIC EPISODE		
CURRENT		❑
PAST		❑

SPECIFY IF THE EPISODE IS CURRENT OR PAST.

E. PANIC DISORDER

E1	a	Have you, on more than one occasion, had spells or attacks when you **suddenly** felt anxious, frightened, uncomfortable or uneasy, even in situations where most people would not feel that way?	➡ NO	YES
	b	Did the spells surge to a peak within 10 minutes of starting?	➡ NO	YES

E2		At any time in the past, did any of those spells or attacks come on unexpectedly or occur in an unpredictable or unprovoked manner?	➡ NO	YES
E3		Have you ever had one such attack followed by a month or more of persistent concern about having another attack, or worries about the consequences of the attack or did you make a significant change in your behavior because of the attacks (e.g., shopping only with a companion, not wanting to leave your house, visiting the emergency room repeatedly, or seeing your doctor more frequently because of the symptoms?	NO	YES
E4		**During the worst spell that you can remember:**		
	a	Did you have skipping, racing or pounding of your heart?	NO	YES
	b	Did you have sweating or clammy hands?	NO	YES
	c	Were you trembling or shaking?	NO	YES
	d	Did you have shortness of breath or difficulty breathing?	NO	YES
	e	Did you have a choking sensation or a lump in your throat?	NO	YES
	f	Did you have chest pain, pressure or discomfort?	NO	YES
	g	Did you have nausea, stomach problems or sudden diarrhea?	NO	YES
	h	Did you feel dizzy, unsteady, lightheaded or faint?	NO	YES
	i	Did things around you feel strange, unreal, detached or unfamiliar, or did you feel outside of or detached from part or all of your body?	NO	YES
	j	Did you fear that you were losing control or going crazy?	NO	YES
	k	Did you fear that you were dying?	NO	YES
	l	Did you have tingling or numbness in parts of your body?	NO	YES
	m	Did you have hot flushes or chills?	NO	YES
E5		ARE BOTH **E3,** AND **4** OR MORE **E4** ANSWERS, CODED **YES**?	NO	YES *PANIC DISORDER LIFETIME*
		IF YES TO E5, SKIP TO E7.		
E6		IF **E5** = **NO,** ARE ANY E4 ANSWERS CODED **YES**?	NO	YES *LIMITED SYMPTOM ATTACKS LIFETIME*
		THEN SKIP TO **F1.**		
E7		In the past month, did you have such attacks repeatedly (2 or more) followed by persistent concern about having another attack?	NO	YES *PANIC DISORDER CURRENT*

F. AGORAPHOBIA

F1	Do you feel anxious or uneasy in places or situations where you might have a panic attack or the panic-like symptoms we just spoke about, or where help might not be available or escape might be difficult: like being in a crowd, standing in a line (queue), when you are alone away from home or alone at home, or when crossing a bridge, traveling in a bus, train or car?	NO YES

IF **F1** = **NO**, CIRCLE **NO** IN **F2**.

F2	Do you fear these situations so much that you avoid them, or suffer through them, or need a companion to face them?	NO YES
AGORAPHOBIA CURRENT

IS **F2** (CURRENT AGORAPHOBIA) CODED **NO**

   and

 IS **E7** (CURRENT PANIC DISORDER) CODED **YES**?

> **NO   YES**
>
> *PANIC DISORDER without Agoraphobia CURRENT*

IS **F2** (CURRENT AGORAPHOBIA) CODED **YES**

  and

 IS **E7** (CURRENT PANIC DISORDER) CODED **YES**?

> **NO   YES**
>
> *PANIC DISORDER with Agoraphobia CURRENT*

IS **F2** (CURRENT AGORAPHOBIA) CODED **YES**

 and

IS **E5** (PANIC DISORDER LIFETIME) CODED **NO**?

> **NO   YES**
>
> *AGORAPHOBIA, CURRENT without history of Panic Disorder*

G. SOCIAL PHOBIA (Social Anxiety Disorder)

G1	In the past month, were you fearful or embarrassed being watched, being the focus of attention, or fearful of being humiliated? This includes things like speaking in public, eating in public or with others, writing while someone watches, or being in social situations.	➡ NO	YES

G2	Is this social fear excessive or unreasonable?	➡ NO	YES

G3	Do you fear these social situations so much that you avoid them or suffer through them?	➡ NO	YES

G4   Do these social fears disrupt your normal work or social functioning or cause you significant distress?

SUBTYPES

Do you fear and avoid 4 or more social situations?

  If YES   Generalized social phobia (social anxiety disorder)

  If NO   Non-generalized social phobia (social anxiety disorder)

NOTE TO INTERVIEWER: PLEASE ASSESS WHETHER THE SUBJECT'S FEARS ARE RESTRICTED TO NON-GENERALIZED ("ONLY 1 OR SEVERAL") SOCIAL SITUATIONS OR EXTEND TO GENERALIZED ("MOST") SOCIAL SITUATIONS. "MOST" SOCIAL SITUATIONS IS USUALLY OPERATIONALIZED TO MEAN 4 OR MORE SOCIAL SITUATIONS, ALTHOUGH THE DSM-IV DOES NOT EXPLICITLY STATE THIS.

 EXAMPLES OF SUCH SOCIAL SITUATIONSTYPICALLY INCLUDE INITIATING OR MAINTAINING A CONVERSATION, PARTICIPATING IN SMALL GROUPS, DATING, SPEAKING TO AUTHORITY FIGURES, ATTENDING PARTIES, PUBLIC SPEAKING, EATING IN FRONT OF OTHERS, URINATING IN A PUBLIC WASHROOM, ETC.

NO	YES
SOCIAL PHOBIA *(Social Anxiety Disorder)* *CURRENT*	
GENERALIZED ☐	
NON-GENERALIZED ☐	

H. OBSESSIVE-COMPULSIVE DISORDER

(➡ MEANS: GO TO THE DIAGNOSTIC BOX, CIRCLE **NO** AND MOVE TO THE NEXT MODULE)

H1	In the past month, have you been bothered by recurrent thoughts, impulses, or images that were unwanted, distasteful, inappropriate, intrusive, or distressing? (For example, the idea that you were dirty, contaminated or had germs, **or** fear of contaminating others, **or** fear of harming someone even though you didn't want to, **or** fearing you would act on some impulse, **or** fear or superstitions that you would be responsible for things going wrong, **or** obsessions with sexual thoughts, images or impulses, **or** hoarding, collecting, **or** religious obsessions.) (DO NOT INCLUDE SIMPLY EXCESSIVE WORRIES ABOUT REAL LIFE PROBLEMS. DO NOT INCLUDE OBSESSIONS DIRECTLY RELATED TO EATING DISORDERS, SEXUAL DEVIATIONS, PATHOLOGICAL GAMBLING, OR ALCOHOL OR DRUG ABUSE BECAUSE THE PATIENT MAY DERIVE PLEASURE FROM THE ACTIVITY AND MAY WANT TO RESIST IT ONLY BECAUSE OF ITS NEGATIVE CONSEQUENCES.)	NO ↓ SKIP TO **H4**	YES

H2	Did they keep coming back into your mind even when you tried to ignore or get rid of them?	NO ↓ SKIP TO **H4**	YES
H3	Do you think that these obsessions are the product of your own mind and that they are not imposed from the outside?	NO	YES [obsessions]

H4	In the past month, did you do something repeatedly without being able to resist doing it, like washing or cleaning excessively, counting or checking things over and over, or repeating, collecting, arranging things, or other superstitious rituals?	NO	YES [compulsions]

	IS **H3** OR **H4** CODED **YES**?	➡ NO	YES
H5	Did you recognize that either these obsessive thoughts or these compulsive behaviors were excessive or unreasonable?	➡ NO	YES

H6 Did these obsessive thoughts and/or compulsive behaviors significantly interfere with your normal routine, your work or school, your usual social activities, or relationships, or did they take more than one hour a day?	**NO** **YES** *O.C.D.* *CURRENT*

I. POSTTRAUMATIC STRESS DISORDER (optional)

(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

I1	Have you ever experienced or witnessed or had to deal with an extremely traumatic event that included actual or threatened death or serious injury to you or someone else?	➡ NO	YES
	EXAMPLES OF TRAUMATIC EVENTS INCLUDE: SERIOUS ACCIDENTS, SEXUAL OR PHYSICAL ASSAULT, A TERRORIST ATTACK, BEING HELD HOSTAGE, KIDNAPPING, FIRE, DISCOVERING A BODY, SUDDEN DEATH OF SOMEONE CLOSE TO YOU, WAR, OR NATURAL DISASTER.		
I2	Did you respond with intense fear, helplessness or horror?	➡ NO	YES
I3	During the past month, have you re-experienced the event in a distressing way (such as, dreams, intense recollections, flashbacks or physical reactions)?	➡ NO	YES

I4   **In the past month:**

a	Have you avoided thinking about or talking about the event ?	NO	YES
b	Have you avoided activities, places or people that remind you of the event?	NO	YES
c	Have you had trouble recalling some important part of what happened?	NO	YES
d	Have you become much less interested in hobbies or social activities?	NO	YES
e	Have you felt detached or estranged from others?	NO	YES
f	Have you noticed that your feelings are numbed?	NO	YES
g	Have you felt that your life will be shortened or that you will die sooner than other people?	NO	YES
	ARE **3** OR MORE **I4** ANSWERS CODED **YES**?	➡ NO	YES

I5   **In the past month:**

a	Have you had difficulty sleeping?	NO	YES
b	Were you especially irritable or did you have outbursts of anger?	NO	YES
c	Have you had difficulty concentrating?	NO	YES
d	Were you nervous or constantly on your guard?	NO	YES
e	Were you easily startled?	NO	YES
	ARE **2** OR MORE **I5** ANSWERS CODED **YES**?	➡ NO	YES

I6 During the past month, have these problems significantly interfered with your work or social activities, or caused significant distress?	**NO** **YES** *POSTTRAUMATIC STRESS DISORDER CURRENT*

J. ALCOHOL ABUSE AND DEPENDENCE

(➡ MEANS: GO TO DIAGNOSTIC BOXES, CIRCLE NO IN BOTH AND MOVE TO THE NEXT MODULE)

		➡	
J1	**In the past 12 months**, have you had 3 or more alcoholic drinks within a 3 hour period on 3 or more occasions?	NO	YES

J2   **In the past 12 months**:

a   Did you need to drink more in order to get the same effect that you got when you first started drinking?   NO   YES

b   When you cut down on drinking did your hands shake, did you sweat or feel agitated? Did you drink to avoid these symptoms or to avoid being hungover, for example, "the shakes", sweating or agitation?
IF **YES** TO EITHER, CODE **YES**.   NO   YES

c   During the times when you drank alcohol, did you end up drinking more than you planned when you started?   NO   YES

d   Have you tried to reduce or stop drinking alcohol but failed?   NO   YES

e   On the days that you drank, did you spend substantial time in obtaining alcohol, drinking, or in recovering from the effects of alcohol?   NO   YES

f   Did you spend less time working, enjoying hobbies, or being with others because of your drinking?   NO   YES

g   Have you continued to drink even though you knew that the drinking caused you health or mental problems?   NO   YES

ARE **3** OR MORE **J2** ANSWERS CODED **YES**? ***** IF YES, SKIP J3 QUESTIONS, CIRCLE N/A IN THE ABUSE BOX AND MOVE TO THE NEXT DISORDER. DEPENDENCE PREEMPTS ABUSE.	**NO** **YES*** *ALCOHOL DEPENDENCE* **CURRENT**

J3   **In the past 12 months:**

a   Have you been intoxicated, high, or hungover more than once when you had other responsibilities at school, at work, or at home? Did this cause any problems?
(CODE **YES** ONLY IF THIS CAUSED PROBLEMS.)   NO   YES

b   Were you intoxicated more than once in any situation where you were physically at risk, for example, driving a car, riding a motorbike, using machinery, boating, etc.?   NO   YES

c   Did you have legal problems more than once because of your drinking, for example, an arrest or disorderly conduct?   NO   YES

d   Did you continue to drink even though your drinking caused problems with your family or other people?   NO   YES

ARE **1** OR MORE **J3** ANSWERS CODED **YES**?	**NO** **N/A** **YES** *ALCOHOL ABUSE* **CURRENT**

K. NON-ALCOHOL PSYCHOACTIVE SUBSTANCE USE DISORDERS

(➡ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

Now I am going to show you / read to you a list of street drugs or medicines.

➡

K1 a **In the past 12 months**, did you take any of these drugs more than once,   NO   YES
to get high, to feel better, or to change your mood?

CIRCLE EACH DRUG TAKEN:

Stimulants: amphetamines, "speed", crystal meth, "crank", "rush", Dexedrine, Ritalin, diet pills.

Cocaine: snorting, IV, freebase, crack, "speedball".

Narcotics: heroin, morphine, Dilaudid, opium, Demerol, methadone, codeine, Percodan, Darvon, OxyContin.

Hallucinogens: LSD ("acid"), mescaline, peyote, PCP ("angel dust", "peace pill"), psilocybin, STP, "mushrooms", "ecstasy", MDA, MDMA, or ketamine ("special K").

Inhalants: "glue", ethyl chloride, "rush", nitrous oxide ("laughing gas"), amyl or butyl nitrate ("poppers").

Marijuana: hashish ("hash"), THC, "pot", "grass", "weed", "reefer".

Tranquilizers: Quaalude, Seconal ("reds"), Valium, Xanax, Librium, Ativan, Dalmane, Halcion, barbiturates, Miltown, GHB, Roofinol, "Roofies".

Miscellaneous: steroids, nonprescription sleep or diet pills. Any others?

SPECIFY MOST USED DRUG(S): _____

CHECK ONE BOX

ONLY ONE DRUG / DRUG CLASS HAS BEEN USED   ☐

ONLY THE MOST USED DRUG CLASS IS INVESTIGATED.   ☐

EACH DRUG CLASS USED IS EXAMINED SEPARATELY   (PHOTOCOPY K2 AND K3 AS NEEDED)   ☐

b SPECIFY WHICH DRUG/DRUG CLASS WILL BE EXPLORED IN THE INTERVIEW BELOW IF THERE IS
CONCURRENT OR SEQUENTIAL POLYSUBSTANCE USE:_____

K2 **Considering your use of (NAME THE DRUG / DRUG CLASS SELECTED), in the past 12 months:**

a Have you found that you needed to use more (NAME OF DRUG / DRUG CLASS SELECTED)   NO   YES
 to get the same effect that you did when you first started taking it?

b When you reduced or stopped using (NAME OF DRUG / DRUG CLASS SELECTED), did you have   NO   YES
withdrawal symptoms (aches, shaking, fever, weakness, diarrhea, nausea, sweating,
heart pounding, difficulty sleeping, or feeling agitated, anxious, irritable, or depressed)?
Did you use any drug(s) to keep yourself from getting sick (withdrawal symptoms) or so
that you would feel better?

IF **YES** TO EITHER, CODE **YES**.

c Have you often found that when you used (NAME OF DRUG / DRUG CLASS SELECTED),   NO   YES
you ended up taking more than you thought you would?

d Have you tried to reduce or stop taking (NAME OF DRUG / DRUG CLASS SELECTED) but failed?   NO   YES

e On the days that you used (NAME OF DRUG / DRUG CLASS SELECTED), did you spend substantial   NO   YES
time (>2 HOURS), obtaining, using or in recovering from the drug, or thinking about the drug?

---

f   Did you spend less time working, enjoying hobbies, or being with family   NO   YES
     or friends because of your drug use?

g   Have you continued to use (NAME OF DRUG / DRUG CLASS SELECTED), even though it caused   NO   YES
     you health or mental problems?

      ARE **3** OR MORE **K2** ANSWERS CODED **YES**?

      SPECIFY DRUG(S): _____

     * IF YES, SKIP K3 QUESTIONS, CIRCLE N/A IN THE ABUSE BOX FOR THIS
     SUBSTANCE AND MOVE TO THE NEXT DISORDER.
     DEPENDENCE PREEMPTS ABUSE.

> **NO**   **YES ***
>
> *SUBSTANCE DEPENDENCE*
> **CURRENT**

      Considering your use of (NAME THE DRUG CLASS SELECTED), in the past 12 months:

K3 a Have you been intoxicated, high, or hungover from (NAME OF DRUG / DRUG CLASS SELECTED)   NO   YES
     more than once, when you had other responsibilities at school, at work, or at home?
     Did this cause any problem?

     (CODE **YES** ONLY IF THIS CAUSED PROBLEMS.)

   b Have you been high or intoxicated from (NAME OF DRUG / DRUG CLASS SELECTED)   NO   YES
     more than once in any situation where you were physically at risk (for example,
     driving a car, riding a motorbike, using machinery, boating, etc.)?

   c Did you have legal problems more than once because of your drug use, for example,   NO   YES
     an arrest or disorderly conduct?

   d Did you continue to use (NAME OF DRUG / DRUG CLASS SELECTED), even though it caused   NO   YES
     problems with your family or other people?

      ARE **1** OR MORE **K3** ANSWERS CODED **YES**?

      SPECIFY DRUG(S): _____

> **NO**   **N/A**   **YES**
>
> *SUBSTANCE ABUSE*
> **CURRENT**

L. PSYCHOTIC DISORDERS AND MOOD DISORDER WITH PSYCHOTIC FEATURES

ASK FOR AN EXAMPLE OF EACH QUESTION ANSWERED POSITIVELY. CODE **YES** ONLY IF THE EXAMPLES CLEARLY SHOW A DISTORTION OF THOUGHT OR OF PERCEPTION OR IF THEY ARE NOT CULTURALLY APPROPRIATE. BEFORE CODING, INVESTIGATE WHETHER DELUSIONS QUALIFY AS "BIZARRE".

DELUSIONS ARE "BIZARRE" IF: CLEARLY IMPLAUSIBLE, ABSURD, NOT UNDERSTANDABLE, AND CANNOT DERIVE FROM ORDINARY LIFE EXPERIENCE.

HALLUCINATIONS ARE SCORED "BIZARRE" IF: A VOICE COMMENTS ON THE PERSON'S THOUGHTS OR BEHAVIOR, OR WHEN TWO OR MORE VOICES ARE CONVERSING WITH EACH OTHER.

Now I am going to ask you about unusual experiences that some people have.

					BIZARRE
L1	a	Have you ever believed that people were spying on you, or that someone was plotting against you, or trying to hurt you? **NOTE**: ASK FOR EXAMPLES TO RULE OUT ACTUAL STALKING.	NO	YES	YES
	b	**IF YES OR YES BIZARRE:** do you currently believe these things?	NO	YES	YES ➡L6
L2	a	Have you ever believed that someone was reading your mind or could hear your thoughts, or that you could actually read someone's mind or hear what another person was thinking?	NO	YES	YES
	b	**IF YES OR YES BIZARRE:** do you currently believe these things?	NO	YES	YES ➡L6
L3	a	Have you ever believed that someone or some force outside of yourself put thoughts in your mind that were not your own, or made you act in a way that was not your usual self? Have you ever felt that you were possessed? CLINICIAN: ASK FOR EXAMPLES AND DISCOUNT ANY THAT ARE NOT PSYCHOTIC.	NO	YES	YES
	b	**IF YES OR YES BIZARRE:** do you currently believe these things?	NO	YES	YES ➡L6
L4	a	Have you ever believed that you were being sent special messages through the TV, radio, or newspaper, or that a person you did not personally know was particularly interested in you?	NO	YES	YES
	b	**IF YES OR YES BIZARRE:** do you currently believe these things?	NO	YES	YES ➡L6
L5	a	Have your relatives or friends ever considered any of your beliefs strange or unusual? INTERVIEWER: ASK FOR EXAMPLES. ONLY CODE **YES** IF THE EXAMPLES ARE **CLEARLY** DELUSIONAL IDEAS NOT EXPLORED IN QUESTIONS L1 TO L4, FOR EXAMPLE, SOMATIC OR RELIGIOUS DELUSIONS OR DELUSIONS OF GRANDIOSITY, JEALOUSY, GUILT, RUIN OR DESTITIUTION, ETC.	NO	YES	YES
	b	**IF YES OR YES BIZARRE:** do they currently consider your beliefs strange?	NO	YES	YES
L6	a	Have you ever heard things other people couldn't hear, such as voices? HALLUCINATIONS ARE SCORED "BIZARRE" ONLY IF PATIENT ANSWERS **YES** TO THE FOLLOWING:	NO	YES	
		IF YES: Did you hear a voice commenting on your thoughts or behavior or did you hear two or more voices talking to each other?	NO		YES
	b	**IF YES OR YES BIZARRE TO L6a:** have you heard these things in the past month? HALLUCINATIONS ARE SCORED "BIZARRE" ONLY IF PATIENT ANSWERS **YES** TO THE FOLLOWING: Did you hear a voice commenting on your thoughts or behavior or did you hear two or more voices talking to each other?	NO	YES	YES ➡L8b

L7	a	Have you ever had visions when you were awake or have you ever seen things other people couldn't see? CLINICIAN: CHECK TO SEE IF THESE ARE CULTURALLY INAPPROPRIATE.		NO	YES
	b	**IF YES:** have you seen these things in the past month?		NO	YES

CLINICIAN'S JUDGMENT

L8	b	IS THE PATIENT CURRENTLY EXHIBITING INCOHERENCE, DISORGANIZED SPEECH, OR MARKED LOOSENING OF ASSOCIATIONS?		NO	YES
L9	b	IS THE PATIENT CURRENTLY EXHIBITING DISORGANIZED OR CATATONIC BEHAVIOR?		NO	YES
L10	b	ARE NEGATIVE SYMPTOMS OF SCHIZOPHRENIA, E.G. SIGNIFICANT AFFECTIVE FLATTENING, POVERTY OF SPEECH (ALOGIA) OR AN INABILITY TO INITIATE OR PERSIST IN GOAL-DIRECTED ACTIVITIES (AVOLITION), PROMINENT DURING THE INTERVIEW?		NO	YES

L11 a ARE 1 OR MORE « a » QUESTIONS FROM L1a TO L7a CODED **YES OR YES BIZARRE** AND IS EITHER:

> MAJOR DEPRESSIVE EPISODE, (CURRENT OR RECURRENT)
> **OR**
> MANIC OR HYPOMANIC EPISODE, (CURRENT OR PAST) CODED **YES**?   NO   YES
> ➧L13

IF NO TO L11 a, CIRCLE NO IN BOTH 'MOOD DISORDER WITH PSYCHOTIC FEATURES' DIAGNOSTIC BOXES AND MOVE TO L13.

b You told me earlier that you had period(s) when you felt (depressed/high/persistently irritable).

Were the beliefs and experiences you just described (SYMPTOMS CODED **YES** FROM **L1**a TO **L7**a) restricted exclusively to times when you were feeling depressed/high/irritable?

IF THE PATIENT EVER HAD A PERIOD OF AT LEAST 2 WEEKS OF HAVING THESE BELIEFS OR EXPERIENCES (PSYCHOTIC SYMPTOMS) WHEN THEY WERE NOT DEPRESSED/HIGH/IRRITABLE, CODE NO TO THIS DISORDER.

IF THE ANSWER IS NO TO THIS DISORDER, ALSO CIRCLE NO TO L12 AND MOVE TO L13

> **NO   YES**
>
> *MOOD DISORDER WITH PSYCHOTIC FEATURES*
>
> **LIFETIME**

L12 a ARE 1 OR MORE « b » QUESTIONS FROM L1b TO L7b CODED **YES OR YES BIZARRE** AND IS EITHER:

> MAJOR DEPRESSIVE EPISODE, (CURRENT)
> **OR**
> MANIC OR HYPOMANIC EPISODE, (CURRENT) CODED **YES**?

IF THE ANSWER IS YES TO THIS DISORDER (LIFETIME OR CURRENT), CIRCLE NO TO L13 AND L14 AND MOVE TO THE NEXT MODULE.

> **NO   YES**
>
> *MOOD DISORDER WITH PSYCHOTIC FEATURES*
>
> **CURRENT**

L13   ARE 1 OR MORE « b » QUESTIONS FROM L1b TO L6b, CODED **YES BIZARRE**?

    OR

ARE 2 OR MORE « b » QUESTIONS FROM L1b TO L10b, CODED **YES** (RATHER THAN **YES BIZARRE**)?

AND DID AT LEAST TWO OF THE PSYCHOTIC SYMPTOMS OCCUR DURING THE SAME 1 MONTH PERIOD?

NO	YES
PSYCHOTIC DISORDER **CURRENT**	

L14   IS **L13** CODED **YES**

    OR

ARE 1 OR MORE « a » QUESTIONS FROM L1a TO L6a, CODED **YES BIZARRE**?

    OR

ARE 2 OR MORE « a » QUESTIONS FROM L1a TO L7a, CODED **YES** (RATHER THAN **YES BIZARRE**)

AND DID AT LEAST TWO OF THE PSYCHOTIC SYMPTOMS OCCUR DURING THE SAME 1 MONTH PERIOD?

NO	YES
PSYCHOTIC DISORDER **LIFETIME**	

M. ANOREXIA NERVOSA

(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

M1 a How tall are you?		☐ft ☐☐in.
		☐ ☐ ☐cm.
b. What was your lowest weight in the past 3 months?		☐ ☐ ☐lbs.
		☐ ☐ ☐kgs.
		➡
c IS PATIENT'S WEIGHT EQUAL TO OR BELOW THE THRESHOLD CORRESPONDING TO HIS / HER HEIGHT? (SEE TABLE BELOW)		NO YES

In the past 3 months:

			➡
M2	In spite of this low weight, have you tried not to gain weight?		NO YES
			➡
M3	Have you intensely feared gaining weight or becoming fat, even though you were underweight?		NO YES
M4 a	Have you considered yourself too big / fat or that part of your body was too big / fat?		NO YES
b	Has your body weight or shape greatly influenced how you felt about yourself?		NO YES
c	Have you thought that your current low body weight was normal or excessive?		NO YES
			➡
M5	ARE 1 OR MORE ITEMS FROM **M4** CODED **YES**?		NO YES
			➡
M6	FOR WOMEN ONLY: During the last 3 months, did you miss all your menstrual periods when they were expected to occur (when you were not pregnant)?		NO YES

FOR WOMEN: ARE **M5 AND M6** CODED **YES**?

FOR MEN: IS **M5** CODED **YES**?

<div style="border:1px solid black;">

NO   **YES**

ANOREXIA NERVOSA
CURRENT

</div>

HEIGHT / WEIGHT TABLE CORRESPONDING TO A BMI THRESHOLD OF 17.5 KG/M^2

Height/Weight													
ft/in	4'9	4'10	4'11	5'0	5'1	5'2	5'3	5'4	5'5	5'6	5'7	5'8	5'9	5'10
lbs.	81	84	87	89	92	96	99	102	105	108	112	115	118	122
cm	145	147	150	152	155	158	160	163	165	168	170	173	175	178
kgs	37	38	39	41	42	43	45	46	48	49	51	52	54	55

Height/Weight				
ft/in	5'11	6'0	6'1	6'2	6'3
lbs.	125	129	132	136	140
cm	180	183	185	188	191
kgs	57	59	60	62	64

The weight thresholds above are calculated using a body mass index (BMI) equal to or below 17.5 kg/m^2 for the patient's height. This is the threshold guideline below which a person is deemed underweight by the DSM-IV and the ICD-10 Diagnostic Criteria for Research for Anorexia Nervosa.

N. BULIMIA NERVOSA

(➡ MEANS : GO TO THE DIAGNOSTIC BOXES, CIRCLE NO IN ALL DIAGNOSTIC BOXES, AND MOVE TO THE NEXT MODULE)

N1	In the past three months, did you have eating binges or times when you ate a very large amount of food within a 2-hour period?	➡ NO	YES
N2	In the last 3 months, did you have eating binges as often as twice a week?	➡ NO	YES

N3	During these binges, did you feel that your eating was out of control?	➡ NO	YES
N4	Did you do anything to compensate for, or to prevent a weight gain from these binges, like vomiting, fasting, exercising or taking laxatives, enemas, diuretics (fluid pills), or other medications?	➡ NO	YES
N5	Does your body weight or shape greatly influence how you feel about yourself?	➡ NO	YES
N6	DO THE PATIENT'S SYMPTOMS MEET CRITERIA FOR ANOREXIA NERVOSA?	NO ↓ Skip to N8	YES
N7	Do these binges occur only when you are under (_____ lbs./kgs.)? INTERVIEWER: WRITE IN THE ABOVE PARENTHESIS THE THRESHOLD WEIGHT FOR THIS PATIENT'S HEIGHT FROM THE HEIGHT / WEIGHT TABLE IN THE ANOREXIA NERVOSA MODULE.	NO	YES

N8   IS **N5** CODED **YES** AND IS EITHER **N6** OR **N7** CODED **NO**?

```
NO              YES

BULIMIA NERVOSA
   CURRENT
```

IS **N7** CODED **YES**?

```
NO              YES

ANOREXIA NERVOSA
Binge Eating/Purging Type
    CURRENT
```

O. GENERALIZED ANXIETY DISORDER

(➡ MEANS : GO TO THE DIAGNOSTIC BOX, CIRCLE NO, AND MOVE TO THE NEXT MODULE)

O1	a	Have you worried excessively or been anxious about several things over the past 6 months?	➡ NO	YES
	b	Are these worries present most days?	➡ NO	YES
		IS THE PATIENT'S ANXIETY RESTRICTED EXCLUSIVELY TO, OR BETTER EXPLAINED BY, ANY DISORDER PRIOR TO THIS POINT?	NO	➡ YES

O2		Do you find it difficult to control the worries or do they interfere with your ability to focus on what you are doing?	➡ NO	YES

O3   FOR THE FOLLOWING, CODE **NO** IF THE SYMPTOMS ARE CONFINED TO FEATURES OF ANY DISORDER EXPLORED PRIOR TO THIS POINT.

When you were anxious over the past 6 months, did you, most of the time:

a	Feel restless, keyed up or on edge?	NO	YES
b	Feel tense?	NO	YES
c	Feel tired, weak or exhausted easily?	NO	YES
d	Have difficulty concentrating or find your mind going blank?	NO	YES
e	Feel irritable?	NO	YES
f	Have difficulty sleeping (difficulty falling asleep, waking up in the middle of the night, early morning wakening or sleeping excessively)?	NO	YES

ARE **3** OR MORE **O3** ANSWERS CODED **YES**?

NO	**YES**
GENERALIZED ANXIETY DISORDER **CURRENT**	

P. ANTISOCIAL PERSONALITY DISORDER (optional)

(➡ MEANS : GO TO THE DIAGNOSTIC BOX AND CIRCLE **NO.**)

P1   **Before you were 15 years old, did you:**

a   repeatedly skip school or run away from home overnight?   NO   YES

b   repeatedly lie, cheat, "con" others, or steal?   NO   YES

c   start fights or bully, threaten, or intimidate others?   NO   YES

d   deliberately destroy things or start fires?   NO   YES

e   deliberately hurt animals or people?   NO   YES

f   force someone to have sex with you?   NO   YES
                                                                       ➡

ARE **2** OR MORE **P1** ANSWERS CODED **YES**?   NO   YES

DO NOT CODE **YES** TO THE BEHAVIORS BELOW IF THEY ARE EXCLUSIVELY
POLITICALLY OR RELIGIOUSLY MOTIVATED**.**

P2   **Since you were 15 years old, have you:**

a   repeatedly behaved in a way that others would consider irresponsible, like   NO   YES
     failing to pay for things you owed, deliberately being impulsive or deliberately
     not working to support yourself?

b   done things that are illegal even if you didn't get caught (for example, destroying   NO   YES
     property, shoplifting, stealing, selling drugs, or committing a felony)?

c   been in physical fights repeatedly (including physical fights with your   NO   YES
     spouse or children)?

d   often lied or "conned" other people to get money or pleasure, or lied just   NO   YES
     for fun?

e   exposed others to danger without caring?   NO   YES

f   felt no guilt after hurting, mistreating, lying to, or stealing from others, or   NO   YES
     after damaging property?

ARE **3** OR MORE **P2** QUESTIONS CODED **YES**?

NO   YES
ANTISOCIAL PERSONALITY *DISORDER* **LIFETIME**

THIS CONCLUDES THE INTERVIEW

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Sheehan DV, Lecrubier Y, Harnett-Sheehan K, Janavs J, Weiller E, Bonara LI, Keskiner A, Schinka J, Knapp E, Sheehan MF, Dunbar GC. Reliability and Validity of the MINI International Neuropsychiatric Interview (M.I.N.I.): According to the SCID-P. European Psychiatry. 1997; 12:232-241.

Lecrubier Y, Sheehan D, Weiller E, Amorim P, Bonora I, Sheehan K, Janavs J, Dunbar G. The MINI International Neuropsychiatric Interview (M.I.N.I.) A Short Diagnostic Structured Interview: Reliability and Validity According to the CIDI. European Psychiatry. 1997; 12: 224-231.

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Translations	M.I.N.I. 4.4 or earlier versions	M.I.N.I. 4.6/5.0, M.I.N.I. Plus 4.6/5.0 and M.I.N.I. Screen 5.0:
Afrikaans	R. Emsley	W. Maartens
Arabic		O. Osman, E. Al-Radi
Bengali		H. Banerjee, A. Banerjee
Braille (English)		
Brazilian Portuguese	P. Amorim	P. Amorim
Bulgarian	L.G.. Hranov	
Chinese		L. Carroll, Y-J. Lee, Y-S. Chen, C-C. Chen, C-Y. Liu, C-K. Wu, H-S. Tang, K-D. Juang, Yan-Ping Zheng.
Czech		P. Zvlosky
Danish	P. Bech	P. Bech, T. Schütze
Dutch/Flemish	E. Griez, K. Shruers, T. Overbeek, K. Demyttenaere	I. Van Vliet, H. Leroy, H. van Megen
English	D. Sheehan, J. Janavs, R. Baker, K. Harnett-Sheehan, E. Knapp, M. Sheehan	D. Sheehan, R. Baker, J. Janavs, K. Harnett-Sheehan, M. Sheehan
Estonian		J. Shlik, A. Aluoja, E. Khil
Farsi/Persian		K. Khooshabi, A. Zomorodi
Finnish	M. Heikkinen, M. Lijeström, O. Tuominen	M. Heikkinen, M. Lijeström, O. Tuominen
French	Y. Lecrubier, E. Weiller, I. Bonora, P. Amorim, J.P. Lepine	Y. Lecrubier, E. Weiller, P. Amorim, T. Hergueta
German	I. v. Denffer, M. Ackenheil, R. Dietz-Bauer	G. Stotz, R. Dietz-Bauer, M. Ackenheil
Greek	S. Beratis	T. Calligas, S. Beratis
Gujarati		M. Patel, B. Patel, Organon
Hebrew	J. Zohar, Y. Sasson	R. Barda, I. Levinson, A. Aviv
Hindi		C. Mittal, K. Batra, S. Gambhir, Organon
Hungarian	I. Bitter, J. Balazs	I. Bitter, J. Balazs
Icelandic		J.G. Stefansson
Italian	I. Bonora, L. Conti, M. Piccinelli, M. Tansella, G. Cassano, Y. Lecrubier, P. Donda, E. Weiller	L. Conti, A. Rossi, P. Donda
Japanese		T. Otsubo, H. Watanabe, H. Miyaoka, K. Kamijima, J.Shinoda, K.Tanaka, Y. Okajima
Kannada		Organon
Korean		K.S. Oh and Korean Academy of Anxiety Disorders
Latvian	V. Janavs, J. Janavs, I. Nagobads	V. Janavs, J. Janavs
Lithuanian		A. Bacevicius
Malayalam		Organon
Marathi		Organon
Norwegian	G. Pedersen, S. Blomhoff	K.A. Leiknes , U. Malt, E. Malt, S. Leganger
Polish	M. Masiak, E. Jasiak	M. Masiak, E. Jasiak
Portuguese	P. Amorim	P. Amorim, T. Guterres
Punjabi		A. Gahunia, S. Gambhir
Romanian		O. Driga
Russian		A. Bystritsky, E. Selivra, M. Bystritsky, L. Shumyak, M. Klisinska.
Serbian	I. Timotijevic	I. Timotijevic
Setswana		K. Ketlogetswe
Slovenian		M. Kocmur, M. Kocmur
Spanish	L. Ferrando, J. Bobes-Garcia, J. Gilbert-Rahola, Y. Lecrubier	L. Ferrando, L. Franco-Alfonso, M. Soto, J. Bobes-Garcia, O. Soto, L. Franco, G. Heinze, C. Santana, R. Hidalgo
Swedish	M. Waern, S. Andersch, M. Humble	C. Allgulander, H. Agren M. Waern, A. Brimse, M. Humble.
Tamil		Organon
Telugu		Organon

Thai		P. Kittirattanapaiboon, S. Mahatnirunkul, P. Udomrat, P. Silpakit,, M. Khamwongpin, S. Srikosai.
Turkish	T. Örnek, A. Keskiner, I. Vahip	T. Örnek, A. Keskiner, A.Engeler
Urdu		S. Gambhir

APPENDIX H

المقياس العالمى المصغر للفحص النفسى العصبى

(مينى)

النسخة العربية ـ الإصدار الخامس

المؤلفون

الولايات المتحدة الأمريكية: ديفيد شيهان، ج. جانافس، ر. باكير، ك. هارنيت شيهان،

إى كناب، م. شيهان.

جامعة جنوب فلوريدا ـ تامبا.

فرنــــــــــا: ى. لكروبير، إى. ويللير، ت. هيرجيتا، ب. أموريم، ل أى. بونورا، ج.ب. لابين.

مستشفى دى لاسلايترير ـ باريس.

الترجمة

أ.د. محمد حامد غانم

أستاذ الطب النفسى ـ كلية الطب ـ جامعة عين شمس

مجموعة العمل البحثى للنسخة العربية للـ (مينى)

أحمد عادل البحيرى ـ حنان الميرغنى ـ منى إبراهيم ـ زكريا عبد الحكم ـ عاطف فايد على ـ على إبراهيم

(قسم الأمراض النفسية ـ كلية الطب ـ جامعة عين شمس)

اسم المريض:		رقم الحالة:
تاريخ الميلاد:		وقت بداية المقابلة:
اسم الفاحص:		وقت نهاية المقابلة:
تاريخ الفحص:		الوقت الكلى:

الدليل العاشر للتقسيم العالمى للأمراض	الدليل الرابع للتشخيص والإحصاء	موافق لشروط التشخيص	الإطار الزمنى	المجاميع الإكلينيكية	
F32.x	296.20-296.26	☐	حاليًا (آخر أسبوعين)	نوبة اكتئاب جسيم	A
F33.x	296.30-296.36	☐	فى الماضى		
F32.x F33.x	296.20-296.26 296.30-296.36	☐	حاليًا (آخر أسبوعين)	نوبة اكتئاب جسيم مع أعراض سوداوية (اختيارى)	
F34.1	300.4	☐	حاليًا (آخر عامين)	عسر المزاج	B
		☐	حاليا (الشهر الماضى)	ميول انتحارية	C
F30.x-F31.9	296.00-296.06	☐	حاليًا	نوبة هوس	D
		☐	فى الماضى		
F31.8-F31.9/F34.0	296.80-296.89	☐	حاليًا	(هوس تحت الحاد)	
		☐	فى الماضى		
F40.01-F41.0	300.01/300.21	☐	حاليًا (الشهر الماضى)	اضطراب الهلع	E
		☐	طوال حياته		
F40.00	300.22	☐	حاليًا	رهاب الساحة	F
				الرهاب الاجتماعى	G
F40.1	300.23	☐	حاليًا (الشهر الماضى)	(اضطراب القلق الاجتماعى)	
F42.8	300.3	☐	حاليًا (الشهر الماضى)	اضطراب الوسواس القهرى	H
F43.1	309.81	☐	حاليًا (الشهر الماضى)	اضطراب كرب ما بعد الصدمة (اختيارى)	I
F10.2x	303.9	☐	آخر 12 شهر	الاعتماد على الكحول	J
F10.1	305.00	☐	آخر 12 شهر	سوء استخدام الكحول	
F11.1-F19.1	304.00-.90/ 305.20-.90	☐	آخر 12 شهر	الاعتماد على العقاقير (غير الكحوليات)	K
F11.1-F19.1	304.00-.90/ 305.20-.90	☐	آخر 12 شهر	سواء استخدام العقاقير (غير الكحوليات)	
F20.xx-F29	295.10-295.90/ 297.1/297.3/	☐	طوال حياته	اضطرابات ذهانية	L
	293.81/293.82/ 293.89/298.8/298.9	☐	حاليًا		

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2000

F32.3/F33.3	296.24	☐	حالياً	اضطرابات مزاج مع أعراض ذهانية
F50.0	307.1	☐	حالياً (آخر 3 شهور)	M فقدان الشهية العصبى
F50.2	307.51	☐	حالياً (آخر 3 شهور)	N فرط الشهية العصبى
			حالياً (آخر 3 شهور)	فقدان الشهية نمط الأكل النهمى/نمط الإسهال
F50.0	307.1	☐	حالياً	المستحث ذاتياً
F41.1	300.02	☐	حالياً (آخر 6 شهور)	O اضطراب القلق العام
F60.2	301.7	☐	طوال حياته	P اضطراب الشخصية المضادة للمجتمع (اختيارى)

تعليمات عامة

لقد تم تصميم المقياس العالمى المصغر للفحص النفسى العصبى (مينى) كمقياس بنيانى مقنن مختصر لفحص المحور الأول للتشخيص فى الدليل الرابع للتشخيص والإحصاء، والدليل العاشر للتقسيم العالمى للأمراض.

لقد تم عمل دراسات صدق وثبات لمقارنة المقياس العالمى المصغر للفحص النفسى العصبى (مينى) مع كل من المقياس المقنن الإكلينيكى الخاص بالمرضى (للدليل الثالث المراجع للتشخيص والإحصاء)، والمقياس العالمى التشخيصى المركب (مقياس مقنن لمعايير التقسيم العالمى للأمراض العاشر؛ يستخدمه عامة الناس وتم إعداده بواسطة منظمة الصحة العالمية). أظهرت نتائج هذه الدراسات أن للمينى درجات عالية من الصدق والثبات وكذلك يمكن تطبيق مقياس المينى فى فترة زمنية أقصر بالمقارنة للمقياسين المذكورين سابقاً (فى المتوسط 18.7±11.6، بوسط حسابى 15 دقيقة). ويمكن للفاحص استخدام المقياس بعد فترة تدريب قصيرة. ولكن يتطلب تدريب أكثر تكثيفاً لتدريب عامة الناس على استخدامه. المقياس العالمى المصغر للفحص النفسى العصبى الإضافى هو نسخة أكثر تفصيلاً من مقياس المينى. لا يتم التسجيل بالإيجاب فى مقياس المينى إذا ما كانت الأعراض تم تفسيرها بأسباب عضوية أو نتيجة استخدام الكحول والعقاقير. مقياس مينى الإضافى له القدرة على استبيان هذه الأسباب.

المقياس:

من أجل أن تكون المدة اللازمة لإتمام المينى مختصرة قدر الإمكان، أبلغ المريض أنك سوف تجرى فحص إكلينيكى مقنن أكثر من المعتاد بأسئلة شديدة الدقة عن المشاكل النفسية، ويلزم الإجابة عنها بنعم أو لا.

التكوين العام:

لقد تم تقسيم المينى إلى مجموعات إكلينيكية (موضحة بالرموز الإنجليزية✱)، يقابل كل منها تشخيص معين.

فى بداية كل مجموعة إكلينيكية تشخيصية، تكون الأسئلة الاستكشافية المطابقة للمعايير الأساسية

_____

للاضطراب فى مربع رمادى (هذا فيما عدا المجموعة الإكلينيكية الخاصة بالاضطراب الذهانى). وفى نهاية كل مجموعة إكلينيكية يوجد مربع/مربعات للتشخيص تسمح للفاحص بالإشارة ما إذا كانت معايير التشخيص قد تم الوفاء بها.

المصطلحات:

يجب قراءة الجمل بخط عادى على المريض كما هى مكتوبة لتقدير معايير التشخيص. الجمل المكتوبة **بالأحرف السوداء السميكة** تدل على الإطار الزمنى المفحوص. ويجب على الفاحص قراءتها كلما كان هذا ضرورياً. وعند تسجيل الإجابات، يتم اعتبار الأمراض التى تحدث داخل الإطار الزمنى فقط.

الإجابات التى فوقها علامة السهم (←) تدل على أن أحد المعايير الأساسية للتشخيص لم يتم الوفاء بها وفى هذه الحالة من الواجب على الفاحص التوجه إلى نهاية المجموعة الإكلينيكية ويعلم على الإجابة بـ "لا" فى كل المربعات التشخيصية، وينتقل إلى المجموعة الإكلينيكية التالية.

عند فصل المصطلحات بشرطة مائلة (/) يجب على الفاحص فقط قراءة الأعراض المعروف تواجدها عند المريض.

الجمل التى بين (**الأقواس**) هى أمثلة إكلينيكية للعرض. ويمكن قراءتها على المريض لإيضاح السؤال.

تعليمات القياس:

يجب قياس كل الأسئلة. يتم القياس بوضع دائرة حول (**نعم**) أو (**لا**) شمال كل سؤال.

يجب أن يتأكد الطبيب أن المريض قد أخذ فى الاعتبار كل أبعاد السؤال (مثل الإطار الزمنى، والتكرار، والشدة، والبدائل). الأعراض التى يتم تعليلها بمرض عضوى أو استعمال الكحول أو العقاقير لا يجب أن تسجل فى المينى. مقياس المينى الإضافى له القدرة على استبيان هذه الأسباب.

A- نوبة اكتئاب جسيم

هذه العلامة (←) تعنى التوجه إلى المربعات التشخيصية، علم بـ "لا" فى كل المربعات التشخيصية التالية ثم انتقل إلى المجموعة الإكلينيكة التالية:

1	نعم	لا	هل شعرت وبصفة مستمرة بكآبة أو حزن معظم اليوم تقريباً كل يوم خلال الأسبوعين الماضيين.	A1
2	نعم	لا	هل فى أى وقت من الأوقات أصبح اهتمامك بمعظم الأشياء أقل أو أصبح استمتاعك بما اعتدت الاستمتاع به أقل فى معظم الوقت على مدى أسبوعين على الأقل؟	A2
	نعم	لا◄	هل الإجابة بـ(نعم) على A1 أو A2	

خلال الأسبوعين الماضيين عندما شعرت باكآبة أو عدم الاهتمام: A3

3	نعم	لا	a. هل شهيتك للطعام قلت أو زادت تقريباً كل يوم؟ هل وزنك قل أو زاد من غير محاولة متعمدة (المقصود زيادة أو نقصان 5% من وزن الجسم وهو ما يعنى 3.5كجم لشخص يزن 70كجم فى خلال شهر)؟ * إذا وافق على أيهما علم بـ(نعم).
4	نعم	لا	b. هل عندك صعوبة فى النوم كل ليلة تقريباً (صعوبة فى بدء النوم أو الاستيقاظ فى منتصف الليل أو مبكراً (الصباح الباكر) أو النوم أكثر من اللازم؟
5	نعم	لا	c. هل بتتحرك أو بتتكلم أبطأ من المعتاد أو متململ، غير مستقر أو مش قادر تقعد ثابت كل يوم تقريباً؟
7	نعم	لا	d. هل تشعر بالتعب أو فقدان الحيوية كل يوم تقريباً؟
8	نعم	لا	e. هل عندك إحساس بعدم القيمة أو بالذنب كل يوم تقريباً؟
	نعم	لا	f. هل عندك صعوبة فى التركيز أو اتخاذ القرارات كل يوم تقريباً؟
	نعم	لا	g. هل فكرت بصفة متكررة إنك تؤذى نفسك أو تنتحر أو تمنيت لو كنت ميت؟

لا نعم **نوبة اكتئاب جسيم حاليـة**	هل أجاب بـ(نعم) على 3 أسئلة أو أكثر من مجموعة أسئلة A3 (أو 4 أسئلة من مجموعة A3 إذا كانت الإجابة على A1 أو A2 بـ"لا")

إذا كان المريض يعانى من نوبة اكتئاب جسيمة حالية انتقل إلى المجموعة الإكلينيكية B.

10	نعم	لا◄	a. طوال حياتك هل شعرت خلال فترات أخرى لمدة أسبوعين أو أكثر بالكآبة أو عدم الاهتمام لمعظم الأشياء وكان عندك معظم المشاكل التى تحدثنا عنها.	A4

b. هل مر عليك فترة شهرين على الأقل بدون اكتئاب أو عدم الاهتمام ما بين نوبة الاكتئاب الحالية والسابقة.

هل أجاب بـ(نعم) على A4b.

لا نعم **نوبة اكتئاب جسيم ماضية**	

نوبة اكتئاب جسيمة ذات مظاهر سوداوية (اختيارى)

هذه العلامة (←) تعنى التوجه إلى مربع التشخيص؟ علّم بـ(لا) على كل الأسئلة التالية، ثم انتقل إلى المجموعة الإكلينيكية التالية:

إذا أجاب المريض بـ(نعم) لنوبة اكتئاب جسيمة حالية (A4= نعمً) استكشف الآتى:

		لا	نعم	
	A6	لا	نعم	a. هل أجاب بـ(نعم) على A2؟
12		لا	نعم	b. أثناء أشد فترة لنوبة الاكتئاب الحالية هل فقدت القدرة للاستجابة على ما كان يمتعك أو يسعدك سابقاً.
				لو كانت الإجابة بـ(لا):
				هل عندما يحدث شئ كويس هل هذا الشئ يفشل إنه يجعلك تشعر بالتحسن ولو بصورة مؤقتة.
		لا	نعم	هل أجاب بـ(نعم) على A6a أو A6b؟
	A7	◄		خلال الأسبوعين الماضيين عندما شعرت بالكآبة أو عدم الاهتمام:
13		لا	نعم	a. هل شعرت باكتئاب بطريقة مختلفة عن المعتاد أن تشعر به عند موت شخص قريب منك؟
14		لا	نعم	b. هل تشعر عادة كل يوم إنك أسوأ فى الصباح؟
15		لا	نعم	c. هل صحيت بدرى عن ميعاد استيقاظك ساعتين على الأقل ووجدت صعوبة عند محاولة العودة إلى النوم تقريباً كل يوم؟
		لا	نعم	d. هل أجاب بـ(نعم) على A3c (بطء حركى أو هياج)؟
		لا	نعم	e. هل أجاب بـ(نعم) على A3a (فقدان الشهية أو فقدان الوزن)؟
16		لا	نعم	f. هل عندك إحساس شديد بالذنب أو شعور بالذنب غير متناسب مع طبيعة الموقف؟

هل أجاب بـ(نعم) على 3 أو أكثر من مجموعة أسئلة A7

لا	نعم
نوبة اكتئاب جسيم ذات مظاهر سوداوية حالياً	

B- عسر المزاج

هذه العلامة (←) تعني التوجه إلى مربع التشخيص، علّم بـ(لا) على كل الأسئلة التالية وانتقل إلى المجموعة الإكلينيكية التالية:

* إذا كانت أعراض المريض الحالية مطابقة لمعايير تشخيص نوبة اكتئاب جسيمة فليس هناك ضرورة لاستكشاف هذه المجموعة الإكلينيكية:

هـل شـعرت بالحـزن أو الكـآبـة معظـم الوقـت فـى خـلال العامـين الماضيين؟	لا ◄	نعم	17	B1
هل هذه الفترة تخللها شعور بأنك بخير (كويس) لمدة شهرين أو أكثر.	لا	نعم ◄	18	B2
فى خلال هذه الفترة التى كنت تشعر فيها بالكآبة فى معظم الأوقات:				B3
a. هل شهيتك للأكل تغيرت بشكل ملحوظ؟	لا	نعم	19	
b. هل عندك مشاكل فى النوم أو بتنام كتير؟	لا	نعم	20	
c. هل شعرت بالتعب أو عدم الحيوية؟	لا	نعم	21	
d. هل فقدت ثقتك بنفسك؟	لا	نعم	22	
e. هل عندك مشكلة فى التركيز أو فى اتخاذ القرارات؟	لا	نعم	23	
f. هل شعرت باليأس؟	لا	نعم	24	
هل أجاب **بنعم** على سؤالين أو أكثر من مجموعة أسئلة **B3**؟	لا ◄	نعم		
هل سببت لك أعراض الاكتئاب إحباط ملحوظ أو قللت قدرتك على العمل أو على علاقاتك الاجتماعية أو فى أى جانب آخر مهم؟	لا ◄	نعم	25	B4
هل أجاب بـ(**نعم**) على **B4**؟				

┌─────────────────────┐
│   لا   نعم   │
│ عسر المزاج حالياً   │
└─────────────────────┘

C- ميول انتحارية

نقاط				
			فى الشهر الماضى:	
1	نعم	لا	هل فكرت بأن الموت أفضل لك أو تمنيت لو تكون ميت؟	C1
2	نعم	لا	هل أردت أن تؤذى نفسك؟	C2
6	نعم	لا	هل فكرت فى الانتحار؟	C3
10	نعم	لا	هل خططت للانتحار؟	C4
10	نعم	لا	هل حاولت الانتحار؟	C5
			طوال حياتك؟	
4	نعم	لا	فى أى وقت من الأوقات هل قمت بمحاولة انتحار؟	C6

فى الأسئلة السابقة هل أجاب **بنعم مرة واحدة** على الأقل.

* اجمع النقاط الكلية للإجابات المجابة بـ(نعم) ثم حدد درجة خطورة الانتحار كما يلى:

```
          نعم        لا
     خطر الانتحار حالياً
واحد إلى خمسة نقاط(منخفض) □
ستة إلى ثمانية نقاط (متوسط) □
عشرة أو أكثر من عشرة نقاط □
         (مرتفع)
```

D- نوبة هوس (هوس تحت الحاد)

هذه العلامة (←) تعنى التوجه إلى المربعات التشخيصية، علّم بـ"لا" فى كل المربعات التشخيصية التالية
ثم انتقل إلى المجموعة الإكلينيكية التالية:

1	نعم	لا	D1 a. هل فى أى وقت من الأوقات شعرت إنك سعيد ومنتشى أو ملئ بالحيوية والاعتزاز بالنفس لدرجة سببت لك متاعب أو أن الآخرين ظنوا أنك كنت مش على طبيعتك؟ (لا تضع فى الاعتبار الأوقات التى كنت فيها تحت تأثير عقاقير أو خمور). * إذا كان المريض متحير فى معنى السؤال أو المعنى غير واضح بالنسبة لكلمة "سعيد" أو "منتشى" فيجب أن تشرح له كالآتى: يعنى المزاج عالى، ملئ بالحيوية، محتاج لنوم أقل، بتفكر بسرعة أو عندك أفكار كثيرة، زيادة فى الإنتاجية، الحماس والإبداع أو السلوك الاندفاعى. إذا كانت إجابة D1a بـ**"نعم"**.
2	نعم	لا	b. هل تشعر حالياً إنك "سعيد" و "منتشى" وملئ بالحيوية؟
3	نعم	لا	D2 a. هل كنت فى أى وقت من الأوقات متوتر باستمرار ولمدة عدة أيام لدرجة إنك حاولت أو تشاجرت بدنياً أو بالكلام مع ناس خارج أسرتك؟ هل لاحظت أو لاحظ الآخرون إنك أكثر توتراً ورد فعلك مبالغ فيه مقارنة بالآخرين حتى فى المواقف اللى بتحس فيها إنك على حق؟
4	نعم	لا	b. هل تشعر حالياً إنك متوتر باستمرار.
	نعم	←	هل أجاب بـ**(نعم)** على **D1a** أو **D2a**.

D3 إذا كانت الإجابة بـ**(نعم)** على **D1b** أو **D2b** استكشف فقط النوبة الحالية.
إذا كانت الإجابة بـ**(لا)** على **D1b** أو **D2b** استكشف فقط أكثر نوبة ماضية أعراضاً.

* فى خلال الأوقات التى شعرت بها إنك مبسوط ملئ بالحيوية أو متوتر.

5	نعم	لا	a. هل شعرت إنك تستطيع أن تعمل أشياء لا يقدر عليها الآخرون أو إنك شخص مهم جداً؟
6	نعم	لا	b. هل احتجت إلى نوم أقل مثلاً (تشعر بالراحة بعد ساعات قليلة من النوم).
7	نعم	لا	c. هل بتتكلم كثير دون توقف أو بسرعة لدرجة إن الناس تفهمك بصعوبة؟
8	نعم	لا	d. هل عندك أفكار متلاحقة؟
9	نعم	لا	e. هل أصبحت تتشتت بسهولة لدرجة إن أى مقاطعة بسيطة قدرت تشتتك؟
10	نعم	لا	f. هل أصبحت نشيط جداً أو كثير الحركة لدرجة إن الآخرين قلقوا عليك؟

g. هـل أردت المشـاركة فى الأنشـطة الممـتعة لدرجـة إنك تجهالت الأخطـار أو العواقـب مـثلاً (الإنفـاق بـبذخ، القـيادة المـتهورة أو التصرفات الجنسية غير اللائقة). | لا | نعم | **11**

هل أجاب بـ(**نعم**) على **3** أسئلة أو أكثر من مجموعة أسئلة **D3**، أو أجاب على **4** أسئلة. إذا كانت إجابة **D1a** بـ(**لا**) نوبـة سابقة أو إجابة **D1b** بـ(**لا**) نوبة حالية؟ | ☚ | نعم

D4 | هـل هذه الأعراض استمرت أسبوع على الأقل وتسببت لك فى مشاكل ملحوظـة فى البيت، العمـل، اجتماعياً أو فى المدرسـة أو هـل دخلت المستشفى بسبب هذه المشاكل؟ | لا | نعم | **11**

↓ ↓

☐ ☐

نوبة نوبة هوس
نوبة هوس

هذه النوبة المستكشفة كانت

هل أجاب بـ(**لا**) على **D4**؟
حدد إذا كانت النوبة حالية أو فى الماضى.

نوبة هوس تحت الحاد	لا	نعم
حـــاليـــاً	☐	
فىالماضى	☐	

هل أجاب بـ(**نعم**) على **D4**؟
حدد إذا كانت النوبة حالية أو فى الماضى.

نوبة هـــوس	لا	نعم
حـــاليـــاً	☐	
فىالماضى	☐	

E- اضطراب الهلع

هذه العلامة (←) تعنى إذا كانت إجابة E5 بـ"لا" انتقل إلى F1.

E1	a. هل حدث لك فى أكثر من مناسبة نوبات تشير فيها فجأة إنك قلق - خائف - غير مرتاح حتى فى مواقف لا يشعر فيها الناس بذلك؟	لا	نعم	**1**
	b. هل وصلت النوبات إلى ذروتها فى خلال 10 دقائق؟	لا	نعم	**2**
E2	فى أى وقت هل حدثت أياً من هذه النوبات بصورة غير متوقعة أو حدثت النوبات بصورة غير متوقعة أو حدثت بطريقة لا يمكن التنبؤ بها أو بدون استثارة؟	لا	نعم	**3**
E3	هل حدث فى أى وقت من الأوقات بعد إحدى هذه النوبات لمدة شهر أو أكثر أنه كان عندك خوف مستمر من حدوث نوبة أخرى أو كان عندك قلق من عواقب هذه النوبة؟	لا	نعم	**4**
E4	خلال أكثر النوبات سوءاً التى تتذكرها:			
	a. هل كانت ضربات قلبك ناقصة ـ سريعة أو قوية؟	لا	نعم	**5**
	b. هل كنت بتعرق أو زاد عرق إيديك؟	لا	نعم	**6**
	c. هل كنت بترجف أو بترتعش؟	لا	نعم	**7**
	d. هل كان عندك ضيق أو صعوبة فى التنفس؟	لا	نعم	**8**
	e. هل شعرت بخنقة أو كأن فى حاجة واقفة فى زورك؟	لا	نعم	**9**
	f. هل شعرت بألم فى الصدر؟ أو ضغط على صدرك أو عدم راحة؟	لا	نعم	**10**
	g. هل كان عندك غثيان أو كان فيه عندك مشاكل فى المعدة أو كان عندك إسهال مفاجئ؟	لا	نعم	**11**
	h. هل كنت تشعر بدوخة أو عدم اتزان أو إغماء؟	لا	نعم	**12**
	i. هل شعرت أن الأشياء غريبة، غير حقيقية؟ منفصلة أو غير مألوفة أو كأنك خارج عن أو منفصل عن جزء أو جميع أجزاء جسمك؟	لا	نعم	**13**
	j. هل خفت إنك تفقد السيطرة على نفسك أو تتجنن؟	لا	نعم	**14**
	k. هل خفت إنك كنت هتموت؟	لا	نعم	**15**
	l. هل حدث لك تنميل أو خدر فى أجزاء جسمك؟	لا	نعم	**16**
	m. هل شعرت بسخونة (صهد) أو برودة (قشعريرة) فى جسمك؟	لا	نعم	**17**

E5	هل أجاب بـ(**نعم**) على كل من E3 أو 4 أسئلة أو أكثر من مجموعة أسئلة E4؟	لا نعم ⟶ اضطراب هلع طوال حياته
E6	إذا كانت إجابة E5 بـ(**لا**) هل أجاب بـ(**نعم**) على عرض، عرضين أو 3 أعراض من مجموعة أسئلة E4 من a إلى m؟	لا نعم نوبة هلع ذات أعراض محددة حالياً

إذا كانت إجابة E6 بـ(**نعم**) انتقل إلى F1.

E7 فى خلال الشهر الماضى هل حدثت هذه النوبات بصورة متكررة (مرتين أو أكثر)، وهل أعقبها خوف مستمر من حدوث نوبة أخرى؟

لا	نعم
	اضطراب الهلع حالياً 18

F- رهاب الساحة

		لا	نعم	19
F1	هل تشعر بالقلق أو عدم الارتياح فى أماكن أو مواقف عندها يمكن إصابتك بنوبة هلع أو أعراض تشبه الهلع التى ذكرناها مسبقاً، أو الأماكن التى لا يتاح فيها المساعدة أو يكون الهرب فيها صعباً، مثل التواجد فى الزحام أو الوقوف فى صف (طابور) أو عندما تكون وحيداً بعيد عن المنزل أو وحيداً فى المنزل أو عندما تعبر كوبرى أو تسافر فى أوتوبيس أو قطار أو سيارة؟			

إذا أجاب بـ"**لا**" عن **F1**، علّم بـ"**لا**" على **F2**.

F2	هل تخاف من هذه المواقف لدرجة أنك تتجنبها أو تعانى منها أو تحتاج لصحبة لمواجهتها؟

	لا نعم	20
رهاب الساحة حالياً		

هل أجاب بـ"**لا**" عن **F2** (رهاب الساحة حالياً)

و

أجاب بـ"**نعم**" عن **E7** (اضطراب هلع حالياً)؟

	لا نعم
اضطراب هلع بدون رهاب الساحة	

هل أجاب بـ"**نعم**" عن **F2** (رهاب الساحة حالياً)

و

أجاب بـ"**نعم**" عن **E7** (اضطراب هلع حالياً)؟

	لا نعم
اضطراب هلع مع رهاب الساحة حالياً	

هل أجاب بـ"**نعم**" عن **F2** (رهاب الساحة حالياً)

و

أجاب بـ"**لا**" عن **E5** (اضطراب هلع طوال حياته)؟

	لا نعم
رهاب الساحة حالياً بدون تاريخ مرضى لاضطراب الهلع	

G- الرهاب الاجتماعى
(اضطراب القلق الاجتماعى)

هذه العلامـة (←) تعنى التوجه إلى المربع التشخيصى، علّم بـ"لا" وانتقل إلى المجموعـة الإكلينيكية التالية: ◄

1	نعم	لا	فى الشهر الماضى، هل كنت خايف أو محرج إنك تكون محط أنظار الآخرين أو أن تكون مركز اهتمامهم أو خايف أن تهان؟ هذا يشمل أشياء مثل التحدث أو الأكل على الملأ أو مع الآخرين أو الكتابة على مرأى من شخص ما أو فى المواقف الاجتماعية؟	G1
2	نعم	لا	هل هذا الخوف زائد أو غير منطقى؟	G2
3	نعم	لا ◄	هل تخاف هذه المواقف لدرجة إنك تتجنبها أو تعانى منها؟	G3
4	نعم	لا	هل يسبب هذا الخوف إرباك لعملك العادى أو نشاطك الاجتماعى أو يسبب لك معاناة ملحوظة؟	G4

هل أجاب بـ"**نعم**" على **G4**؟

لا   نعم
الرهاب الاجتماعى
(اضطراب القلق الاجتماعى)
حـالـيـاً

H- اضطراب الوسواس القهرى

هذه العلامة (←) تعنى التوجه إلى المربع التشخيصى، علّم بـ"لا" وانتقل إلى المجموعة الإكلينيكية التالية:

	لا	نعم	
H1	فى الشهر الماضى هل ضايقتك أفكار متكررة ـ اندفاعات أو صور غير مرغوبة ـ بغيضة ـ غير مناسبة ـ مقتحمة أو عانيت منها؟ (مثل، فكرة إنك متسخ ـ ملوث ـ أو مصاب بميكروبات أو تخاف إنك تلوث الآخرين أو الخوف من إيذاء الآخرين بالرغم من عدم رغبتك فى ذلك أو تخاف إنك تنفذ أى اندفاع أو خوف أو توهم إنك ممكن تكون مسئول عن الأشياء التى تحدث خطأ أو وساوس ذات أفكار ـ صور ـ اندفاعات جنسية أو وساوس لجمع الأشياء وادخارها أو وساوس دينية).	لا	نعم	**1**
		تقل إلى H4		

(لا يعتد بالإجابات التى تشمل التوترات الشديدة الخاصة بمشاكل الحياة الحقيقية، لا تشمل الإجابات الوساوس المتعلقة مباشرة بكل من اضطرابات الأكل أو الانحراف الجنسى أو المقامرة المرضية أو سوء استخدام العقاقير أو الكحوليات، لأن المريض قد يستمد السعادة من هذا النشاط وقد يرغب فى مقاومته فقط بسبب عواقبه السلبية).

	لا	نعم	
H2	هل الوساوس بتتردد فى عقلك حتى لو حاولت إهمالها أو التخلص منها؟	لا	نعم	**2**
	انتقل إلى H4			
H3	تفتكر إن هذه الوساوس من نتاج عقلك وغير مفروضة عليك من الخارج؟	لا	نعم	**3**
H4	فى الشهر الماضى، هل فعلت شئ ما بصفة متكررة بدون القدرة على مقاومته مثل الغسيل أو التنظيف الزائد، عد أو فحص الأشياء أكثر من مرة، أو تكرار تجميع أو ترتيب الأشياء أو طقوس وهمية أخرى؟	لا	وساوس / أفعال قهرية	**4**

هل أجاب بـ"**نعم**" على **H3** أو **H4**؟   لا   نعم

	لا	نعم	
H5	هل أدركت إن أى من هذه الأفكار الوسواسية أو هذه الأفعال القهرية كانت زائدة أو غير منطقية؟	◄	نعم	**5**
H6	هل تعارضت هذه الأفكار الوسواسية أو الأفعال القهرية بطريقة ملحوظة مع نظامك المعتاد أو أداؤك المهنى ـ أنشطتك أو علاقاتك الاجتماعية المعتادة أو هل استغرقت أكثر من ساعة واحدة يومياً؟	لا	نعم	**6**

اضطراب وسواس قهرى حـالـيـاً

I- اضطراب كرب ما بعد الصدمة (اختيارى)

هذه العلامة (←) تعنى التوجه إلى المربع التشخيصى، علّم بـ"لا" وانتقل إلى المجموعة الإكلينيكية التالية:

1	نعم	◄لا	**I1** هل فى أى وقت من الأوقات قاسيت أو شهدت أو اضطريت للتعامل مع حدث شديد الصدمة متضمناً موت حقيقى أو تهديد بالموت أو جرح خطير لك أو لشخص ما آخر؟ أمثلة الحوادث المؤلمة تشمل: حوادث خطيرة-اعتداء جنسى أو جسدى-هجوم إرهابى-الاتخاذ كرهينة-الاختطاف-حريق-اكتشاف جثة-الموت المفاجئ لشخص قريب لك-الحرب أو كارثة طبيعية.
2	نعم	◄لا	**I2** خلال الشهر الماضى، هل عانيت من إعادة معايشة الحدث [مثلاً عن طريق الأحلام - تكثيف استرجاع الأحداث - ارتجاعات زمنية (فلاش باك) أو ردود أفعال جسدية]؟

I3 فى الشهر الماضى:

3	نعم	لا	a. هل تجنبت التفكير فى الحدث أو تجنبت الأشياء التى تذكرك بالحدث؟
4	نعم	لا	b. هل عندك مشكلة فى اعادة تذكر جزء مهم مما حدث؟
5	نعم	لا	c. هل أصبحت أقل اهتماماً بالهوايات والأنشطة الاجتماعية؟
6	نعم	لا	d. هل شعرت بالانفصال أو الغربة عن الآخرين؟
7	نعم	لا	e. هل لاحظت أن مشاعرك متبلدة (مخدرة)؟
8	نعم	لا	f. هل شعرت أن عمرك سيكون قصيراً وإنك سوف تموت قبل الآخرين؟
	نعم	◄لا	هل أجاب بـ"**نعم**" عن **3** أسئلة أو أكثر من مجموعة **I3**؟

I4 فى الشهر الماضى:

9	نعم	لا	a. هل وجدت صعوبة فى النوم؟
10	نعم	لا	b. هل كنت على الأخص متوتر أو عندك نوبات غضب؟
11	نعم	لا	c. هل وجدت صعوبة فى التركيز؟
12	نعم	لا	d. هل كنت عصبى أو متحفز باستمرار؟
13	نعم	لا	e. هل كنت تفزع بسهولة؟
	نعم	◄لا	هل أجاب بـ"**نعم**" على سؤالين أو أكثر من مجموعة **I4**؟
14	نعم	لا	**I5** خلال الشهر الماضى، هل تعارضت هذه المشاكل بصورة ملحوظة مع عملك أو أنشطتك الاجتماعية أو سببت معاناة ملحوظة؟ هل أجاب بـ"**نعم**" عن **I5**؟

لا	نعم
اضطراب كرب ما بعد الصدمة حالياً	

J- سوء استخدام والاعتماد على الكحول

هذه العلامة (←) تعنى التوجه إلى المربعات التشخيصية، وعلّم بـ"لا" فى كل المربعات التشخيصية وانتقل إلى المجموعة الإكلينيكية التالية:

J1	**فى الشهور الإثنى عشر الماضية،** هل شربت 3 مرات خمرة أو أكثر خلال ثلاث ساعات فى 3 مناسبات أو أكثر؟	لا ◄	نعم	**1**

J2   **فى الشهور الإثنى عشر الماضية:**

a. هل احتجت لزيادة الشرب لكى تحصل على نفس التأثير الذى حصلت عليه حين بدأت الشرب؟	لا ◄	نعم	**2**
b. عندما توقف الشرب هل ارتعشت يداك، عرقت أو شعرت بهياج، هل حدث أنك شربت لتتجنب هذه الأعراض أو لتتجنب امتداد تأثير الكحول مثلاً (الرجفة - العرق - الهياج)؟			
إذا وافق على أيهما، علّم على الإجابة بـ(نعم)؟	لا	نعم	**3**
c. فى الأوقات التى كنت تشرب فيها الخمرة، هل انتهى بك الحال إنك شربت أكثر مما كنت مخطط له فى البداية؟	لا	نعم	**4**
d. هل حاولت الإقلال من أو إيقاف شرب الخمرة ولكنك فشلت؟	لا	نعم	**5**
e. فى الأيام التى شربت فيها، هل أمضيت وقت ملموس فى الحصول على الخمرة وشربها والتخلص من تأثيرها؟	لا	نعم	**6**
f. بسبب الشرب هل أصبح الوقت المتاح للعمل أو التمتع بالهوايات أقل؟	لا	نعم	**7**
g. هل استمريت تشرب حتى حين عرفت أنه سبب لك مشاكل فى صحتك أو فى عقلك؟	لا	نعم	**8**

هل أجاب بـ"**نعم**" على **3** أو أكثر من مجموعة أسئلة **J2**؟

```
لا    نعم    ◄
الاعتماد على الكحول
حالياً
```

J3   **فى الشهور الإثنى عشر الماضية:**

a. هل حدث إنك كنت سكران أو مبسوط (عامل دماغ) أو امتد تأثير الكحول أكثر من مرة عندما كان مطلوباً منك مسئوليات أخرى فى المدرسة - العمل - أو المنزل؟ هل سبب هذا أى مشاكل؟ (علّم الإجابة بـ"**نعم**" فقط إذا سبب ذلك مشاكل).			9
b. هل كنت سكران فى أى موقف وكان فيه خطر جسمانى عليك (مثلاً أثناء قيادة السيارة، ركوب الموتوسيكل، استخدام الآلات أو التجديف...إلخ)؟	لا	نعم	**10**
c. هل حدث لك أى مشاكل قانونية بسبب شربك (مثل القبض عليك أو ارتكاب سلوك مخالف للقانون)؟	لا	نعم	**11**
d. هل استمريت تشرب بالرغم من أنه تسبب لك فى مشاكل مع عائلتك أو مع الآخرين؟	لا	نعم	

هل أجاب بـ"**نعم**" على سؤال أو أكثر من مجموعة أسئلة **J3**؟

```
لا    نعم
سوء استخدام الكحول
حالياً
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K- اضطرابات استخدام مواد نفسية الفعالية (غير الكحوليات)

هذه العلامة (←) تعنى التوجه إلى المربعات التشخيصية، وعلّم بـ"لا" فى كل المربعات التشخيصية وانتقل إلى المجموعة الإكلينيكية التالية:

سـوف أقـوم الآن بعـرض وقـراءة قائمـة مـن مخـدرات السـوق أو العقاقير.	
K1 a. **فى الإثنى عشر شهراً الماضية،** هل تعاطيت أى من هذه العقاقير أكثر من مرة لتحصل على الانبساط أو الإحساس بإنك أحسن أو لتغيير مزاجك؟	🏴 نعم

علّم بدائرة حول كل عقار تم تعاطيه:

المنشطـــــــات: سبيد - ماكستون فورت - ريتالين - كرانك - أقراص تخسيس (تينيويت - ابيزيت) - ايس.

الكوكاييــــــن: حقن وريد - كراك - سبيد بوول - سنورتنج.

المخـــــــدرات: هيروين بودرة (بى.إس - فانيليا) - بيور - أفيون (أوبيم) - مورفين - كودبين (صوابع - طحينة - نشا) - باراكودان (بارا) - كودافيين (سى.دى) - نيوبان - توسيلار - توسيفان - بلمولار.

عقاقير هلوسـة: اسيد (إل.اس.دى - طوابع - بذور) - اكستاسى.

المواد المستنشقة: الغراء - الكلة - الصمغ - التنر - سلسيون - بنزين - الغاز الضاحك.

ماريجوانـــــا: حشيش - بانجو - جوانات.

المهدئـــــات: فاليوم - روش - زاناكس - اتيفان - أبو ذنبة - اميتريل - ابيتريل - ريفوتريل - سيكونال (فراولة) روهيبنول (أبو صليبة) - ليبريوم - كوميتال (جماجم).

متنوعـــــات: ستيرويد - أقراص تخسيس - القات - باركينول (صراصير) - اندروجين - تجريتول - أى شئ آخر.

حدد العقار أو العقاقير أكثر استخداماً:

b. حدد ما سيتم استكشافه فى الخصائص التالية:
- إذا كان هناك تلازم أو تتابع فى استخدام أكثر من عقار:
  - الاقتصار على مجموعة واحدة من العقاقير فى كل مرة استخدام. ☐
  - يتعاطى مجموعة واحدة من العقاقير فى أغلب استخدامه. ☐
- يأخذ عقار واحد من مجموعة واحدة من العقاقير. ☐

K2	**بالنسبة لاستخدامك** (حدد اسم العقار/ مجموعة العقاقير) **خلال الإثنى عشر شهراً الماضية.**
	a. هل وجدت إنك محتاج لاستخدام كمية أكبر (حدد اسم العقار/ مجموعة العقار) لتحصل على نفس التأثير عند بدء تعاطيك؟ نعم لا **1**

b. عندما تقلل أو توقف استخدام (حدد اسم العقار/ مجموعة العقار)، هل حدث لك أعراض انسحاب (أوجاع-رجفة-حمى-ضعف- إسهال-غثيان-عرق-خفقان-صعوبة فى النوم أو هياج وقلق وتوتر أو اكتئاب)؟ هل استخدمت أى دواء لكى تحمى نفسك من (التعب) أعراض الانسحاب أو لتشعر بالتحسن؟

إذا أجاب على أيهم بـ(**نعم**) علّم على الإجابة بـ(**نعم**).   لا   نعم   **2**

c. هل غالبّا ما تجد عند استخدامك (حدد اسم العقار/ مجموعة العقار) إنك تتعاطى أكثر مما كنت مفكر تاخده؟   لا   نعم   **3**

d. هل حاولت تقلل أو تتوقف عن تعاطى (حدد اسم العقار/مجموعة العقار) ولكنك فشلت؟   لا   نعم   **4**

e. فى الأيام التى تعاطيت فيها (حدد اسم العقار/ مجموعة العقار) هل أمضيت وقت ملموس (أكثر من ساعتين) فى الحصول على أو استخدام أو التخلص من تأثير العقار أو التفكير فى العقار؟   لا   نعم   **5**

f. بسبب استخدامك العقار، هل أصبح الوقت المتاح للعمل والتمتع بالهوايات أو تواجدك مع الأسرة والأصدقاء أقل؟   لا   نعم   **6**

g. هل استمريت تستخدم (حدد اسم العقار/ مجموعة العقار) بالرغم إنه سبب لك مشاكل فى صحتك أو فى عقلك؟   لا   نعم   **7**

هل أجاب بـ"**نعم**" على 3 أو أكثر من مجموعة أسئلة **K2**؟ ◄
حدد العقار/العقاقير _____

لا	نعم
الاعتماد على العقار طوال حياته	

بالنسبة لاستخدامك (حدد اسم العقار/ مجموعة العقار) فى الشهور الإثنى عشر الماضية؟

K3 a. هل حدث لك تسمم (سقّط) أو انبساط (عامل دماغ) أو امتد التأثير من (حدد اسم العقار/مجموعة العقار) أكثر من مرة، فى الوقت الذى كان عندك مسئوليات أخرى فى المدرسة ـ العمل أو المنزل؟ هل سبب هذا أى مشاكل؟
(علّم على الإجابة بـ"نعم" فقط إذا سبب ذلك مشاكل).

نعم لا **8**

b. هل حدث لك تسمم أو انبساط (عامل دماغ) من (حدد اسم العقار/ مجموعة العقار) فى أى موقف كان فيه خطر جسمانى عليك (مثلاً أثناء قيادة السيارة ـ ركوب الموتوسيكل ـ استخدام الآلات ـ التجديف....)؟

نعم لا **9**

c. هل حدث لك أى مشاكل قانونية بسبب استخدامك للعقار (مثل القبض عليك أو ارتكاب سلوك مخالف للقانون)؟

نعم لا **10**

d. هل استمريت تستخدم (حدد اسم العقار/ مجموعة العقار)، بالرغم من أنه تسبب لك فى مشاكل مع عائلتك أو مع الآخرين؟

نعم لا **11**

هل أجاب بـ(**نعم**) على سؤال أو أكثر من مجموعة أسئلة **K3**؟

حدد العقار/العقاقير _____

سوء استخدام العقار حالياً	نعم	لا

L- الاضطرابات الذهانية

إسأل عن مثال لكل سؤال ثم الإجابة عنه بـ(نعم). علّم بـ(نعم) فقط إذا كانت الأمثلة تبين بوضوح تشتت التفكير أو الإدراك أو إذا كانت غير ملائمة ثقافياً. قبل الإجابة تحرى ما إذا كانت الضلالات "متصفة بالغرابة".

* الضلالات تعد "متصفة بالغرابة": إذا كانت غير منطقية بصورة واضحة أو سخيفة أو غير مفهومة ولا يمكن استنتاجها من خبرة الحياة العادية.

* الهلاوس تعد "متصفة بالغرابة": إذا علق الصوت على تفكير الشخص أو سلوكه أو عندما يتحدث صوتان أو أكثر مع بعضهما.

والآن سوف أقوم بسؤالك عن خبرات غير معتادة قد تحدث لبعض الناس.

	متصف بالغرابة			
1	~~نعم~~	نعم	لا	a. هل فى أى وقت من الأوقات اعتقدت أن الناس بتتجسس عليك أو أن شخص بيدبر مؤامرة ضدك أو يحاول إيذائك؟ ملحوظة: إسأل على أمثلة لتستبعد أى ادعاء حقيقى.	L1
2 L6←	نعم	نعم	لا	b. إذا كانت الإجابة بـ(**نعم**) هل أنت حالياً تعتقد فى هذه الأشياء؟	
3	نعم	نعم	لا	a. هل فى أى وقت من الأوقات اعتقدت أن شخصاً كان بيقرأ ما فى عقلك أو بيسمع أفكارك أو إنك أنت قدرت فعلاً تقرأ اللى فى عقل حد تانى أو سمعت اللى بيفكر فيه؟	L2
4 L6←	نعم	نعم	لا	b. إذا كانت الإجابة بـ(**نعم**) هل أنت حالياً تعتقد فى هذه الأشياء؟	
5	نعم	نعم	لا	a. هل فى أى وقت من الأوقات اعتقدت أن شخصاً ما أو قوة ما خارجة عنك وضعت أفكار ليست خاصة بك فى عقلك أو جعلتك تتصرف بطريقة ليست طريقتك المعتادة؟ هل فى أى وقت من الأوقات شعرت إنك ملبوس؟ الفاحص: إسأل على أمثلة وأهمل أى سؤال غير ذهانى.	L3
6 L6←	نعم	نعم	لا	b. إذا كانت الإجابة بـ(**نعم**) هل أنت حالياً تعتقد فى هذه الأشياء؟	
7	نعم	نعم	لا	a. هل فى أى وقت من الأوقات اعتقدت إن فيه رسائل خاصة أرسلت لك عن طريق التليفزيون، الراديو أو الجرائد أو أن هناك شخصاً ما يهتم بك بصفة خاصة بالرغم من إنك لا تعرفه شخصياً؟	L4
8 L6←	نعم	نعم	لا	b. إذا كانت الإجابة بـ(**نعم**) هل أنت حالياً تعتقد فى هذه الأشياء؟	

النسخة العربية للمينى، يناير
2000

9	نعم	نعم	لا	a. هـل فـى أى وقـت مـن الأوقـات اعتبـر أقـاربك أو أصدقائك أن معتقداتك غريبة أو غير معتادة؟	L5

الفاحص: اسأل على أمثلة، علّم بـ(نعم) فقط إذا كانت الأمثلة تشير بوضوح إلى أفكار ضـلالية ولم تستكشـف فـى الأسئلـة مـن L1 إلـى L4 وعلـى سبيل المثـال: الضـلالات الجسـدية، الدينية أو ضـلالات العظمـة، الغيـرة، الذنـب، التحطيم....إلخ.

10	نعم	نعم	لا	b. إذا كانـت الإجابـة بـ(**نعـم**) هـل يعتبـرون حاليـاً إن معتقداتك غريبة؟	
11		نعم	لا	a. هـل فـى أى وقـت مـن الأوقـات سمعت أشياء مـثل (الأصوات) لا يستطيع الآخرون سماعها؟	L6

الهـلاووس تعـد "متصفة بالغـرابة" فقـط إذا أجـاب المريض بـ(**نعم**) على الآتى:

نعم	إذا كانت الإجابة بـ(**نعم**) هل سمعت صوت بيعلق على أفكـارك أو سـلوكك أو هـل سـمعت صـوتين أو أكـثر بيتكلموا مع بعض؟	

12 L8b←	نعم	نعم	لا	b. إذا كانت الإجابة بـ(**نعم**) هل سمعت هذه الأشياء خلال الشهر الماضى؟	
13	نعم	لا		a. هل فى أى وقت من الأوقات رأيت أشياء وأنت صاحى أو رأيت أشياء لا يمكن الآخرين رؤيتها؟	L7

الفاحص: تأكد أن ما يراه غير ملائم للثقافة.

14	نعم	لا		b. إذا كانت الإجابة بـ(**نعم**) هل رأيت هذه الأشياء خلال الشهر الماضى؟

تقييم الفاحص الإكلينيكى:

15	نعم	لا		b. هل كلام المريض فى الوقت الحالى غير مفهوم أو غير منظم أو غير مترابط بصورة واضحة.	L8
16	نعم	لا		b. هـل سـلوك المـريض فـى الوقت الحـالى مـنظم أو تخشبى (كتانونى)؟	L9
17	نعم	لا		b. هل الأعراض السالبة للفصام كانت ظاهرة بوضوح أثناء المقابلة مثل تبلد وجدانى ملحوظ أو فقر الحديث (Alogia) أو عدم القدرة لبدء أو الاستمرار فى أنشطة محددة الهدف (Avolition)؟	L10
	لا نعم اضطراب ذهانى حالياً	هل سؤال أو أكثر من أسئلة المجموعة "**b**" تم الإجابة عنها بـ"**نعم**" **متصف بالغرابة**؟ أو هل سؤالين أو أكثر من أسئلة المجموعة "**b**" تم الإجابة عنها بـ"**نعم**" وليست ("نعم" **متصف الغرابة**)؟	L11

لا نعم **18**	L12 هل سؤال أو أكثر من أسئلة المجموعة "a" تم الإجابة عنها بـ"**نعم**"
اضطراب ذهانى طوال حياته	**متصف الغرابة؟** أو هل سؤالين أو أكثر من أسئلة المجموعة "a" تم الإجابة عنها بـ"**نعم**" وليست ("نعم" **متصف بالغرابة**)؟

تأكد من أن العرضين قد حدثا أثناء نفس الفترة الزمنية.

أو هل أجاب بـ"**نعم**" على **L11**.

L13 a. هل أجاب بـ"**نعم**" على **L11** وكانت الإجابة بـ"**نعم**" على أى من نوبة اكتئاب جسيمة (حالية)؟

أو نوبة هوس (حالية أو فى الماضى).   لا   نعم

b. إذا كانت إجابة **L13a** بـ"**نعم**" سبق أن أخبرتنى أن هناك فترات شعرت بإنك فيها (مكتئب / مبسوط / متوتر بصفة مستمرة).

هل المعتقدات والخبرات التى وصفتها توَّا [أعراض مجابة بـ"**نعم**"

لا نعم **19**	من (**L1b** إلى **L7b**) قاصرة على الأوقات التى بتشعر فيها بإنك
اضطراب مزاجى مع مظاهر ذهانية حالية	(مكتئب / مبسوط / متوتر)]؟

M- فقدان الشهية العصبى

هذه العلامة (←) تعنى التوجه إلى المربع التشخيصى، وعلّم على الإجابة بـ"لا" وانتقل إلى المجموعة الإكلينيكية التالية:

M1	a. ما هو طولك؟	سم ☐ ☐ ☐
	b. ما هو أقل وزن لك فى الثلاث شهور الماضية؟	كجم ☐ ☐ ☐
	هل وزن المريض أقل من الحد الأدنى لوزنه بالنسبة لطوله أو طولها؟	◄لا نعم

فى الثلاث شهور الماضية.

M2	بالرغم من هذا الوزن المنخفض، هل حاولت تجنب الزيادة فى الوزن؟	◄لا نعم	1
M3	هل خفت من زيادة الوزن أو إنك تبقى بدين، رغم إنك كنت أقل من الوزن العادى؟	لا نعم	2
M4	a. هل اعتبرت نفسك بدين أو إن جزء من جسمك بدين جداً؟	لا نعم	3
	b. هل أثر وزن أو شكل جسمك بقدر كبير على شعورك تجاه نفسك؟	لا نعم	4
	c. هل فكرت إن وزنك المنخفض الحالى طبيعى أو زائد؟	لا نعم	5
M5	هل أجاب بـ"**نعم**" على سؤال أو أكثر من مجموعة أسئلة **M4**؟	◄لا نعم	
M6	للنساء فقط: خلال الثلاث شهور الأخيرة، هل انقطعت كل فترات الحيض المتوقع حدوثها (بغير سبب الحمل)؟	◄لا نعم	6

للنساء: هل أجابت بـ(**نعم**) عن 5M و 6M؟
للرجال: هل أجاب بـ(نعم) عن 5M؟

فقدان الشهية العصبى حالياً	لا نعم

جدول الطول/الوزن الأدنى (الطول بدون حذاء - الوزن بدون ملابس).

طول/وزن الإناث														
سم	145	147	150	152	155	158	160	163	165	168	170	173	175	178
كجم	38	39	39	40	41	42	43	44	45	46	47	49	50	51

طول/وزن الذكور														
سم	155	156	160	163	165	168	170	173	175	178	180	183	185	188	191
كجم	47	48	49	50	51	51	52	53	54	55	56	57	58	59	61

تم حساب الحد الأدنى على أساس 15% أقل من الوزن الطبيعى لطول المريض ونوعه كما هو موصوف فى الدليل الرابع للتشخيص والإحصاء، ويعكس الجدول الأوزان الأقل من 15% عن الحد الأدنى من مدى التوزيع الطبيعى طبقاً لجدول الأوزان لشركة متروبوليتان للتأمين على الحياة.

N ـ الشره العصبى

هذه العلامة (←) تعنى التوجه إلى مربعات التشخيص، وعلّم بـ"لا" على كل المربعات التشخيصية وانتقل إلى المجموعة الإكلينيكية التالية:

7	نعم	◄ لا	فى الثلاث شهور الماضية، هل حدث لك نوبات نهم للأكل أو مرات أكلت فيها كمية كبيرة من الأكل خلال ساعتين؟	N1
8	نعم	◄ لا	فى الثلاث شهور الأخيرة، هل حدث لك نوبات نهم للأكل بمعدل مرتين فى الأسبوع؟	N2
9	نعم	◄ لا	خلال نوبات النهم هل شعرت بعدم قدرتك فى السيطرة على الأكل؟	N3
10	نعم	◄ لا	هل فعلت أى شــئ لتعويض أو مـنع أى زيـادة فـى الـوزن مـن هذه النـوبات (مـثل التقـيؤ أو الصـوم أو التدريـبات الرياضية أو تعـاطى ملينات أو حقن شرجية أو مدرات للبول أو أدوية أخرى)؟	N4
11	نعم	◄ لا	هل أثر وزن أو شكل جسمك بقدر كبير على شعورك تجاه نفسك؟	N5
	نعم	لا ↓	هل أعراض المريض تفى بالمعايير الخاصة بالشرة العصبى؟	N6
12	نعم	انتقل إلى N8	هل تحدث نوبات النهم فقط عندما يكون وزنك أقل من (كجم)؟ ملحوظة للفاحص: اكتب بين القوسين الحد الأدنى لوزن المريض بالنسبة لطوله من جدول الطول/الوزن الموجود فى المجموعة الإكلينيكية لفقدان الشهية العصبى.	N7

هل إجابة N5 كانت **نعم** وإجابة N7 كانت **"لا"** أو لم تسأل؟ N8

لا	نعم
	الشــره العصبى حالياً

هل إجابة N7 كانت **"نعم"**؟

لا	نعم
	فقدان الشهية العصبى نمـط الأكـل الـنهمى/نمـط الإسهال المستحث ذاتياً حـالـياً

O- اضطراب القلق العام

هذه العلامة (←) تعنى التوجه إلى المربع التشخيصى، وعلّم بـ"لا" وانتقل إلى المجموعة الإكلينيكية التالية:

O1	a. هل قلقت بشدة أو كنت قلقاً على أشياء عديدة خلال الست شهور الماضية؟	لا ←	نعم	1
	b. هل هذا القلق موجود معظم الأيام؟	لا ←	نعم	2
	هل قلق المريض مقتصر تماماً أو يمكن تفسيره بطريقة أفضل عن طريق أى اضطراب من الاضطرابات السابق فحصها؟	لا	نعم ←	3

O2	هل تجد صعوبة فى السيطرة على القلق أو إن القلق يتعارض مع قدرتك على التركيز فيما تفعله؟	←	نعم	4

O3 بالنسبة للآتى، علّم الإجابة بـ"لا" إذا كانت الأعراض قاصرة على مواصفات أى اضطراب آخر موصوف فى الصفحات السابقة؟

عندما كنت قلقاً خلال الست شهور الماضية هل كنت معظم الوقت:

a. تشعر بالتململ أو النرفزة أو التحفز؟	لا	نعم	5
b. تشعر إنك متوتر؟	لا	نعم	6
c. تشعر إنك مجهد أو ضعيف أو تتعب بسهولة؟	لا	نعم	7
d. عنك صعوبة فى التركيز أو تجد عقلك ممسوح؟	لا	نعم	8
e. تشعر إنك سهل الاستثارة؟	لا	نعم	9
f. عندك صعوبة فى النوم (صعوبة فى بدء النوم أو الاستيقاظ فى وسط الليل أو الاستيقاظ فى الصباح الباكر أو النوم أكثر من اللازم)؟	لا	نعم	10

هل أجاب بـ"**نعم**" على 3 أسئلة أو أكثر من أسئلة O5؟

لا	نعم
	اضطراب القلق العام حـــــاليـــــاً

P- اضطراب الشخصية مضادة للمجتمع
(اختيارى)

هذه العلامة (←) تعنى التوجه إلى المربع التشخيصى، وعلّم بـ"لا".

P1 **قبل بلوغك سن 15 عام، هل كنت:**

1	نعم	لا	* تهرب من المدرسة بصفة متكررة أو تهرب من المنزل ليلاً؟
2	نعم	لا	* تكذب أو تغش أو تخدع الآخرين أو تسرف بصفة متكررة؟
3	نعم	لا	* تبدأ الخناقات أو تبلطج أو تهدد أو ترهب الآخرين؟
4	نعم	لا	* تخرب الأشياء أو تشعل الحرائق عمداً؟
5	نعم	لا	* تؤذى الحيوانات والناس عمداً؟
6	نعم	لا	* تجبر شخص ما لممارسة الجنس معك؟

نعم ◄ لا   هل أجاب بـ**"نعم"** عن سؤالين أو أكثر من مجموعة أسئلة **P1**؟

فى السلوكيات التالية، لا تعلّم **"نعم"** إذا كانت الإجابة قاصرة على دوافع سياسية أو دينية.

P2 **منذ بلوغك سن الخامسة عشر هل حدث إنك:**

7	نعم	لا	a. تصرفت بصورة متكررة بطريقة اعتبرها الآخرون غير مسئولة (مثل العجز عن سداد ثمن أشياء تملكتها أو مندفعاً بعمد أو تعمد عدم العمل لإعالة نفسك)؟
8	نعم	لا	b. فعلت أشياء غير قانونية حتى إذا لم يتم القبض عليك (مثل، تخريب الممتلكات أو السرقة فى المحلات أو السرقة أو بيع المخدرات أو ارتكاب الكبائر)؟
9	نعم	لا	c. تتشاجر بدنياً بصورة متكررة (يشمل هذا الشجار البدنى مع الزوج أو أطفالك)؟
10	نعم	لا	d. غالباً ما تكذب أو تغش الناس لكى تحصل على المال أو اللذة أو تكذب لمجرد المزاح فقط؟
11	نعم	لا	e. عرّضت الآخرين للخطر دون مبالاة؟
12	نعم	لا	f. عدم الشعور بالذنب بعد إيذاء ـ سوء معاملة ـ الكذب ـ أو سرقة الآخرين، أو بعد اتلاف الممتلكات؟

هل أجاب بـ**(نعم)** على **3** أو أكثر من مجموعة أسئلة **P2**؟

نعم   لا
اضطراب الشخصية مضادة للمجتمع طوال حياته

نهاية الفحص

APPENDIX I

POSITIVE AND NEGATIVE SYNDROME SCALE (PANSS)

Patient Information								
Patient		Date	Day	Mth.	Year	Time	Hour	Min

Personal notes

Scoring Procedure

Tick appropriate box for each item

P1. Delusions

Beliefs which are unfounded, unrealistic, and idiosyncratic. Basis for rating thought content expressed in the interview and its influence on social relations and behavior.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Presence of one or two delusions which are vaque, uncrystallized, and not tenaciously held. Delusions do not interfere with thinking, social relations, or behavior.	☐
4 Moderate - Presence of either a kaleidoscopic array of poorly formed, unstable delusions or of a few wellformed delusions that occasionally interfere with thinking, social relations, or behavior.	☐
5 Moderate severe - Presence of numerous well-formed delusions that are tenaciously held and occasionally interfere with thinking, social relations, or behavior.	☐
6 Severe - Presence of a stable set of delusions which are crystallized, possibly systematized, tenaciously held, and clearly interfere with thinking, social relations, and behavior.	☐
7 Extreme - Presence of a stable set of delusions which are either highly systematized or very numerous, and which dominate major facets of the patient's life. This frequently results in inappropriate and irresponsible action, which may even jeopardize the safety of the patient or others.	☐

P2. Conceptual disorganization

Disorganized process of thinking characterized by disruption of goal-directed sequencing, e.g., circumstantiality, tangentiality, loose associations non sequiturs, gross illogicality, or thought block. Basis for rating: cognitive-verbal processes observed during the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Thinking is circumstantial, tangential, or paralogical. There is some difficulty in directina thoughts toward a goal and some loosening o7 associations may be evidenced under pressure.	☐
4 Moderate - Able to focus thoughts when communications are brief and structured, but becomes loose or irrelevant when dealing with more complex communications or when under minimal pressure.	☐
5 Moderate severe - Generally has difficulty in organizing thoughts, as evidenced by frequent irrelevances, disconnectedness. or loosening of associations even when not under pressure.	☐
6 Severe - Thinking is seriously derailed and internally inconsistent, resulting in gross irrelevancies and disruption of thought processes, which occur almost constantly.	☐
7 Extreme - Thoughts are disrupted to the point where the patient is incoherent. There is marked loosening of associations, which results in total failure of communication, e.g., "word salad. or mutism.	☐

P3. Hallucinatory behavior

Verbal report or behavior indicating perceptions which are not generated by external stimuli. These may occur in the auditory visual, olfactory, or somatic realms. Basis for rating: Verbal report and physical manifestations during the course of interview as well as reports of behavior by primary care workers or family.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - One or two clearly formed but infrequent hallucinations, or else a number of vaque abnormal perceptions which do not result in distortions of thinking or behavior.	☐
4 Moderate - Hallucinations occur frequently but not continuously, and the patient's thinking and behavior are affected only to a minor extent.	☐
5 Moderate severe - Hallucinations are frequent, may involve more than one sensory modality, and tend to distort thinking and/or disrupt behavior. Patient may have a delusional interpretation of these experiences and respond to them emotionally and, on occasion, verbally as well.	☐
6 Severe - Hallucinations are present almost continuously, causing major disruption of thinking and behavior. Patient treats these as real perceptions, and functioning is impeded by frequent emotional and verbal responses to them.	☐
7 Extreme - Patient is almost totally preoccupied with hallucinations, which virtually dominate thinking and behavior. Hallucinations are provided a rigid delusional interpretation and provoke verbal and behavioral responses, including obedience to command hallucinations.	☐

P4. Excitement
Hyperactivity as reflected in accelerated motor behavior, heightened responsivity to stimuli hypervigilance, or excessive mood lability. Basis for rating: Behavioral manifestations during the course of interview as well as reports of behavior by primary care workers or family.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Tends to be slightly agitated, hypervigilant, or mildly overaroused throughout the interview, but without distinct episodes of excitement or marked moolabitity. Speech may be slightly pressured. ☐

4 Moderate - Agitation or overarousal is clearly evident throughout the interview, affecting speech and general mobility, or episodic outbursts occur sporadically ☐

5 Moderate severe - Significant hyperactivity or frequent outbursts of motor activity are observed, making it difficult for the patient to sit still for longer than several minutes at any given time. ☐

6 Severe - Marked excitement dominates the interview delimits attention, and to some extent affects personal functions such as eating and sleeping. ☐

7 Extreme - Marked excitement seriously interferes in eating and sleeping and makes interpersonal interactions virtually impossible. Acceleration of speech and motor activity may result in incoherence and exhaustion. ☐

P5. Grandiosity

Exaggerated self-opinion and unrealistic convictions of superiority, including delusions of extraordinary abilities, wealth, knowledge, fame, power, and moral righteousness. Basis for rating: thought content expressed in the interview and its influence on behavior.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Some expansiveness or boastfulness is evident, but without clear-cut grandiose delusions.	☐
4 Moderate - Feels distinctly and unrealistically superior to others. Some poorly formed delusions about special status or abilities may be present but are not acted upon.	☐
5 Moderate severe - Clear-cut delusions concerning remarkable abilities, status, or power are expressed and influence attitude but not behavior.	☐
6 Severe - Clear-cut delusions of remarkable superiority involving more than one parameter (wealth, knowledge, fame, etc.) are expressed, notably influence interactions, and may be acted upon.	☐
7 Extreme - Thinking, interactions, and behavior are dominated by multiple delusions of amazing ability, wealth knowledge, fame, power, and/or moral stature; which may take on a bizarre quality.	☐

P6. Suspiciousness/persecution

Unrealistic or exaggerated ideas of persecution, as reflected in guardedness, a distrustful attitude, suspicious hypervigilance, or frank delusions that others mean one harm. Basis for rating: thought content expressed in the interview and its influence on behavior.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Presents a guarded or even openly distrustful attitude, but thoughts, interactions, and behavior are minimally affected.	☐
4 Moderate - Distrustfulness is clearly evident and intrudes on the interview andior behavoir, but there is no evidence of persecutorv delusions. Alternatively, there may be indication of loosely formed persecutory delusions, but these do not seem to affect the patient's attitude or interpersonal relations	☐
5 Moderate severe - Patient shows marked distrust fulness, leading to major disruption of interpersonal relations, or else there are clear-cut persecutory delusions that have limited impact on interpersonal relations and behavoir.	☐
6 Severe - Clear-cut pervasive delusions of persecution which may be svstematized and significantly interfere in interpersonal relations.	☐
7 Extreme - A network of systematized persecutory delusions dominates the patient's thinking, social relations, and behavior.	☐

P7. Hostility
Verbal and nonverbal expressions of anger and resentment, including sarcasm, passive-aggressive behavior, verbal abuse, and assaultiveness. Basis for rating: interpersonal behavoir observed during the interview and reports by primary care workers or family.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Indirect or restrained communication of anger such as sarcasm, disrespect, hostile expressions, and occasional irritability.	☐
4 Moderate - Presents an overtly hostile attitude, showing frequent irritability and direct expression of anger or resentment.	☐
5 Moderate severe - Patient is highly irritable and occasionally verbally abusive or threatening.	☐
6 Severe - Uncooperativeness and verbal abuse or threats notably influence the interview and seriously impact upon social relations. Patient may be violent and destructive but is not physically assaultive toward others.	☐
7 Extreme - Marked anger results in extreme uncooperativeness, precluding other interactions, or in eoisede(s) of physical assault toward others.	☐

NEGATIVE SCALE (N)

N1. Blunted affect
Diminished emotional responsiveness as characterized by a reduction in facial expression, modulation of feelings, and communicative gestures. Basis for rating: observation of physical manifestations of affective tone and emotional responsiveness during the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Changes in facial expression and communicative gestures seem to be stilted, forced, artificial, or lacking in modulation.	☐
4 Moderate - Reduced range of facial expression and few expressive gestures result in a dull appearance.	☐
5 Moderate severe - Affect is generally ~flat-, with only occasional changes in facial expression and a paucity of communicative gestures.	☐
6 Severe - Marked flatness and deficiency of emotions exhibited most of the time. There may be unmodulated extreme affective discharges, such as excitement, rage, or inappropriate uncontrolled laughter.	☐
7 Extreme - Changes in facial expression and evidence of communicative gestures are virtually absent. Patient seems constantly to show a barren or "wooden" expression.	☐

N2. Emotional withdrawal

Lack of interest in, involvement with, and affective commitment to life's events. Basis for rating: reports of functioning from primary care workers or family and observation of interpersonal behavoir during the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Usually lacks initiative and occasionally may show deficient interest in surrounding events.	☐
4 Moderate - Patient is generally distanced emotionally from the milieu and its challenges but, with encouragement, can be engaged.	☐
5 Moderate severe - Patient is clearly detached emotionally from persons and events in the milieu, resisting all efforts at engagement. Patient appears distant, docile, and purposeless but can be involved m communication at least briefly and tends to personal needs, sometimes with assistance.	☐
6 Severe - Marked deficiency of interest and emotional commitment results in limited conversation with others and frequent neglect of personal functions, for which the patient requires supervision	☐
7 Extreme - Patient is almost totally withdrawn, uncommunicative, and neglectful of personal needs as a result of profound lack of interest and emotional commitment.	☐

N3. Poor rapport

Lack of interpersonal empathy, openess in conversation, and sense of closeness, interest, or involvement with the interviewer. This is evidenced by interpersonal distancing and reduced verbal and nonverbal communication. Basis for rating: interpersonal behavior during the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Conversation is characterized by a stilted strained or artificial tone. It may lack emotional depth or tend to remain on an impersonal, intellectual plane.	☐
4 Moderate - Patient typically is aloof, with interpersonal distance quite evident. Patient may answer questions mechanically, act bored, or express disinterest.	☐
5 Moderate severe - Disinvolvement IS obvious and clearly impedes the productivity of the interview. Patient may tend to avoid eye or face contact.	☐
6 Severe - Patient is highly indifferent, with marked interpersonal distance. Answers are perfunctory, and there is little nonverbal evidence of involvement. Eye and face contact are frequently avoided.	☐
7 Extreme - Patient is totally uninvolved with the interviewer. Patient appears to be completely indifferent and consistently avoids verbal and nonverbal interactions during the interview.	☐

N4. Passive/apathetic social withdrawal
Diminished interest and initiative in social interactions due to passivity, apathy, anergy, or avolition. This leads to reduced interpersonal involvement and neglect of activities of daily living. Basis for rating: reports on social behavior from primary care workers or family.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Shows occasional interest in social activities but poor initiative. Usally engages with others only when approached first by them.	☐
4 Moderate - Passively goes along with most social activities but in a disinterested or mechanical way. Tends to recede into the background.	☐
5 Moderate severe - Passively participates in only a minority of activities and shows virtually no interest or initiative Generally spends little time with others	☐
6 Severe - Tends to be apathetic and isolated, participating very rarely in social activities and occasionally neglecting personal needs. Has very few spontaneous social contacts.	☐
7 Extreme - Profoundly apathetic, socially isolated, and personally neglectful.	☐

N5. Difficulty in abstract thinking

Impairment in the use of the abstract-symbolic mode of thinking, as evidenced by difficulty in classification, forming generalizations, and proceeding beyond concrete or egocentric thinking in problemsolving tasks. Basis for rating: responses to questions on similarities and proverb interpretation, and use of concrete vs. abstract mode during the course of the interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Tends to give literal or personalized interpretations to the more difficult proverbs and may have some problems with concepts that are fairly abstract or remotely related.	☐
4 Moderate - Often utilizes a concrete mode Has difficulty with most proverbs and some categories. Tends to be distracted by functional aspects and salient features	☐
5 Moderate severe - Deals primarily in a concrete mode, exhibiting difficulty with most proverbs and many categories.	☐
6 Severe - Unable to grasp the abstract meaning of any proverbs or figurative expressions and can formulate classifications for only the most simple of similarities. Thinking is either vacuous or locked into functional aspects, salient features, and idiosyncratic interpretations.	☐
7 Extreme - Can use only concrete modes of thinking. Shows no comprehension of proverbs, common metaphors or similes, and simple categories. Even salient and functional attributes do not serve as a basis for classification. This rating may apply to those who cannot interact even minimally with the examiner due to marked cognitive impairment.	☐

N6. Lack of spontaneity and flow of conversation

Reduction in the normal flow of communication associated with apathy, avolition, defensiveness, or cognitive deficit. This is manifested by diminished fluidity and productivity of the verbal-interactional process. Basis for rating: cognitive-verbal processes observed during the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Conversation shows little initiative. Patient's answers tend to be brief and unembellished, requiring direct and leading questions by the interviewer.	☐
4 Moderate - Conversation lacks free flow and appears uneven or halting. Leading questions are frequently needed to elicit adequate responses and proceed with conversation.	☐
5 Moderate severe - Patient shows a marked lack of spontaneity and openness, replying to the mterviewer's questions with only one or two brief sentences.	☐
6 Severe - Patient's responses are limited mainly to a few words or short phrases intended to avord or curtail communication. (E g., "I don't know," "I'm not at libertv to say.") Conversation is seriously impaired as a result, and the interview is highly unproductive	☐
7 Extreme - Verbal output is restricted to, at most, an occasional utterance, making conversation not possible.	☐

N7. Stereotyped thinking

Decreased fluidity, spontaneity, and flexibility of thinking, as evidenced in rigid, repetitious, or barren thought content. Basis for rating: cognitiveverbal processes observed during the interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Some rigidity shown in attitudes or beliefs. Patient may refuse to consider alternative positions or have difficulty in shifting from one idea to another.	☐
4 Moderate - Conversation revolves around a recurrent theme, resulting in difficulty in shifting to a new topic.	☐
5 Moderate severe - Thinkinq is rigid and repetitious to the point that despite the interviewer's efforts conversation is limited to only two or three dominating topics.	☐
6 Severe - Uncontrolled repetition of demands, statements, ideas, or questions which severely impairs conversation.	☐
7 Extreme - Thinking, behavior, and conversation are dominated by constant repetition of fixed ideas or limited phrases, leading to gross rigidity, inappropriateness, and restrictiveness of patient's communication.	☐

GENERAL PSYCHOPATHOLOGY SCALE (G)

G1. Somatic concern
Physical complaints or beliefs about bodily illness or malfunctions. This may range from a vague sense of ill being to clear-cut delusions of catastrophic physical disease. Basis for rating: thought content expressed in the interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Distinctly concerned about health or somatic issues, as evidenced by occasional questions and desire for reassurance.	☐
4 Moderate - Complains about poor health or bodily malfunction, but there is no delusional conviction, and overconcern can be allayed by reassurance.	☐
5 Moderate severe - Patient expresses numerous or frequent complaints about physical illness or bodily malfunction, or else patient reveals one or two clearcut delusions involving these themes but is not preoccupied by them.	☐
6 Severe - Patient is preoccupied by one or a few clearcut delusions about physical disease or organic malfunction, but affect is not fully immersed in these themes, and thoughts can be diverted by the interviewer with some effort.	☐
7 Extreme - Numerous and frequently reported somatic delusions, or only a few somatic delusions of a catastrophic nature, which totally dominate the patient's affect and thinking.	☐

G2. Anxiety

Subjective experience of nervousness, worry, apprehension, or restlessness, ranging from excessive concern about the present or future to feelings of panic. Basis for rating: verbal report during the course of interview and corresponding physical manifestations.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Expresses some worry, overconcern, or subjective restlessness, but no somatic and behavioral consequences are reported or evidence. ☐

4 Moderate - Patient reports distinct symptoms of nervousness, which are reflected in mild physical manifestations such as fine hand tremor and excessive perspiration. ☐

5 Moderate severe - Patient reports serious problems of anxiety which have significant physical and behavioral consequences, such as marked tension, poor concentration, palpitations, or impaired sleep. ☐

6 Severe - Subjective state of almost constant fear associated with phobias, marked restlessness, or numerous somatic manifestations. ☐

7 Extreme - Patient's life is seriously disrupted by anxiety, which is present almost constantly and at times reaches panic proportion or is manifested in actual panic attacks. ☐

G3. Guiltfeelings

Sense of remorse or self-blame for real or imagined misdeeds in the past. Basis for rating: verbal report of guilt feelings during the course of interview and the influence on attitudes and thoughts.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Questioning elicits a vague sense of guilt or selfblame for a minor incident, but the patient clearly is not overly concerned ☐

4 Moderate - Patient expresses distinct concern over his responsibility for a real incident in his life but is not preoccupied with it, and attitude and behaviour are essentially unaffected. ☐

5 Moderate severe - Patient expresses a strong sense of quilt associated with self-deprication or the belief that he deserves punishment. The guilt feelings may have a delusional basis, may be volunteered spontaneously, may be a source of preoccupation and/or depressed mood, and cannot be allayed readily by the interviewer. ☐

6 Severe - Strong ideas of guilt take on a delusional quality and lead to an attitude of hopelessness or worthlessness The patient believes he should receive harsh sanctions for the misdeeds and may even regard his current life situation as such punishment. ☐

7 Extreme - Patient's life is dominated by unshakable delusions of guilt, for which he feels deserving of drastic punishment, such as life imprisonment, torture, or death. There may be associated suicidal thoughts or attribution of others' problems to one's own past misdeeds. ☐

G4. Tension

Overt physical manifestations of fear, anxiety, and agitation, such as stiffness, tremor, profuse sweating, and restlessness. Basis for rating: verbal report attesting to anxiety and, thereupon, the severity of physical manifestations of tension observed during the interview.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Posture and movements indicate slight apprehensiveness, such as minor rigidity, occasional restlessness, shifting of position, or fine rapid hand tremor. ☐

4 Moderate - A clearly nervous appearance emerges from various manifestations, such as fidgety behaviour, obvious hand tremor, excessive perspiration, or nervous mannerisms. ☐

5 Moderate severe - Pronounced tension is evidenced by numerous manifestations, such as nervous shaking, profuse sweating, and restlessness, but conduct in the interview is not significantly affected. ☐

6 Severe - Pronounced tension to the point that interpersonal interactions are disrupted. The patient for example, may be constantly fidgeting, unable to sit still for long, or show hyperventilation. ☐

7 Extreme - Marked tension is manifested by signs of panic or gross motor acceleration, such as rapid restless pacing and inability to remain seated for longer than a minute, which makes sustained conversation not possible ☐

G5. Mannerisms and posturing
Unnatural movements or posture as characterized by an awkward, stilted, disorganized, or bizarre appearance. Basis for rating: observation of physical manifestations during the course of interview as well as reports from primary care workers or family.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Slight awkardness in movements or minor rigidity of posture. ☐

4 Moderate - Movements are notably awkward or disjointed, or an unnatural posture is maintained for brief periods. ☐

5 Moderate severe - Occasional bizarre rituals or contorted posture are observed, or an abnormal position is sustained for extended periods. ☐

6 Severe - Frequent repetition of bizarre rituals, mannerisms, or stereotyped movements, or a contorted posture is sustained for extended periods.. ☐

7 Extreme - Functioning is seriously impaired by virtually constant involvement in ritualistic, manneristic, or stereotyped movements or by an unnatural fixed posture which is sustained most of the time. ☐

G6. Depression

Feelings of sadness, discouragement, helplessness, and pessimism. Basis for rating: verbal report of depressed mood during the course of interview and its observed influence on attitude and behavior.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Expresses some sadness or discouragement only on questioning. but there is no evidence of depression in general attitude or demeanor.	☐
4 Moderate - Distinct feelings of sadness or hopelessness, which may be spontaneously divulqed, but depressed mood has no major impact on behavior or social functioning, and the patient usally can be cheered up.	☐
5 Moderate severe - Distinctly depressed mood is associated with obvious sadness, pessimism, loss of social interest psychomotor retardation, and some interference in appetite and sleep. The patient cannot be easily cheered up.	☐
6 Severe - Markedly depressed mood is associated with sustained feelings of misery, occasional crying, hopelessness, and worthlessness. In addition, there is major interference in appetite and/or sleep as well as in normal motor and social functions, with possible signs of self-neglect.	☐
7 Extreme - Depressive feelings seriously interfere m most major functions. The manifestations include frequent crying, pronounced somatic symptoms, impaired concentration, psychomotor retardation, social disinterest, self-neglect, possible depressive or nihilistic delusions, and/or possible suicidal thoughts or action.	☐

G7. Motor retardation

Reduction in motor activity as reflected in slowing or lessening of movements and speech, diminished responsiveness to stimuli, and reduced body tone. Basis for rating: manifestations during the course of interview as well as reports by primary care workers or family.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Slight but noticeable diminution in rate of movements and speech Patient may be somewhat underproductive in conversation and gestures. ☐

4 Moderate - Patient is clearly slow in movements, and speech may be characterized by poor productivity, including long response latency, extended pauses, or slow pace. ☐

5 Moderate severe - A marked reduction in motor activity renders communication highly unproductive or delimits functioning in social and occupational situations. Patient can usually be found sitting or Iying down. ☐

6 Severe - Movements are extremely slow, resulting in a minimum of activity and speech. Essentially the day is spent sitting idly or lying down. ☐

7 Extreme - Patient is almost completely immobile and virtually unresponsive to external stimuli. ☐

G8. Uncooperativeness

Active refusal to comply with the will of significant others, including the interviewer, hospital staff, or family, which may be associated with distrust, defensiveness, stubbornness, negativism, rejection of authority, hostility, or belligerence. Basis for rating interpersonal behavior observed during the course of interview as well as reports by primary care workers or family.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Complies with an attitude of resentment, impatience, or sarcasm. May inoffensively object to sensitive probing during the interview.	☐
4 Moderate - Occasional outright refusal to comply with normal social demands, such as making own bed, attending scheduled programs, etc. The patient may project a hostile, defensive, or negative attitude but usually can be worked with.	☐
5 Moderate severe - Patient frequently ~s incompliant with the demands of his milieu and may be characterized by others as an "outcast" or having "a serious attitude problem." Uncooperativeness is reflected in obvious defensiveness or irritability with the interviewer and possible unwillingness to address many questions.	☐
6 Severe - Patient is highly uncooperative, negativistic, and possibly also belligerent. Refuses to comply with most social demands and may be unwilling to initiate or conclude the full interview.	☐
7 Extreme - Active resistance seriously impact on virtually all major areas of functioning. Patient may refuse to join in any social activities, tend to personal hygiene, converse with family or staff, and participate even briefly in an interview.	☐

G9. Unusual thought content

Thinking characterized by strange, fantastic, or bizarre ideas, ranging from those which are remote or atypical to those which are distorted, illogical, and patently absurd. Basis for rating: thought content expressed during the course of interview.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Thought content is somewhat peculiar or idiosyncratic, or familiar ideas are framed in an odd context. ☐

4 Moderate - Ideas are frequently distorted and occasionally seem quite bizarre. ☐

5 Moderate severe - Patient expresses many strange and fantastic thoughts (e.g., being the adopted son of a king, being an escapee from death row) or some which are patently absurd (e.g., having hundreds of children, receiving radio messages from outer space through a tooth filling). ☐

6 Severe - Patient expresses many illogical or absurd ideas or some which have a distinctly bizarre quality (e.g., having three heads, being a visitor from another planet). ☐

7 Extreme - Thinking is replete with absurd, bizarre, and grotesque ideas. ☐

G10. Disorientation

Lack of awareness of one's relationship to the milieu, including persons, place, and time, which may be due to confusion or withdrawal. Basis for rating: responses to interview questions on orientation.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - General orientation is adequate but there is some difficulty with specifics. For example, patient knows his location but not the street address, knows hospital staff names but not their functions, knows the month but confuses the day of week with an adjacent day, or errs in the date by more than two days. There may be narrowing of interest evidenced by familiarity with the immediate but not extended milieu such as ability to identify staff but not the Mayo;, Governor, or President.	☐
4 Moderate - Only partial success in recognizing persons, places, and time. For example, patient knows he is in a hospital but not its name, knows the name of his city but not the burrough or district, knows the name of his primary therapist but not many other direct care workers, knows the year and season but not sure of the month.	☐
5 Moderate severe - Considerable failure in recognizing persons, place, and time. Patient has only a vague notion of where he is and seems unfamiliar with most people in his milieu. He may identify the year correctly or nearly so but not know the current month, day of week, or even the season.	☐
6 Severe - Marked failure in recognizing persons, place, and time. For example, patient has no knowledge of his whereabouts, confuses the date by more than one year, can name only one or two individuals in his current life.	☐
7 Extreme - Patient appears completely disoriented with regard to persons, place, and time. There is gross confusion or total ignorance about one's location, the current year, and even the most familiar people, such as parents, spouse, friends, and primary therapist.	☐

G11. Poor attention

Failure in focused alertness manifested by poor concentration, distractibility from internal and external stimuli, and difficulty in harnessing, sustaining, or shifting focus to new stimuli. Basis for rating: manifestations during the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Limited concentration evidenced by occasional vulnerability, to distraction or faltering attention toward the end of the interview.	☐
4 Moderate - Conversation is affected by the tendency to be easily distracted, difficulty in long sustaining concentration on a given topic, or problems in shifting attention to new topics.	☐
5 Moderate severe - Conversation is seriously hampered by poor concentration, distractibility, and difficulty in shifting focus appropriately.	☐
6 Severe - Patient's attention can be harnessed for only brief moments or with great effort. due to marked distraction by internal or external stimuli.	☐
7 Extreme - Attention is so disrupted that even brief conversation is not possible.	☐

G12. Lack of judgment and insight

Impaired awareness or understanding of one's own psychiatric condition and life situation. This is evidenced by failure to recognize past or present psychiatric illness or symptoms, denial of need for psychiatric hospitalization or treatment, decisions characterized by poor anticipation of consequences, and unrealistic short-term and long-range planning. Basis for rating: thought content expressed during the interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Recognizes having a psychiatric disorder but clearly underestimates its seriousness, the implications for treatment, or the importance of taking measures to avoid relapse. Future planning may be poorly conceived.	☐
4 Moderate - Patient shows only a vague or shallow recognition of illness. There may be fluctuations in acknowledgement of being ill or little awareness of major symptoms which are present, such as delusions, disorganized thinking, suspiciousness, and social withdrawal. The patient may rationalize the need for treatment in terms of its relieving lesser symptoms, such as anxiety, tension, and sleep difficulty.	☐
5 Moderate severe - Acknowledges past but not present psychiatric disorder. If challenged, the patient may concede the presence of some unrelated or insignificant symptoms, which tend to be explained away by gross misinterpretation or delusional thinking. The need for psychiatric treatment similarly goes unrecognized.	☐
6 Severe - Patient denies ever having had a psychiatric disorder. He disavows the presence of any psychiatric symptoms in the past or present and, though compliant, denies the need for treatment and hospitalization.	☐
7 Extreme - Emphatic denial of past and present psychiatric illness. Current hospitalization and treatment are given a delusional interpretation (e.g.. as punishment for misdeeds, as persecution by tormentors, etc.), and the patient may thus refuse to cooperate with therapists, medication, or other aspects of treatment.	☐

G13. Disturbance of volition
Disturbance in the wilful initiation, sustenance, and control of one's thoughts, behavior, movements, and speech. Basis for rating thought content and behavior manifested in the course of interview.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - There is evidence of some indecisiveness in conversation and thinking, which may impede verbal and cognitive processes to a minor extent.	☐
4 Moderate - Patient is often ambivalent and shows clear difficulty in reaching decisions. Conversation may be marred by alternation in thinking, and in consequence verbal and cognitive functioning are clearly impaired.	☐
5 Moderate severe - Disturbance of volition interferes in thinking as well as behavior. Patient shows pronounced indecision that impedes the initiation and continuation of social and motor activities, and which also may be evidenced in halting speech.	☐
6 Severe - Disturbance of volition interferes in the execution of simple, automatic motor functions, such as dressing and grooming, and markedly affects speech.	☐
7 Extreme - almost complete failure of volition is manifested by gross inhibition of movement and speech, resulting in immobility and/or mutism.	☐

G14. Poor impulse control

Disordered regulation and control of action on inner urges resulting in sudden, unmodulated, arbitrary, o; misdirected discharge of tension and emotions without concern about consequences. Basis for rating: behavior during the course of interview and reported by primary care workers or family.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Patient tends to be easily angered and frustrated when facing stress or denied gratification but rarely acts on impulse.	☐
4 Moderate - Patient gets angered and verbally abusive with minimal provocation. May be occasionally threatening, destructive, or have one or two episodes involving physical confrontation or a minor brawl.	☐
5 Moderate severe - Patient exhibits repeated impulsive episodes involving verbal abuse destruction of property, or physical threats. There may be one or two episodes involving serious assault, for which the patient requires isolation, physical restraint, or p.r n. sedation.	☐
6 Severe - Patient frequently is impulsively aggressive, threatening, demanding, and destructive, without any apparent consideration of consequences. Shows assaultive behavior and may also be sexually offensive and possibly respond behaviorally to hallucinatory commands.	☐
7 Extreme - Patient exhibits homicidal attacks, sexual assaults, repeated brutality, or self-destructive behavior. Requires constant direct supervision or external constraints because of inability to control dangerous impulses.	☐

G15. Preoccupation

Absorption with internally generated thoughts and feelings and with autistic experiences to the detriment of reality orientation and adaptive behavior. Basis for rating: interpersonai behavior observed during the course of interview.

1 Absent - Definition does not apply ☐

2 Minimal - Questionable pathology; may be at the upper extreme of normal limits. ☐

3 Mild - Excessive involvement with personal needs or problems, such that conversation veers back to egocentric themes and there is diminished concern exhibited toward others. ☐

4 Moderate - Patient occasionally appears selfabsorbed, as if daydreaming or involved with internal experiences, which interferes with communication to minor extent. ☐

5 Moderate severe - Patient often appears to be engaged in autistic experiences, as evidenced by behaviors that significantly intrude on social and communicational functions, such as the presence of a vacant stare, muttering or talking to oneself, or involvement with stereotyped motor patterns. ☐

6 Severe - Marked preoccupation with autistic experiences, which seriously delimits concentration, ability to converse, and orientation to the milieu. The patient frequently may be observed smiling, laughing, muttering, talking, or shouting to himself. ☐

7 Extreme - Gross absorption with autistic experiences, which profoundly affects all major realms of behavior. The patient constantly may be responding verbally and behaviorally to hallucinations and show little awareness of other people or the external milieu. ☐

G16. Active social avoidance

Diminished social involvement associated with unwarranted fear, hostility, or distrust. Basis for rating: reports of social functioning by primary care workers or family.

1 Absent - Definition does not apply	☐
2 Minimal - Questionable pathology; may be at the upper extreme of normal limits.	☐
3 Mild - Patient seems ill at ease in the presence of others and prefers to spend time alone, although he participates in social functions when required.	☐
4 Moderate - Patient begrudgingly attends all or most social activities but may need to be persuaded or may terminate prematurely on account of anxiety, suspiciousness, or hostility.	☐
5 Moderate severe - Patient fearfully or angrily keeps away from many social interactions despite others' efforts to engage him. Tends to spend unstructured time alone.	☐
6 Severe - Patient participates in very few social activities because of fear, hostility, or distrust. When approached, the patient shows a strong tendency to break off interactions, and generally he tends to isolate himself from others.	☐
7 Extreme - Patient cannot be engaged in social activities because of pronounced fears, hostility, or persecutory delusions. To the extent possible, he avoids all interactions and remains isolated from others.	☐

APPENDIX J: PUBLICATIONS

BRIEF COMMUNICATION

THE CURRENT SITUATION OF THE PEOPLE WITH MENTAL ILLNESS IN THE TRADITIONAL HEALER CENTERS IN SUDAN

Sorketti E A*, Habil M H*

*Department of Psychological Medicine, Faculty of Medicine,University of Malaya, Malaysia

Sudan - Country profiles

The Sudan occupies area of land in East Africa, almost one million square miles, or 2.5 million squares km[2]. It shares boundaries with nine countries: two of which are Arab, Egypt, Libya, Kenya, Uganda, The Congo, Chad, The Republic of Central Africa, Ethiopia and Eritrea. The country is situated in a strategic important geographical location that links the Arab world to Sub Saharan Africa, where the Sudanese population and those of the neighboring countries move freely across most of these borders .Sudan geography, climate, and multi-ethnic and cultural backgrounds remain the major health determinant.

Sudan is the largest country in Africa. The heart of the country, in terms of population, lies at the confluence of the Blue and White Niles. The complex of the "three towns," comprising the three largest cities, Khartoum, Khartoum North and Omdurman, is situated there and contains almost 20% of the population. The total population of Sudan was about 39.39 million (projected from 2009 census). the urban population was estimated at 33%. About 2.2 million are still entirely nomadic. Sudan's peoples are as diverse as its geography. There are about 19 major ethnic groups and a further 597 subgroups. Sudan is rich in terms of natural

and human resources, but economic and social development have been below the expectation [1].

Psychiatry in Sudan began in the 1950s under the guidance of the late Professor Tigani El Mahi, the father of African psychiatry. He pioneered, among other things, rural services and the open-door policy. His successor, Dr Taha A. Baasher, shouldered the responsibility further and extended the services to the periphery. He established the Mental Health Association of Sudan and the Sudanese Association of Psychiatrists. By 1950, the Clinic for Nervous Disorders, Khartoum North, was well established. The Kober Institution was built later to cater for 120 forensic psychiatric patients. In 1971 EL Tigani EL Mahi Hospital was established as the national mental hospital (El Faki 1997) [2].

Traditional healing in Sudan:

In Sudan traditional healing is the most prevalent method for the treatment of mentally sick people mostly due to lack of economic resources, inaccessibility of medical services, and lack of awareness among the population and the high prices of psychiatric services (Elsafi 1994)[3]. Generally, traditional healing in Sudan can be divided into two distinct groups:

Religious healers influenced by Islamic and Arab culture, such as traditional Koranic healers and Sufi healers. Nonreligious healers influenced by African culture, such as practitioners' *zar*, *talasim* and *kogour*. The Religious healers is subdivided into two groups, the first group uses only Koranic treatment, derived from certain verses. This involves reading and listening to the Koran with the active participation of the patient (Bali W, 1992). The success of treatment depends on the reliability of the healer and the degree of his belief, in addition to the conviction of the patient and his belief in the Koran as a source of treatment. Bassher (1984) mentioned that the holistic approach of traditional healing might lead to long-term stability of health; this might explain why in many cases patients would prefer this approach than other techniques that result in short-term relief of symptoms[4]. There for, there is a great demand to study those mentally ill patients within the traditional healer system to understand the reasons and factors that brings this long term stability in health. Karel Peltzer, who has more than 100 publications about traditional healers in Africa, studied the traditional healing methods in many African societies including Malawi, Ghana, Zambia, Nigeria, and South Africa. In one of his papers studied the bio-psycho-social therapeutic models in a traditional African setting (in Malawi), he studied the therapeutic setting for schizophrenia in 3 traditional healer centers in term of organization, environment, culture, family and follow up and he compare it to the current western model of psychiatric practices and he concluded that the traditional healers centers setting are in a number of ways superior to the western model [5].

Traditional Healer Centers in Sudan

In Sudan there are many traditional healer centers that belongs to a common way or concepts that these centers were based on, Baasher (1975) stated that, traditional healers are known by several names, the Faki, The Fageer, The Waly, The Shareif, The Sayed and The Sheikh. The followers of each traditional healer are called the Murideen. The degree of successful influence of the sheikh depend on religious morals and knowledge, piety (wara), asceticism (Zuhd), working miracles (Karamat) and spiritual power (Fadol 1995, Riordan 1999). During our 5 days trip visit to Sudan we visited most of the famous traditional healer centers in Khartoum and Gezira State. These big centers accommodate around 1000 to 3000 thousand students who are staying permanently in the centers without paying any special fees, for at least 3 to 5 years, where they learn reading of Quran (Tajweid), recitation (tilawa) and Quran writing and other religious and spiritual teachings. These big traditional healer centers are also famous of providing a lot of social, consultation and spiritual services to the local communities as well as for the visitors who come to these centers from different parts of the country. There is no clear way for financing these centers apart from the donations and contribution (Zowara) from the followers of each of these centers (The Murideen) and the regular visitors. The contribution is not only money but also food items and other materials especially during the yearly celebration of the death of the grandfather sheikh, the founder of that center, this kind of celebration is called (Holliya) where special food is served (Fatta) and Zikir is practiced in groups for the whole night until morning. Many people come from different parts of the country to attend this ceremony, even sometimes foreigners come. Usually people go to those healers for consultation in each and every aspect of their life. *I* M. Ahmed, J.J. Bremer, M.M.E. Magzoub 1999

stated that Traditional Healers can also act as family counselors in critical life events such as building a house, marriage, naming a newborn, and may have both judicial and religious functions. They often act as an agent between the physical and spiritual worlds. People usually goes to traditional healers to bless them in their work and give them what is called *Fatiha* (special prayers performed by the sheikh) to bless them in all activities in their life. The poor also contribute with small amount of share or they may take their sheep's and animals or their agricultural production as a contribution to these centers. Sometimes they may sell their sheep's and donate the money to these centers as *Zowara* as well. It is not a must but they feel ashamed if they come empty handed to the sheikh whether he is a life or dead. It was a belief that the amount of blessing come to you from the visit to the sheikh depend on the amount of scarifies and *Qurban* that they spend. Some times they may go and visit the dead body and they move around the grave that kept under the high tall building that called (QUBA). They collect the holy sand of the dead sheikh and they belief that sand is blessed and they call that Sand (*BARAKA*).It has been stated by Deifalla (1975) that, miraculous cures are attributed to the divine powers of the dead sheikh. This why they spread the sand all over the body or they may drink it after they dissolved it in water, some times they hang it in the body or they put it in special place in the house to bless the house. People believe that disobeying the sheikh brings damnation on the followers and their families. They believe in the sheikh's blessings and regard him as a mediator between the follower as a slave and the Lord. They also believe that the sheikh, whether dead or alive, is capable of rescuing them and pleading on their behalf for help and release from illness. Thus the sheikhs, in the people's eyes, are true representatives of spiritual power (Fadol Y. *Tabagat Wad Daifalla* 1975)[6]. Regarding the mentally ill patients usually they are brought by their relatives and families, depending on the condition of the patient, if he is severely disturbed and agitated they put him in an isolated dark room especially build for treating the mentally ill patients, and they chain them to the wall, they were not allowed to move or walk in that room and there is no toilet facility. They are prohibited to come out of that room until at least 40 days. Some times patients succeed in putting off that chain and they run away and escape from the center. Usually these rooms are in the far corners of these traditional healer centers. The patients will be deprived from all types of food except only special porridge made in the center. The duration that the patient stays in the center varies from 40 days to 6 months or more, depending on his symptoms and condition, usually his psychiatric medication, if any, will be stopped by the traditional healer so as not to interfere with their traditional healing methods.

The patients do not come from the local community around the centers, but they will be brought from different parts of Sudan. Usually the patient will be accompanied by his family members and relatives. The late Professor Tigani EL Mahi, the father of African Psychiatry, since 1960[th] stressed that the attitudes towards religious healers should aim to encourage good quality of practice while trying to end harmful or faulty methods (Elsafi &Baasher, 1981).However, since then only few attention was been paid to the mentally ill patients in the traditional healer centers, in term of assessing their conditions. There are no governments' officials or any other organization had reviewed the system of diagnosis and management in these traditional healer centers. Only little efforts

was been done so far and until now to improve the miserable living conditions of the people with mental illness in these traditional healer centers, although there is huge revolution in modern psychiatric treatment and mental health services around. On the other hand, in term of researches, Most of the previous studies conducted in the area of traditional healing in Sudan have concentrated on studying the characteristics of the visitors to the traditional healers in general. Ahmed , Bremer, Magzoub and Nuri in 1999 had investigated the characteristics of visitors to the traditional healers in Sudan in a sample of 134 visitors from 4 traditional healer centers, and they found that 60% of the visitors came for treatment, 26% came for blessing and 4 % came for consultation or education, and about 45% of visitors thought that traditional healers are problem solvers.,60% of the visitors are in the age group between 21 to 40 years, and 62 %of the visitors are female.61%from rural areas and 47% are illiterate[7].No previous studies in Sudan have concentrated on studying the people with mental illness within the traditional healer system.

Now University of Malaya, the leading research institute in Malaysia, is conducting a research in this area of mental health in Sudan, trying to explore more in this area of mental health and traditional healing and we will give more details when the results of the research comes out.

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Corresponding Author: *Dr Ehab Sorketti, Department of Psychological Medicine, Faculty of Medicine University of Malaya, 50603 Kuala Lumpur, Malaysia.*

Email: ehabsorketti@yahoo.com

Collaboration between traditional healers and psychiatrists in Sudan

E. A. Sorketti,[1] N. Z. Zuraida[2] and M. H. Habil[3]

[1]Psychiatrist, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, email ehabsorketti@yahoo.com; [2]Consultant Psychiatrist, Department of Psychological Medicine, Faculty of Medicine, University of Malaya; [3]Head, Department of Psychological Medicine, Faculty of Medicine, University of Malaya

The importance of traditional healing in low- and middle-income countries cannot be underestimated. It is generally perceived as part of the prevailing belief system and traditional healers are often seen as the primary agents for psychosocial problems in these countries; estimates of their service share range from 45% to 60% (World Health Organization, 1992).The World Health Organization (2000) estimated that 80% of people living in rural areas in low- and middle-income countries depend on traditional medicine for their health needs.

In Sudan, a country with a mixed Arab/African culture, traditional healing is the most common method of treating people with mental illness, mostly because it is usually far cheaper than medical treatment (Elsafi & Baasher, 1981–94) but also because of the inaccessibility of medical services and lack of awareness among the population. Baasher (1994) suggested that the holistic approach of traditional healing may lead to long-term stability of health. There is, though, no regulation of traditional healers and consequently many cases of abuse have been reported. Sorketti (2009) mentioned that the treatment of severe mental disorders is not available at primary care level in Sudan, which is why traditional healers are often used for the provision of mental health services.

Generally, traditional healers in Sudan can be divided into two distinct groups: religious healers, influenced by Islamic and Arab culture, such as traditional Koranic healers and Sufi healers; and non-religious healers, influenced by African culture, such as practitioners of *zar*, *talasim* and *kogour* (see Box 1 for glossary). The religious healers in turn may be subdivided into two groups. The first group uses only Koranic treatment, derived from certain verses. This involves reading and listening to the Koran with the active participation of the patient (Bali, 1992). The success of treatment depends on the reliability of the healer and the degree of his or her belief, in addition to the conviction of the patient and his or her belief in the Koran as a source of treatment. The second group uses a combination of both Koran and *talasim*. The types of *talasim* used are mainly squares filled with symbolic letters which have a hidden spiritual dimension conceived only by the sheikhs (holy men). They contain the 99 attributes (names) of God and some other words from ancient divine books. Healers in this subgroup are influential decision makers at the individual, family and community level. They are respected not only by their followers but also by government officials and politicians.

Elsorayi (1985) stated that *kogour* is a typical African practice found in the south of Sudan, where African culture dominates. It is used by healers who claim to have supernatural powers; it deals with souls, in the belief that these souls affect the body. Such healers use their power to cure disease and to solve other problems, such as the control of rain.

Mohammed (1989) suggested that *zar* came to Sudan from Ethiopia. It is based on the assumption that supernatural agents or spirits possess a person and may generate physical and psychological disorders. The *zar* concept of possession is based on the idea that the spirit makes certain demands that should be fulfilled by the patient or relatives; otherwise this spirit may cause trouble for them all. *Zar* is the dominance of the evil soul over the human being, with the intention of hurting the person. *Zar* is common among Muslims as well as Christians.

Study objectives

Our general objectives were to study and understand the traditional healers' beliefs and practices in relation to people with mental illness in Sudan. We also sought to assess the possibilities for collaboration between traditional healers and psychiatrists in Sudan.

Method

We conducted a descriptive cross-sectional study of traditional healers' attitudes, beliefs and practices in relation to people with mental illness. The study drew from randomly selected famous traditional healers' centres in Sudan.

Over 3 months (June–August 2009), 30 traditional healers from ten traditional healers' centres were randomly selected. They were approached individually and their consent was obtained before the principal investigator interviewed them with a 15-item structured questionnaire that covered:
- age
- education level
- occupation
- place of work
- previous Job
- length of practice treating people with a mental illness
- how the treatment of people with a mental illness had been learnt
- method of diagnosis

❍ methods of treatment
❍ length of time it typically took patients to respond to treatment
❍ length of time for which patients with mental illness were generally kept in the centre
❍ how many patients with mental illness were seen every day
❍ what the healer thought about medical treatment for mental illness
❍ what the healer thought about patients who took traditional treatment and medical treatment at the same time
❍ whether it was possible to collaborate over medical treatment and traditional treatment, and if so, how.

Ethical approval was obtained from the Research Ethical Committee of the Sudanese Ministry of Health before the start of the study. Data were analysed using SPSS version 16.

Results

Twenty-eight traditional healers agreed to be interviewed (a 93% response rate). They were aged 38–75 years. Ten of them (36%) had received no formal training in their practice but had learnt it only in their traditional healer centres. Six (21%) of them had been to formal primary school, 14 (25%) to secondary school and 8 (18%) to university. Eleven (39%) were farmers, nine (32%) were teachers in the traditional centres, four (14%) were traders and another four (14%) were previously employed in the government. The number of years of practice of the healers (specifically in relation to treating mental illness) ranged from 10 to 50 years. They had learnt the methods of treatment from their parents and other healers.

Half of them followed certain criteria to diagnose mental illness. They divided mental illness into that which needs the intervention of a traditional healer, such as possession by evil spirits, *jinn* or *shaitan*, and that which needs a doctor's intervention, such as some cases of acute fever or epilepsy. The other half of the healers instead looked at the overall symptoms of the patients. Those who had features of anxiety, mild depression, somatoform disorders or adjustment disorders were considered mild cases of mental illness, while those who had lost their sense of reality and who were severely agitated or aggressive or socially withdrawn and neglecting their personal hygiene and were unable to function were considered psychotic and to have severe mental illness.

According to the traditional healers, patients could take a few weeks, months or even years to get well.

Table 1 The effect of the traditional healers' education level on their opinion regarding medical treatment for mental illness

Education level of the traditional healer	Traditional healer's opinion on medical treatment		
	Useful	Not useful	Total
Khalwa (see glossary, Box 1)	2	8	10
Primary school	4	2	6
Secondary school	4	3	7
University and above	5	0	5
Total	15	13	28

Pearson $\chi^2 = 9.314$, d.f. = 3 ($P = 0.025$); likelihood ratio = 11.466, d.f. = 3 ($P = 0.009$).

Box 1 Glossary
Bakhara. Special verses written on a sheet of paper that is burnt and the smoke used
Baraka. Sand taken from a holy person's grave
Fageer. Name given to a holy man in Sudan
Faki. Holy man
Fatiha. Special prayers offered by the sheikh to visitors
Fatta. Special meals made of bread rice and meat provided during festivals
Holliya. Ceremony to celebrate the yearly sheikh anniversary
Karamat. Unusual things that happen to a sheikh that demonstrate his piety
Khalwa. Preschool education in traditional healer centres
Kogour. Special type of healing in African culture
Mehaya. Verses written on a sheet of paper that is dissolved in water and drunk
Murideen. Followers of a sheikh
Qurban. Gift from the visitors to a sheikh or placed on his grave
Rogya. Reading the words of God on a person with mental illness
Sharief. A person who belongs to a holy family
Sheikh. Holy man
Tariga. Followers of a certain sheikh
Tilawa. Recitation of the Quran
Tajweed. Reading of the Quran
Talasim. Figures and letters and special drawings that have certain meanings
Waly. Pious man who fears God
Wara. Strong fear of god
Zar. Ceremony for a person possessed by spirits
Zikir. Prayers said by traditional healers individually or in a group
Zowara. Money or any valuable things that are given to a sheikh or placed on his grave

The term sheikh is equivalent to traditional healer in this text

Thirteen (46%) of the healers reviewed on average three to five patients per day, while seven (25%) saw five to ten patients a day and the remaining eight (29%) saw fewer than three patients a day.

Fifteen (54%) of the healers believed that psychiatric medication was useful for treating mental illness and they believed that combining traditional treatment and psychiatric medication could be useful. The other 13 (46%) did not believe in medical treatment and thought that psychiatric medication was not useful; neither did they see any value in combining medical and traditional treatment. A belief in the value of psychiatric medication and modern psychiatric management depended on the educational level of the traditional healer: the more years of formal education the healer had received, the stronger was the belief in modern methods of management and the use of psychiatric medication for treating people with mental illness (Table 1) ($P = 0.025$).

A large majority (25, or 89%) of the traditional healers were ready to collaborate with psychiatrists and mental health services (this was not associated with educational level). Only three (11%) would refuse to collaborate. The traditional healers suggested three possible methods of collaboration: 56% (14 out of the 25 healers who agreed with the idea of collaboration) suggested that they could refer some patients to a psychiatrist (while continuing with their traditional treatment) or for medical investigations; 32% (eight healers) suggested that psychiatrists or doctors trained in the management of people with mental illness could visit the traditional healer centres regularly to manage patients and give them medication; and the remaining 12%

(three healers) would prefer joint clinics with a psychiatrist to manage people with mental illness.

The healers used similar methods of management to treat people with mental illness, such as *mehaya*, *bakhara* and *rogya* (see Box 1), controlling food intake and putting the patient in chains in the initial phase of management.

Discussion

Traditional healers in Sudan perform many valuable services. Nevertheless, traditional healing is not formally institutionalised, as there is no responsible government body to guide and supervise the delivery of these services. Ahmed *et al* (1999) stated that traditional healers act as family counsellors in critical life events such as building a house, marriage and naming a newborn child, and may have both judicial and religious functions. They often act as an agent between the physical and spiritual worlds. Thus traditional healers, in the people's eyes, are true representatives of spiritual power (Wad Daifalla, 1975).

The results of the present study suggest that collaboration between traditional healers and medical services in the treatment of people with mental illness is of great importance, because most people who have a mental illness go to traditional healers first or they alternate between healers and doctors, thereby wasting resources. We could at the least make use of the traditional healer centres as community psychiatric centres in the Western model. Peltzer & Machleidt (1992) studied traditional healing methods in many African societies, as well as the bio-psychosocial therapeutic models in a traditional African setting (in Malawi). In particular, they looked at the therapeutic setting for schizophrenia in three traditional centres in terms of organisation, environment, culture, family and follow-up, and compared it with the Western model of psychiatric practice. They concluded that the traditional approach was in a number of ways superior to the Western model.

More research on the role of traditional healers in relation to people with mental illnesses is needed. Nonetheless, we should try to convince traditional healers of the benefits and the importance of giving modern psychiatric medications to their patients, under a psychiatrist's supervision. At the same time, they can continue the beneficial traditional methods of treatment that do not cause any harm to the patient. The late Professor E. L. Tigani el Mahi, the father of African psychiatry, stressed that our attitudes to religious healers should aim to encourage good-quality practice while trying to end harmful or faulty methods (Elsafi & Baasher, 1981–94). In the present study, 89% of the traditional healers would accept collaboration with psychiatrists, and 54% believed that modern psychiatric medications are useful for treating people with mental illness. In fact, in Sudan over more than 30 years, a symbiotic working relationship has been developed with faith healers working in the area, as part of community-based mental health programmes. There was initially a great deal of resistance by the faith healers, who looked on the mental health professionals as competitors, but a non-confrontational approach brought home the message that there are indeed areas, for example emotional disorders, where collaboration between the two is possible (World Health Organization, 2000).

Limitations of the study

In this study we included only traditional healers. We need to involve psychiatrists and interview them as well to get their opinions about traditional healing practices and collaboration.

Recommendations and clinical implications

❍ It is vital to establish channels of collaboration and common understandings between traditional healers and mental health professionals in Sudan and other African countries where a majority of people with mental illness consult traditional healers first.

❍ If psychiatrists are able to collaborate with traditional healers, the latter could help in the early detection and early management of mental illness, with the prospect of better outcomes.

❍ Collaboration between psychiatrists and traditional healers could help to end harmful methods of practice by the traditional healers, such as isolating patients in an unhealthy, non-hygienic environment, depriving patients of nutritional food, beating patients, misdiagnosis and mismanagement.

❍ Collaboration could help to improve community awareness and decrease the stigma of mental illness.

❍ The traditional healer centres could be used as the basis for community rehabilitation facilities for people with mental illness.

❍ Improving the education level of traditional healers might enable them to have a better understanding of mental illness and of the benefits of modern medications (see also Table 1). Organising educational seminars and workshops for them might be helpful in this area.

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The characteristics of people with mental illness who are under treatment in traditional healer centres in Sudan

Ehab Ali Sorketti,[1] Nor Zuraida Zainal[1] and Mohamad Hussain Habil[1]

Abstract

Aims: To determine the general characteristics of people with mental disorders in traditional healers centres in Sudan in terms of sociodemographic profile, common clinical presentations and diagnostic features, and to look at the treatment methods and intervention procedures used in these centres for treating people with mental illness.

Methods: This is a descriptive cross-sectional study using both quantitative and qualitative research methods. All inpatients with mental illness (405) from 10 selected traditional healers centres in Sudan who gave consent were interviewed, using a specially designed questionnaire and the Mini International Neuropsychiatric Interview (MINI).

Results: Most of the visitors to the centres were from central Sudan with a mean age of 31 years, illiterate or with only a primary basic education, male and jobless. The average mean duration of stay in the traditional healer centre was five months and the mean duration of untreated illness before coming to the centre was 13 months. Only 17% reported a history of alcohol abuse and only 11% of drug abuse. The most common prevalent diagnosis was psychotic disorder.

Conclusion: This study improves the understanding about what types of people with mental illness are treated at these traditional healer centres and gives recommendations that can help in improving the quality of services in these centres. It can probably be used in building bridges of collaboration between these centres and the available mental health and psychiatric services in Sudan, especially at primary healthcare level.

Keywords

traditional healers, mental disorders, psychiatric service, Sudan

Introduction

The importance of traditional healing methods in developing countries cannot be underestimated and it is generally perceived as part of the prevailing belief system. Literature has highlighted that traditional healers are often seen as the primary agents for psychosocial problems in developing countries. Estimates of their share of service range as high as 45%–60% (WHO, 1992). In 2000, the World Health Organization (WHO) estimated that 80% of the population living in rural areas in developing countries depend on traditional medicine for their health needs (Bannerman et al., 1983). The African region is facing difficulties in ensuring equitable access to healthcare and only about half of the population have access to formal health services. Traditional medicine, however, maintains its popularity for historic and cultural reasons. In Benin and Sudan, for example, 70% of the population rely on traditional medicine (WHO, 2000).

In Sudan traditional healing is the most prevalent method for the treatment of people with mental illness, mostly due to lack of economic resources, inaccessibility of medical services and lack of awareness among the population (Elsafi, 1994). Baasher (1982) mentioned that the holistic approach of traditional healing might lead to long-term stability of health; this might explain why in many cases patients would prefer this approach than other techniques that result in the short-term relief of symptoms. Therefore, there is a great demand to study those mentally ill patients

[1]Department of Psychological Medicine, University of Malaya, Kuala Lumpur, Malaysia

Corresponding author:
Ehab Ali Sorketti Koriana, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia
Email: sorketti@hotmail.com

within the traditional healer system to understand the reasons and factors that bring about this long-term stability in health. Due to lack of regulation on quality control and lack of proper use, in addition to harmful methods of practice, cases of misuse have been reported (Baasher, 1994).

El Gaili (2002) said that until recently, interest and concern about mental health was mainly left to religious healers and such healers continue to see the majority of mental patients. Traditional healers in Sudan perform many valuable services and social benefits to the community; nevertheless, traditional healing is not formally institutionalized, as there is no responsible government entity that guides and supervises the delivery of traditional healing services. Therefore, getting accurate figures or numbers of traditional healers and their specialty is extremely difficult and generally most of the data available on their services is based on estimates. Ahmed et al. (1999) stated that traditional healers can also act as family counsellors in critical life events such as building a house, marriage and naming a newborn, and they may have both judicial and religious functions. Traditional healers often act as agent between the physical and spiritual worlds; thus the sheikhs, in the people's eyes, are true representatives of spiritual power (Fadol, 1975). The late Professor El Tigani El Mahi, the father of African psychiatry, stressed that our attitudes towards religious healers should aim to encourage good quality of practice while trying to end harmful or faulty methods (Elsafi and Baasher, 1981). However, no attention was been paid to mentally ill patients in terms of assessing their conditions and reviewing the system of diagnosis and management in traditional healer centres. Most of the previous studies conducted in Sudan have concentrated on studying the characteristics of the visitors to traditional healers in general.

Ahmed et al. (1999) investigated the characteristics of visitors to the traditional healers in Sudan in a sample of 134 visitors from four traditional healer centres. They found that 60% of the visitors came for treatment, 26% came for blessing and 4% came for consultation or education. Also, about 45% of visitors saw traditional healers as problem solvers, 60% of the visitors were in the age group 21–40 years, 62% of the visitors were female, 61% were from rural areas and 47% were illiterate. Patel et al. (1997), in his study in Zimbabwe, recorded a prevalence of 40% of mental disorders among users of traditional healer services. Ngoma et al. (2003) used the Clinical Interview Schedule – Revised (CIS–R) to determine the prevalence of mental disorders in 178 patients from those attending primary healthcare clinics and 176 from traditional healer centres in Dar-es-Salaam in Tanzania. They found the prevalence of common mental disorders among traditional healer centre patients was double that of primary healthcare clinic patients (24%).

Peltzer and Machleidt (1992) studied traditional healing methods in many African societies. In one of his papers he studied the biopsychosocial therapeutic models in a traditional African setting, in Malawi. In this, he studied the therapeutic setting for schizophrenia in three traditional healer centres in terms of organization, environment, culture, family and follow-up and compared it to the current Western model of psychiatric practices, concluding that traditional healer centre settings are superior to the Western model in a number of ways. The prevalence of common mental disorders among those attending traditional healer centres and primary healthcare clinics in Sudan is unknown because no previous research has been done to investigate this. No previous studies in Sudan have concentrated on studying mentally ill patients within the traditional healer system, which is the main concern of this study.

Methods

Study design

Traditional healing in Sudan is famous and popular and there are different types of healer. The selected sample was representative as most of the patients brought by their families for treatment in the traditional healing centres usually come from different parts of Sudan, regardless of their geographical location or their ethnic group or tribe. This is a descriptive cross-sectional study using both qualitative and quantitative research methods.

Study area

Thirty famous traditional healers centres in and around the capital Khartoum and the nearby states were each assigned a number from 1 to 30. Then the researchers asked a third party to randomly choose 10 of these numbers. This resulted in 10 famous traditional healers centres in and around Khartoum, Gezira and the states of the White and Blue Nile in Sudan being randomly selected. The senior sheikhs at the centres, who had a good education and high level of understanding, welcomed the researchers and cooperated with them in the study. It is worth mentioning that different healers inhabiting the centres under study seemed to be homogenous, belong to closely interrelated cultures, share similar socioeconomic characteristics and exhibit similar methods of healing.

Inclusion criteria for the selection of the original 30 traditional healer centres were as follows:

- The most famous and popular (> 100 visitors/week) traditional healer centres in and around Khartoum, Gezeira, White Nile and Blue Nile states.
- Centres that contains rooms and accommodation for mentally ill patients.
- Centres that can accommodate mentally ill patients for many days with facilities for a long stay.

Exclusion criteria for the selection of the original 30 traditional healer centres were as follows:

- Uncooperative traditional healer centres.
- Lack of facilities for admitting mentally ill patients.

Study population

The main study population comprised inpatients with mental illness in traditional healer centres in Sudan. All inpatients who were diagnosed by the traditional healer to have mental illness and were admitted for treatment in the traditional healer centre, over a period of 12 months from July 2009 to June 2010, were assessed for the following inclusion criteria:

- People with mental illness who came or were brought by their families and relatives for treatment and admitted as inpatients in the 10 selected traditional healer centres.
- All male and female patients.
- All adult patients above 16 years of age.
- Patients who agreed to give consent before joining the study.

The exclusion criteria were:

- Patients who refused to give consent or who were not interested in joining the study.
- Patients with mental illness who received outpatient treatment only.

The total sample size was 405 patients from 10 centres, which is acceptable according to the following equation.

Sampling

The sample size was calculated using the following statistical formula:

$$N = Z^2\,\Pi\,(1-\Pi)/d^2$$

Where:
N = sample size
Z = standardized variable that corresponds to 95% level of confidence
Π = mental illness prevalence rate
d = desired marginal error

The prevalence of mental disorders among users of the traditional healer centres in Sudan = 30%, so:
$\Pi = 0.3$
$Z = 2$
$d = 0.05$
$N = 4 \times 0.3 \times (1 - 0.3)/0.0025 = 336$

Therefore the minimum sample size for this study was 336 patients.

Data collection technique

The patient and family (relatives) interview. The patients' initial questionnaire covered all the basic information including socioeconomic and demographic characteristics and a profile of each of the 10 selected traditional healer centres. The main scope of this research project was to assess inpatients with mental illness.

Patients were interviewed by a trained clinical psychologist and the principal investigator; both had been trained on how to conduct the interview and use the study instruments and questionnaire. Basic information regarding the sociodemographic profile of the patients was obtained first, including name, age, education level, occupation or working status, area of original residence in Sudan, religion and marital status. Next, were questions about symptoms of the present complaint, duration of the untreated illness, the number of times the patient had been brought to the centre, medical illness, family history of mental illness and history of drug or alcohol abuse. Then the questionnaire asked about the reason for attending at the traditional healer centre, previous service use and any previous treatment. Finally, the questionnaire asked about the perceived origin of the mental illness.

Tools and instruments. The study used both qualitative and quantitative research methods; the quantitative data was collected using the structured questionnaire and the Mini International Neuropsychiatry Interview (MINI) to list the clinical symptoms and diagnosis.

Ethical approval, informed consent and confidentiality. The study design was in keeping with the guidelines of the Federal Ministry of Health and the Health Research Council. Ethical approval was obtained from the Health Research Technical and Ethical Research Committee in the Federal Ministry of Health in Sudan. An ethical clearance certificate was obtained before the start of data collection. Informed consent was obtained from each participant before joining the study; each patient was approached individually by the interviewer and privacy and confidentiality was respected. In each centre, the purpose of the study was explained to patients and they were told that participation was voluntary. A consent form was signed on agreement. All information obtained remained confidential according to international regulations.

Data analysis

Data was analysed using statistical package (SPSS) Version 16. Descriptive statistics were undertaken by constructing frequency tables, graphs, finding means and standard deviations for the quantitative variables, and modes and medians for the qualitative variables. Cross-tabulation, using χ^2 test and one-way ANOVA, was used to examine the association between variables and test the significance of relationships.

Table 1. Socio-demographic characteristics of people with mental disorders treated in traditional healer centres in Sudan (*N* = 405)

Characteristics	*n*	%
Age (years)		
16–20	42	10.4
21–30	171	42.2
31–40	129	31.9
41–50	40	9.9
51–60	23	5.6
Gender		
Male	309	76.3
Female	96	23.7
Residence		
North Sudan	41	10.1
South Sudan	10	2.5
East Sudan	43	10.6
West Sudan	30	7.4
Central Sudan	281	69.4
Marital status		
Single	261	64.4
Married	121	29.9
Divorced	23	5.7
Education level		
Never been to school	138	34.1
Primary school	159	39.3
Secondary school	79	19.5
University	29	7.2
Occupation		
Working	167	41.2
Not working	190	46.9
Students	48	11.9

Results

Sociodemographic characteristics

The age range of the patients who attended at the traditional healer centres was 16–60 years (*M* = 31.48). Most of the participants were male (76.3% (309) vs 23.7% (96)).

Regarding residence, 69.4% (281) were from central Sudan, 10.6% (43) were from eastern Sudan, 10.1% (41) from northern Sudan, 7.4% (30) from western Sudan and 2.5% (10) were from southern Sudan.

Of all participants, 64.4% (261) were single, 29.9% (121) were married and 5.7% (23) were divorced. Regarding education, 34.1% (138) were illiterate and had never had a formal school education, 39.3% (159) had studied in primary school, 19.5% (79) had studied to secondary school level and 7.2% (29) had reached university level; 46.9% (190) of the participants were jobless, 41.2% (167) had a job and 11.9% (48) were students (Table 1).

Medical history and precipitating factors

Of all participants, 35.1% (142) reported a history of medical illness, 21.2% (86) reported a history of mental illness and 23.7% (96) reported a family history of mental illness. A history of alchohol and drug abuse was reported by 17.5% (71) and 11.6% (47), respectively.

Of all patients, 28.6% (116) claimed that family and social problems were the most likely precipitating factors for the mental illness; 18% (73) attributed their mental illness to financial and legal issues, 5.7% (23) to physical illness and 47.7% (193) related no specific cause for their illness (Table 2).

Perceived reasons for the mental illness

Of the total sample, 20.7% (84) attributed their mental illness to GIN, 19.3% (78) to Shiatan, 28.4% (115) to evil sprits, 16.8% (68) to wrongdoing, 43.7% (177) to magic and 42.2% (171) attributed it to another unknown cause (Figure 1).

Table 2. Medical and social history precipitating factors, reasons for mental illness of the people treated in traditional healer centres in Sudan (*N* = 405)

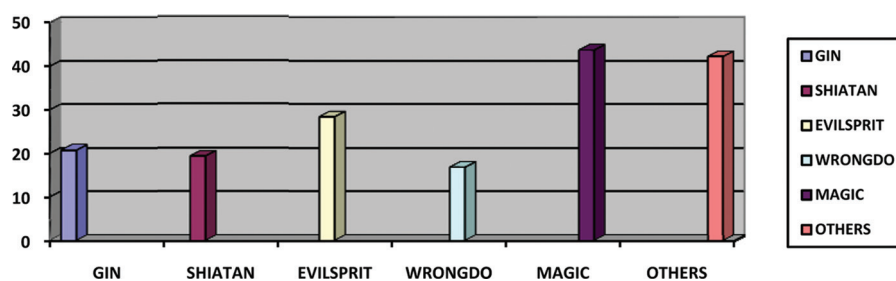| Characteristics	*n*	%
Duration of untreated illness (months)		
1–6	149	48
7–12	107	26.4
13–24	51	12.6
25–48	39	9.6
49–120	14	3.4
Past history of mental illness		
Positive	86	21.2
Negative	319	78.8
Family history of mental illness		
Positive	96	23.7
Negative	309	76.3
Past medical illness		
Yes	142	35.1
No	263	64.9
History of alcohol abuse		
Yes	71	17.5
No	334	82.5
History of drug abuse		
Yes	47	11.6
No	358	88.4
Precipitating factors for mental illness		
Family/social factors	116	28.6
Financial/legal	73	18
Ill health	23	5.7
None	193	47.7
Reasons for the mental illness		
Gin	84	20.7
Shiatan	78	19.3
Evil spirit	115	28.4
Wrongdoing	68	16.8
Magic	177	43.7
Do not know	171	42.2

Figure 1. Perceived reasons for the mental illness

Table 3. Service choices for the treatment of people with mental disorders in traditional healer centres (THCs) in Sudan and the reasons provided for that choice (N = 405)

Characteristics	n	%
Number of visits to the THC		
Only one	181	44.7
More than one	224	55.3
Previous visits to other THCs		
Yes	169	41.7
No	236	58.3
Availability of health services near home		
Yes	248	70.1
No	121	29.9
History of visit to psychiatric services		
Yes	195	48.1
No	210	51.9
Reasons for not visiting psychiatric services (n = 210)		
Faraway from home	13	6.2
Costly	17	8.1
Not useful	84	40.0
Did not know about it	96	45.7
Reasons for seeking treatment in THC		
Effectiveness		
Yes	391	96.5
No	14	3.5
Near to their home		
Yes	66	16.3
No	339	83.7
Cost of treatment in THC		
Less than psychiatric services	93	23
Not less than psychiatric services	312	77

Service choices for treatment of mental disorders

Of all participants, 41.7% (169) said they had visited other traditional healer centres and 55.3% (224) had visited the traditional healer centre more than once. Regarding availability of health services, 70.1% (284) said they had facilities near to their home.

Concerning service use, 51.9% (210) of participants said they had not previously visited any mental health facilities; 48.1% (195) had visited psychiatric services in the past and were given psychiatric medication. Of those who had not visited mental health facilities before, 49.2% (96) said this was because they did not know about the service, 43.1% (84) thought that psychiatric services and mental health services were not helpful or useful for them, 8.7% (17) said that these services were costly and 6.7% (13) said they were too far away.

Of all patients and their families, 95.5% (391) said they sought treatment in the traditional healer centres because they believed that the methods used by the healer were effective in treating mental illness. Only 16.3% (66) said they sought treatment in the traditional healer centre because it was near to their home and 23% (93) because

they believed that it was cheaper than psychiatric and mental health services (Table 3).

Treatment methods and intervention procedure

The methods used to treat patients with mental disorder in the traditional healer centres are shown in Table 4.

Patient admission

About 77% (312) of the patients were brought involuntary to the traditional healer centres involuntarily; 95.1% were brought by their families and relatives. Only 23% were admitted voluntarily and only 4.9% came alone (Table 4). Time spent at the traditional healer centre ranged from less than one month to 48 months (Figure 2).

MINI clinical presentation and diagnosis

The MINI showed that 27.4% (111) of participants had manic episode, 34.6% (140) psychotic disorder, 15.8% (64) major depressive disorder, 5.9% (24) generalized anxiety

Table 4. Treatment methods, intervention procedures and duration of treatment for people with mental disorder in traditional healer centres (THCs) in Sudan (*N* = 405)

Characteristics	*n*	%
Intervention methods		
Restriction of food		
Yes	352	86.9
No	53	13.1
Chaining the patient		
Yes	383	69.9
No	122	30.1
Beating the patient		
Yes	70	17.3
No	335	82.7
Isolation in dark room		
Yes	135	33.3
No	270	66.7
Restriction of visitors		
Yes	64	15.8
No	341	84.2
Stop psychiatric treatment if any		
Yes	73	18
No	332	82
Treatments procedure		
Rogya[1]	405	100
Bakhra[2]	402	99.3
Mehaya[3]	377	93.1
How patients come to the THC		
Alone	20	4.9
By family	385	95.1
Method of admission		
Voluntarily	93	23
Involuntarily	312	77
Time patients spend in THC for treatment (months)		
1–6	324	80
7–12	48	11.9
13–24	24	5.9
25–48	9	2.2

Notes: [1]Recitation of some verses of the holy book on the patient
[2]writing verses of the holy book on a paper or tree leaves and burn it to get the smoke for treating the patient
[3]writing some verses of the holy book in a board, papers or tree leaves and then wash it in water and then give the liquid to the patient to drink it, or to wash his body with it.

disorder, 3% (12) panic disorder, 3% (12) had social phobia, 1.7% (7) had obsessive compulsive disorder and 0.7% (3) had agoraphobia. Alcohol and drug dependency were found in 4% (16) and 0.7% (3) of participants, respectively (Table 5, Figure 3).

Discussion

Traditional healing for people with mental illness is famous and popular in Sudan and the present study aims to explore this subject. Data were collected from 10 famous traditional healer centres, each of which is named after its founder and is located in a strategic area. Young people with mental illness are brought to the traditional healer for treatment. Some

small children with organic problems, such as convulsion and epilepsy, are also brought to the traditional healer.

In this study, most of the people with mental illness who were brought for treatment in the traditional healer centres were male, which is perhaps explained by the fact that they can travel more easily than females. Most of the patients were from central Sudan because most people are migrating there from faraway states for a better life and they therefore have much easier access to mental health services.

The majority of the participants were single, which may be due to the social traditions and belief about mentally ill people in Sudan; they cannot easily marry due to the stigma associated with mental illness.
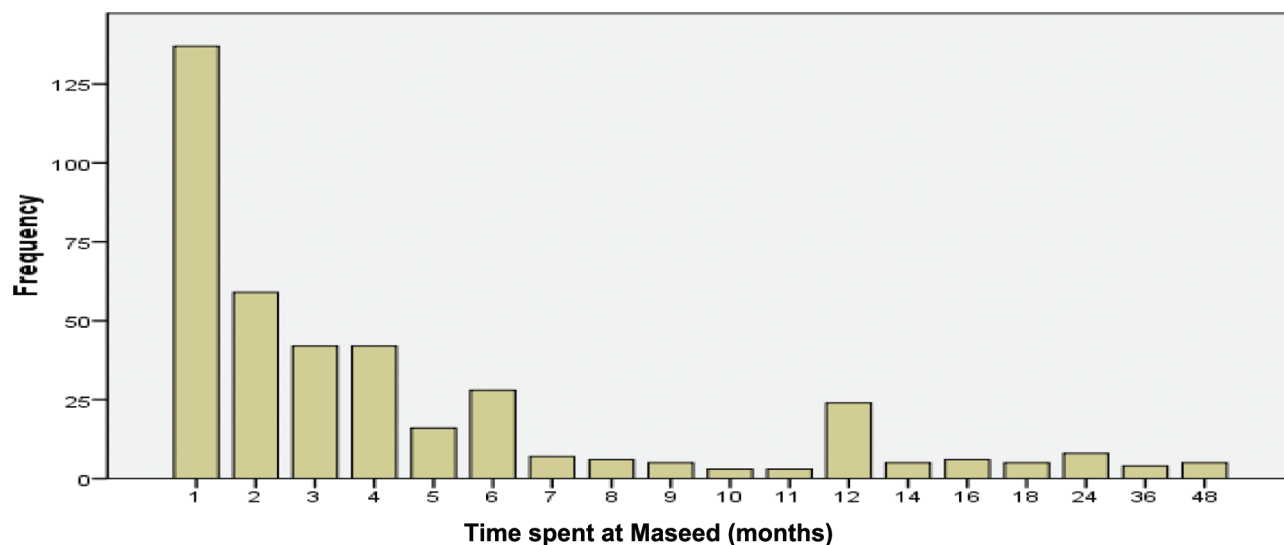
Figure 2. Time spent at Maseed (local name for the traditional healer centre)

Table 5. Diagnosis of patients (*N* = 405) in 10 traditional healer centres in Sudan according to the Mini International Neuropsychiatric Interview (MINI)

Diagnosis according to MINI	*n*	%
Major depressive episode (current)	64	15.8
Dysthymia (past two years)	13	3.2
Manic episode (current)	111	27.4
Panic disorder (current)	12	3.0
Agoraphobia (current)	3	0.7
Social phobia (current)	12	3.0
Obsessive-compulsive disorder (current)	7	1.7
Alcohol dependence/abuse (past 12 months)	16	4.0
Drug dependence/abuse (non-alcohol) (past 12 months)	3	0.7
Psychotic disoders (current)	140	34.6
Generalized anxiety disorder (current)	24	5.9

Also, most of the participants had a low level of education, with some being illiterate and never having attended school, and a few who had only studied in primary school. Improving the educational level in the community will give more insight into mental illness and probably a much better understanding about its. It could also open eyes to methods for the treatment of mental illness other than the traditional, as it has been said that education is the key to development.

Almost half of the participants were unemployed. Some of the patients remained in the traditional healer centre after they had improved to participant in rehabilitation activities, such as working in the traditional healer farms, looking after visitors to the centre and welcoming guests. Some could also become supervisors or teachers in the traditional healer centre school.

In general, people like to visit the traditional healer for many purposes, which is why more than half of the participants had visited a healer more than once, although majority of these used health services facilities near to their home. More than half said that they had never visited psychiatric services before. Some of these patients claimed that they were unaware of these services, others thought that they were not useful to them and that they would receive no benefit from attending. Only a few thought that these services were too costly or too far away.

People with mental illness and their families also have the habit of changing from one traditional healer to another and quite a good number of the participants admitted that they had visited other traditional healers before they came to the current centre.
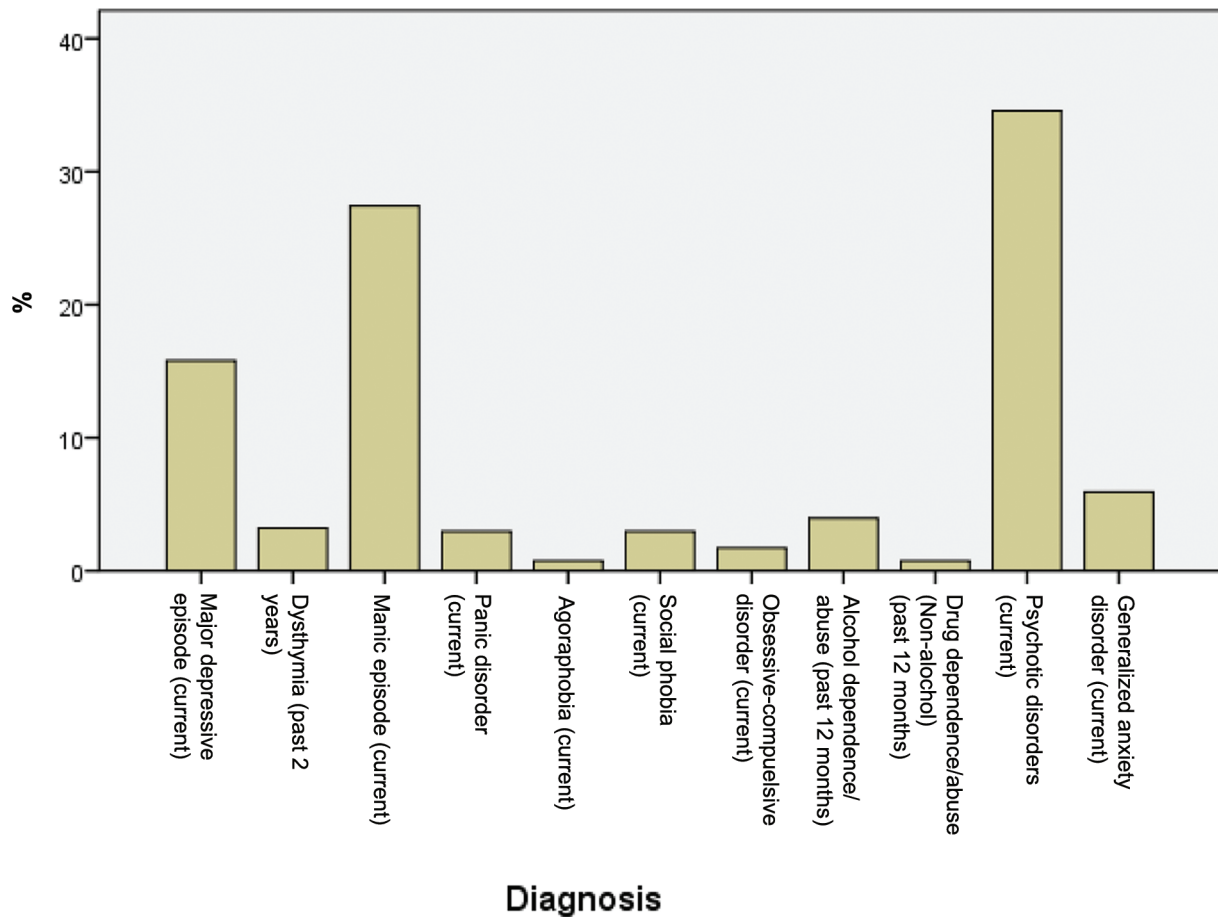
Figure 3. Percentage of each clinical presentation of the people with mental illness in traditional healer centres in Sudan, according to the Mini International Neuropsychiatric Interview (MINI)

The time that patients spent at the centre ranged from a few weeks to years, depending on the improvement of the patient's condition. During their stay at the centre, the patients and their accompanied family, relatives and friends all received food and accommodation. The mean duration of untreated illness and untreated psychosis was about 13 months, which is shorter than in other medical service settings because most families bring their mentally ill patients to the traditional healers first.

Only a few of the participants reported a history of mental illness. This means that people with a first episode of mental illness present first in the traditional healer centre before consulting any other medical or psychiatric services. This is mostly due to the strong belief in the role of the traditional healers in the treatment and management of the mental illness.

Similarly, only a few of the participants reported a history of medical illness or a family history of mental illness. The latter may be due to the stigma associated with mental illness causing people to deny such a condition in their families.

Only a few reported a history of alcohol abuse; this may be because alcoholic drinks are prohibited by law in public places in Sudan and those found drunk are punished according to Sharia law. Drug abuse was also reported by a small number; the most commonly abused drug in Sudan is cannabis.

The majority of participants were unable to attribute their mental illness to any precipitating factors, while some attributed it to family and social factors, some to financial and legal problems, and others said that it had been precipitated by physical ill health.

Most participants related the reason of their mental illness to magic, some to evil sprits and some to shiatan; a good number said that they did not specify any reason for their mental illness. The belief in supernatural causes of mental illness is very common in Sudan.

There are many different types of intervention techniques and procedures for treating people with mental illness in the traditional healer centres in Sudan; the most famous and common procedure is the restriction of food intake. Patients are prevented from taking all food containing meat or carbohydrate. Meat proteins and fat are prohibited because traditional healers believe that they contain soul (Rouh) and that stopping soul from entering

the body can weaken the soul of the evil or the devil inside the mentally ill person. Patients are also prevented from taking high-calorie food because the traditional healers believe that this will deprive the evil spirit of energy, thus enabling it to be overpowered. Instead, patients are given a small portion of porridge, specially made in the traditional healer centre, which the healers believe contains a blessing (Baraka) and a cure for the mental illness.

Traditional healers also use a physical chaining technique to restrict the movement and agitation of the mentally ill. This procedure was practised on almost all patients, regardless of their diagnosis, as a precaution to control the patients physically and prevent them from escaping or running away from the centre in the initial days or weeks of treatment. Some of the patients, especially those who were psychotic and agitated, were also beaten.

Recitation of the Holy Book and the words of God to the patients (Rogya) was used as a method of treatment for all patients in the 10 selected traditional healer centres. Bakhra and Mehaya were also used for almost all patients admitted. Bakhra involves writing holy verses on special papers or tree leaves, the patient or his/her family burning these in a fire and the resultant smoke being used to surround the patient's body to bring about a cure. Mehaya is purification using holy water and specially designed boards, papers or tree leaves. The healer writes on the vessel, certain symbols, signs and healing invocations that are traditionally known for their divine power. The writing is then washed off, the water is collected and the patient either drinks it or washes his or her body with it.

Generally, traditional healers make a unique contribution to mental healthcare that is complementary to other approaches. They also tend to be the entry point for care in many low-income communities. Mental disorders often jolt family dynamics and shake community stability. The help that people with mental illness receive at traditional healer centres serves as an alternative to clinical psychiatric treatment. This therefore raises questions about the effectiveness of the help received.

One study conducted by Raguram et al. (2002), in a temple environment in India, showed a 20% reduction in Brief Psychiatric Rating Scale (BPRS) scores. Abbo (2009), in a study about the outcome of traditional healing in Uganda, observed a 30%–40% reduction in Positive and Negative Syndrome Scale (PANSS) scores. It is quite interesting to note that these results represent a level of clinical improvement that matches that achieved by many psychotropic agents, including the newer atypical agents. In addition, the patients' relatives commented that their condition had improved after only a few weeks' stay in the traditional healer centre.

The present study is the first research of this design to be carried out to study people with mental illness who are admitted as inpatients in the traditional healing setting in Sudan. What are the reasons behind the observed clinical improvement in the traditional healing setting? First, the cultural power of staying in a traditional healer centre has the effect of reducing severe agitation, aggression, talkativeness and most of the severe psychotic symptoms. Some researchers believe that the improvement in the mental illness is due to residence in the traditional healer centre rather than the intervention techniques and methods of therapy practised there. The second reason could be the supportive care, regardless of the duration of stay in the traditional healer centre. In the present study, the mean duration of stay in the traditional healer centre was 5.24 months, which suggests that a few weeks staying in a supportive traditional healing environment might be better than long-term institutional care or lifelong care in a modern psychiatric setting. This may explain the better outcomes for schizophrenia reported in low-income traditional communities (Jablensky, 2000).

Buhrmann (1984), a practising Jungian psychiatrist, suggested several reasons why traditional healing methods are effective:

- The patient's belief that there are some reasons for the illness that the traditional healer can treat.
- Being the centre of attention in the healing process is therapeutic.
- Dream interpretation corrects neuroses.
- The strong concordance of cultural beliefs shared by the client and the healer.
- The emphasis on the ritual as therapeutic tools.
- The use of suprapersonal forces in healing ceremonies allows the client to suspend ego control mechanisms and leaving them feeling revitalized and enriched.
- Suprapersonal contact trivializes everyday problems and emphasizes more metaphysical meaning systems.
- The unifying force that suprapersonal contact has on family and community members facilitates family and group harmony.
- The endorphin release in dance rituals creates a sense of psychological euphoria.

Cheetham and Griffiths (1982) contended that psychotherapy comprises universal elements of the traditional healing process:

- A shared worldview, most often including a common language.
- The personal qualities of the therapist that make the relationship acceptable.
- The aura of the therapeutic setting.
- Particular techniques of therapy.
- An emotionally charged, intense, confiding relationship.

- An explanation of the distress compatible with the patient's worldview.
- New information that offers alternative ways for the patient to perceive his or her problem.
- Increasing the patient's hope through a sense of mastery.
- Facilitating emotional arousal.

It appears that most of the components of psychotherapy are also a part of traditional healing, could explain why it brings some kind of stability to patients with mental illness.

The traditional healer is therefore evaluated by the community in terms of his interventions and the restoration of social harmony. Healing is not just a matter of achieving physical or mental strength but, far more importantly, it is about the reintegration of the patient back into their community; this is what traditional healers are usually used for.

Cheetham and Griffiths (1982) stated that traditional healers have proven effective in alleviating both physical and mental disturbance and therefore represent major therapeutic recourses within society, despite the increasing availability of treatment based on the Western model of sickness and disease; this why many patients go to both the traditional healer and the hospital in order to complete the cure. Uys and Middleton (2008) said that researchers advocate that Western-trained professionals should follow a policy of neutrality allowing patients to go to traditional healers while encouraging them to continue with the particular treatment that they prescribe.

Furthermore, the results of the present study are comparable to previous studies conducted by Schwabe and Kuojok (1981), where they studied the practices and beliefs of the traditional Dinka healer in relation to the provision of modern medical and veterinary services in southern Sudan, concluding that traditional healers can be of great potential help in the delivery of primary healthcare services to people and livestock in that area.

In the present Sudan study, most participants attributed their mental illness to supernatural causes such as evil sprits or magic, and thought that modern psychiatric treatment had limitations and would not solve their problem. On the other hand, they strongly believed that traditional healers were equipped to help them. This is similar to Wessels (1985), who stated that successful psychiatric treatment for rural Africans should incorporate their traditional belief that illness should be viewed in terms of magical, social, physical and religious parameters. Traditional healers divide illness into those of natural causation and those of traditional cultural aetiology that are peculiar to African people. Natural illness includes epilepsy, familial/genetic disorders, mental retardation and schizophrenia. Traditional, cultural disorders often cause difficulties for Western-trained psychiatrists because sorcery, spirit possession and ancestral worship are central to their aetiology and treatment as practised by traditional healers. They, in a state of altered consciousness, use a process of divination to determine why and from whom the misfortune originated. With this in mind, reputable traditional healers are consulted in therapy-resistant cases of culture-bound syndromes in Africans. Their high rate of success in treating these cases is notable. Ross (2008) mentioned that according to traditional African beliefs, every illness has a specific purpose or cause. Therefore, to treat illness, one needs to discover and remove the cause. There is also a strong belief that disease can be brought on by spiritual pollution, where people are considered to be ritually impure due to engaging in an activity believed to be unclean, so African traditional healers treat psychosis by cleansing patients and their family of evil spirits. Levers (2006) stated that traditional medicine has been shown to have several benefits including psychological relief from ailments and reduced anxiety through a shared, unquestioned and unwavering belief in the powers of the healer; while modern medicine may be looked upon with doubt and uncertainty as some communities may regard it as foreign.

The treatment provided by traditional, complementary or alternative healers is viewed as holistic as it targets the mind, body and soul of patients within their family, community and religious contexts. A recent study conducted by Abbo et al. (2008) in Uganda also concluded that traditional healers make a contribution to the provision of mental healthcare services. Consequently, efforts to improve the quality of mental healthcare services within the currently available resources will require biomedical mental health service providers to engage traditional healers to ensure that appropriate mental health is accessed by those who need it. Asuni (1979) raised a lot of issues about this integration of traditional healers into the general healthcare system, commenting that it is difficult to plan such an integrated system before knowing how many indigenous curers are in practice, what kinds of medical problems they address, and with which kinds of problems they have most success. Furthermore, the success of traditional healers in treating mentally ill patients rests on the fact that their techniques are clearly related to the relevant cultural premises of the patient. However, if in the course of incorporating them into the official healthcare system it is considered necessary to educate them in the concepts of germs and infection, it is probable that these new intrusive concepts of etiology will prove alien and incompatible with their traditional understandings. Moreover, such training would fracture the shared cognitive bond between healers and their patients. Another dilemma is raised by the necessity to have written records of patients, their complaints and the effects of treatment, as illiterate healers will be unable to maintain such files. These and other administrative dilemmas must be foreseen.

Mankazana (1979) argued that the form of healthcare delivered by traditional healers meets some important community-felt need that modern or Western medicine

does not. An attempt has been made to demonstrate that some shortcomings in the available healthcare delivery system may benefit from the use of indigenous healers as health assistants. A plea has been made to recognize the 'cultural communication gap' as one of the most important constraining factors in healthcare delivery and one that indicates the need for research into the concept of disease and health in both rural and urban sectors, as well as for epidemiological studies into the determinant factors of disease causation and distribution, with special emphasis on cultural and social factors. Meissner (2004) said that traditional healers are still firmly established healthcare providers in their respective communities; they are familiar to their clients, share the same language and worldview, and perceive health and illness in the same light. Traditional healers are consulted for a wide range of physical, psychological, spiritual, moral and social problems. Nelms and Gorski (2006) stated that African women, particularly older ones in rural communities, use the traditional healer's timeless and ancient caregiving when faced with symptoms of mental and physical illness. The concept of training traditional healers and medical personnel to deliver traditional and Western healthcare to communities requires further consideration and a plan of implementation. Uyanga (1979) addressed the role of traditional and spiritual healers in south-eastern Nigeria, the type of patients who visit particular healers, the factors that influence their choice, and the reason for the popularity of traditional and spiritual healers despite increasing urbanization and expansion of medical facilities in the area. The findings observed marked gender, age and socioeconomic differences between patients who patronized the two types of healers. These healers specialize in specific illnesses that some hospitals fail to cure and patients derive psychological satisfaction from these healers because of their ability to provide spiritual and supernatural explanations for illnesses. Ngoma et al. (2003) stated that studies have shown that the number of common mental disorders recorded among patients consulting traditional healers is twice as great as that recorded for those attending a primary healthcare clinic. The most common symptoms presented in both settings were fatigue, obsessions, worries about physical health and depression. However, people who seek traditional treatment are more likely to have chronic complaints and to have seen several doctors. These results suggest that traditional healers are a last resort for patients with long-term health problems, who may be unhappy with the outcome of biomedical treatment. In general, primary healthcare consultations are free, but very short, with little time to discuss symptoms or their causes (Mahme et al., 2010).

Clinical implications

The general outcome of the present study is a good understanding about the type of mentally ill people who are treated at traditional healer centres in Sudan. The results of this study should be communicated to health workers involved in the daily treatment and care of mentally ill patients, for example in the form of seminars at mental health hospitals and traditional healer centres, in order to improve the quality of services in these centres and build bridges between them and the available mental health and psychiatric services, especially at the primary healthcare level. Communication should also target health policymakers at the federal and state level in Sudan.

Recommendations

- Community concepts, attitudes and practices concerning mental health services and the care of the mentally ill need to be modified and public awareness raised to decrease stigma of mental illness and increase the use of available services.
- Community involvement and participation in the delivery and utilization of mental health services should be promoted.
- Mental health services in the community should be extended, making use of the primary healthcare settings in collaboration with the traditional healing centres. The mental health services should be integrated into the general health services and primary healthcare to decrease the duration of untreated mental illness by early community detection and collaboration with traditional healer centres.
- Staff in primary healthcare settings and other relevant sectors (e.g. teachers, social workers, traditional healers) should be trained in the early detection and management of common mental disorders in the community.
- Mental health research relevant to community needs and demands should be encouraged, especially that related to traditional healing methods. The establishment of a research institute for mental health and traditional healing is required.

Conclusion

It is hoped that this study will (a) help Western-trained practitioners to better understand traditional healing as an alternative healthcare system that is used by a large section in Sudan, Africa and other developing countries in general, (b) contribute new insights to current debates on whether or not traditional healers in Africa should be officially recognized as healthcare providers, and (c) deepen social scientists' understanding of the role of culture in mental health.

Finally, it is hoped that the results of this research project provide a good clinical evidence base for policy makers to improve mental healthcare services, and that it will be useful for other counties with similar traditional healing methods and cultural background.

Acknowledgements

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The treatment outcome of psychotic disorders by traditional healers in central Sudan

Ehab Ali Sorketti,[1] Nor Zuraida Zainal[1] and Mohamad Hussain Habil[2]

Abstract

Background: Alternative and traditional healing methods are common and popular in Sudan, particularly for treating people with mental disorders, but little information is available about the outcome of theses traditional healing approaches.
Objectives: To study the outcome of treating patients with psychotic disorders by traditional healers, and to understand the type of services, interventions procedures and treatments methods used by traditional healers to manage patients with psychotic disorders.
Method: A prospective follow-up quantitative study of a cohort of inpatients with psychotic disorders was carried out from admission until discharge. Subjects were people with psychotic disorders undergoing treatment in traditional healer centres in central Sudan. The Mini International Neuropsychiatric Interview (MINI) was used to diagnose the psychotic disorders and the Positive and Negative Syndrome Scale (PANSS) was used to assess the severity of psychotic symptoms on admission and discharge from the traditional healer centre.
Results: We interviewed 129 inpatients with psychotic disorders on admission and discharge from the traditional healers centres. There was a significant reduction in the PANSS score (p = .0001) after a mean period of stay of 4.5 months. The mean for the overall PANSS score was 118.36 on admission and 69.36 on discharge.
Conclusion: Although traditional-healing approaches produce a significant improvement in the signs and symptoms of psychotic disorders measured on the PANSS, they need to be further investigated, assessed and studied.

Introduction

Mental health problems are a major public health concern worldwide. Evidence shows that African communities, including Sudan, use both modern and traditional healing systems. Sudan is a country with different modalities of health facilities; one of the most famous and popular is traditional healing. Traditional healing in Sudan is famous and popular. However, there is limited literature about the magnitude of the mental distress and associated factors among attendees of traditional healing practices in Sudan. This study aimed to determine the outcome of treatment of psychotic disorders by traditional healers in Sudan and the associated factors that influence traditional healing practices. As most persons with mental disorders are treated by traditional healers in most developing countries, it is important to do more comprehensive studies on traditional treatment and to find ways of collaboration between traditional practice and modern medicine (Shibre, Spångéus, Henriksson, Negash, & Jacobsson, 2008).

Psychiatry in Sudan began in the 1950s under the guidance of the late Professor Tigani El Mahi, the father of African psychiatry. He pioneered, among other things, rural services and the open-door policy. His successor, Dr Taha A. Baasher, shouldered the responsibility and further extended the services to the periphery. He established the Mental Health Association of Sudan and the Sudanese Association of Psychiatrists. In 1950, the Clinic for Nervous Disorders, Khartoum North, was established. The Kober

[1]Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia
[2]University of Malaya Centre for Addiction Science, Malaysia

Corresponding author:
Dr Ehab Ali Sorketti Koriana, Psychiatrist, MBBS, MPM, Department of Psychological Medicine, Faculty of Medicine, University of Malaya , 50603 Kuala Lumpur, Malaysia
Email: sorketti@hotmail.com

Institution was built later to cater for 120 forensic psychiatric patients. In 1971, El Tigani El Mahi Hospital was established as the national mental hospital. This was followed by the establishment of four psychiatric units in provincial capitals. However, since then mental health services have failed to extend beyond those few specialized units attached to state hospitals. This has mainly been due to a shortage of qualified staff, such as psychiatrists, psychologists, social workers and psychiatric nurses. Regarding facilities, mental health is not yet part of the primary health care system. Traditional healers are often used for the provision of mental health services in Sudan (Sorketti, 2009). Wig et al. (1980) studied attitudes towards mental disorders in rural areas of Sudan and northern India and an urban area of the Philippines using standardized interviews with key informants. The majority of informants indicated traditional healers as the primary source of help for psychological symptoms. In all areas people were more likely to seek help from traditional healers for psychological rather than for physical symptoms.

In Ethiopia, a country that borders Sudan in the east, the traditional Oromo society's religious leader is the Kallu who, through an ecstatic ritual technique, can investigate the causes of a disorder and advise what to do. Mental disorders are generally explained as resulting from disturbances in the relationship between people and divinity. The orthodox Coptic Church in western Ethiopia usually looks upon mental disorders as possession by evil spirits, which are thus treated by specially gifted priests and monks by praying and giving holy water – or eventually exorcism (Jacobsson & Merdasa, 1991). Traditional treatment methods were more often preferred for treating symptoms of mental disorders and modern medicine was more often preferred for treating physical diseases or symptoms. Working in close connection with traditional healers would give the primary health care worker a better opportunity to gain acceptance from the community and modify certain harmful practices (Alem, Jacobsson, Araya, Kebede, & Kullgren, 1999).

The results of Giel et al.'s (1981) study in four developing countries have been used to design appropriate brief training courses in childhood mental disorders for primary health workers. Subjects in Botswana were asked to state their preference between modern (doctor or nurse) or indigenous (traditional or religious healer) care for three case vignettes of epilepsy, psychosis and tuberculosis. Nurses, medical patients and a general village population were studied. Many subjects preferred modern care for all disorders, while a small number favoured indigenous treatment. Psychosis took an intermediate position (Dale & Ben-Tovim, 1984).

Jones, Baker and Day (2010) studied healing rituals in young Sudanese refugees, 41.6% of whom originated from Sudan in northern Africa. A study by Awadalla, Ohaeri, Salih and Tawfiq (2005), using the World Health Organization 26-item Quality of Life Instrument, stated that caregivers of Sudanese outpatients with schizophrenia, major affective disorders and neuroses were satisfied with the items related to the strengths of the traditional society and dissatisfied with the items related to national economic indices. Saravanan et al. (2007) reported that existing evidence indicates that dissonance between patients' and professionals' explanatory models affects engagement of patients with psychiatric services in western and non-western countries. They qualitatively assessed the explanatory models of psychosis and their association with clinical variables in a representative sample of first-episode patients with schizophrenia in southern India. The majority of patients (70%) in their study considered spiritual and mystical factors as the cause of their predicament; 22% held multiple models of illness. Patients who held a biomedical concept of disease had significantly higher scores on the insight scale compared to those who held non-medical beliefs. Multivariate analyses identified three factors associated with holding of spiritual/mystical models (female gender, low education and visits to traditional healers), and a single factor (high level of insight) for the endorsement of a biological model. Patients with schizophrenia in this region of India hold a variety of non-medical belief models, which influence patterns of health seeking. Those holding non-medical explanatory models are likely to be rated as having less insight (Saravanan et al., 2007).

Kurihara, Kato, Reverger and Tirta (2006) carried out a study to trace the help-seeking pathway of mental patients and to elucidate the role of traditional healing in Bali. They concluded that traditional healers are an effective provider of care for some mentally ill patients in Bali. The knowledge and recognition of psychological disorders by the traditional healers were crucial for early treatment intervention for psychiatric patients. Ngoma, Prince and Mann (2003) estimated that the prevalence of common mental disorders among traditional healer centre patients (48%) was double that of primary health care patients (24%).

A survey in southern India was carried out by Campion and Bhugra (1997) over a three-month period to determine experiences of religious healing in a group of 198 consecutive psychiatric patients attending a hospital in Tamil Nadu. Of these, 89 (45%) had sought between one and 15 sessions from either Hindu, Muslim or Christian healers. The number of patients visiting healers was linked significantly with their income, while a significantly higher number under the age of 17 years had received such help compared with older age groups. A significantly higher consultation rate was observed in those patients with schizophrenia and delusional disorders when compared with other mental illnesses.

Patients with mental disorders in Sudan are usually brought by their families for treatment in traditional healer centres. They are usually chained to their beds or to the room wall. They have no access to toilet facilities. They are prohibited to leave their rooms until at least 40 days have

passed. Sometimes patients succeed in casting off their chains and escaping from the centre. Usually the rooms in which mentally ill patients are kept are in the far corners of the traditional healer centres. The patients are deprived of all types of food apart from a special porridge made in the centre. All medications are stopped except those provided by the traditional healers and their assisting therapists (Sorketti & Habil, 2009).

Ahmed, Bremer, Magzoub and Nouri (1999) investigated the characteristics of visitors to traditional healers in Sudan in a sample of 134 visitors at four centres. They found that 60% came for treatment, 26% came for blessing and 4% came for consultation or education. In addition, about 45% of visitors saw traditional healers as problem solvers, 60% were aged between 21 and 40 years, 62% were female, 61% from rural areas, and 47% were illiterate. Not many previous studies in Sudan have investigated people with mental disorders in the traditional healer centre setting, and no previous studies that have addressed or investigated their conditions. Therefore, this will be the main scope of our current report. The general aims of this research were to know the treatment outcome of traditional healing approaches in treating people with mental disorders in central Sudan; and to produce recommendations to help improve the quality of services in traditional healer centres, and possibly for collaboration between traditional healers and mental health professionals.

Methodology

Study design

This study was a prospective follow-up of a cohort of inpatients with psychotic disorders receiving treatment in traditional healer centres in central Sudan. Patients were interviewed on admission and at discharge.

Study area

Thirty traditional healer centres in and around the capital Khartoum and the nearby states were each assigned a number from 1 to 30 and the researchers asked a third party to randomly choose 10 of these numbers. This resulted in 10 randomly selected traditional healer centres in central Sudan in and around Khartoum State, Geziera State, White Nile State and Blue Nile State. The director of each traditional centre was approached personally by the principal investigator and the research team. An official letter was delivered to each centre explaining the purpose of the study and consent for joining the study was obtained from each centre before the start of data collections from patients. It is worth mentioning that different healers inhabiting the below-mentioned centres seem to be homogenous, belong to closely interrelated cultures, share similar socio-economic characteristics and exhibit similar methods of healing.

Study population

The main study population comprised inpatients with psychotic disorders receiving treatment in traditional healer centres in central Sudan. All inpatients receiving treatment in the selected traditional healer centre during the period of the study were recruited. The patients and their family members or relatives were interviewed on admission and at the time of their discharge from the centre.

Patient inclusion criteria

1. People with psychotic disorders who came to the selected traditional healer centre or who were staying in their rooms and had just arrived at the start of the study.
2. All male and female patients.
3. All adult patients above 16 years of age.
4. Patients whose families agreed to give consent before joining the study.

Patient exclusion criteria

1. Patients whose families and relatives refused to give consent or who were not interested to join the study.
2. Patients with psychosis due to substance abuse or to medical conditions.

Sampling

Sample size was calculated using the Kish and Leslie formula for single proportions for descriptive study. The calculation assumed a frequency of 9% for psychotic disorders at the traditional healer centres (based on the prevalence of mental disorders among users of traditional healer centres in Sudan); for a 95% confidence interval and a precision of $p < .05$, a total of 129 inpatients with psychotic disorders were included in the follow-up study (Kish & Frankel, 1974). We included only patients who were diagnosed as having current psychotic disorders on the Mini International Neuropsychiatric Interview (MINI) (Arabic translation version 5).

Data collection technique

The patient's initial questionnaire covered all the basic information including socio-economic and demographic characteristics and a profile of each of the selected traditional healer centres. The main scope of the research was to study the outcome of treatment of psychotic disorders by the traditional healers and to assess the improvement in the symptoms of the mentally ill patient's condition within the traditional healer system. After selection, the patient was interviewed on admission and discharge

using a structured questionnaire. Basic information regarding the socio-demographic profile of the patient was obtained first, which included name, age, education level and occupation or working status, area of original residence in Sudan, religion and marital status. This was followed by the symptoms of the current complaint and the duration of untreated illness, how many times the patient had been brought to the traditional healer centre, history of medical illness, family history of mental illness, and any history of drug or alcohol abuse. Then the patient was asked why he/she had come to the traditional healer centre and if he/she had been to any psychiatric services before. If not, why: did they not know about these services; were they too expensive; were they too far away from home; or was it for other reasons? If yes, had any medication been given? The patient was then asked about any precipitating factors for the current illness. Type of intervention and all types of traditional healing services provided to the patients were recorded. Finally, we asked about the cause of the mental illness from the patient's and their family's perception.

Tools and instruments

Diagnosis was determined using a structured questionnaire, the MINI (Arabic translation version 5) (Amorim, Lecrubier, Weiller, Hergueta, & Sheehan, 1998; Lecrubier et al., 1997; Sheehan et al., 1997; Sheehan et al., 1998). The interviews were conducted in the Arabic language. We also used the Positive and Negative Syndrome Scale (PANSS) to determine the severity and progress of the patients' signs and symptoms on admission and discharge. The principal investigator and five clinical psychologists were trained to use the study instruments to carry out the interviews in Arabic and to apply the clinical scales.

The MINI was used to study the characteristics of people with mental disorders who were undergoing treatment in traditional healer centres in Sudan where we interviewed 405 inpatients with mental disorders (Sorketti, Zainal, & Habil, 2011). We then selected the psychotic group of patients (only schizophrenics) (we did not include individuals with 'brief reactive psychosis', 'schizo-affective disorder', 'major depressive/bipolar mood disorder with psychotic features' or 'dementia or delirium' (with psychotic features). We were able to enrol 129 patients in the study and we followed them up from admission until they were discharged.

Ethical approval

Ethical approval was obtained before the start of data collection from the Directorate of Health Research in the Federal Ministry of Health in Sudan. Because our study population comprised psychotic patients who lacked insight and judgement and were brought involuntarily by their families, informed consent was obtained from each participant's family or close relatives accompanying them for treatment at the traditional healer centre before they joined the study.

Data analysis

Data were analysed using statistical package (SPSS) version 16. Descriptive statistics were undertaken through constructing frequency tables and graphs, and finding means and standard deviations for the quantitative variables. Cross-tabulation using χ^2 tests and one-way ANOVAs was also used to examine the association between variables and to test the significance of relationships.

Results

Table 1 shows the socio-demographic characteristics of the participants. The age of the patients brought for treatment to the traditional healer centres ranged from 16 to 55 years old ($M = 29.23$ years); 92 (71.3%) were male; 97 (75.2%) were from central Sudan; 65.1% (84) were single; 55 (42.6%) had studied until primary school only; and 61 (47.3%) were jobless.

Data on medical-social history and service choice and treatment are listed in Tables 2, 3 and 4.

Table 5 and Figure 1 show the PANSS results at admission to and discharge from the traditional healer centre. Table 6 and Figure 2 describe the comparison of the mean subscale PANSS scores at admission and discharge. We found that there was an obvious reduction on the overall PANSS score in the initial assessments and later on discharge. The mean for the overall PANSS score on the first interview (PANSS1) was 118.36 and on discharge the mean (PANSS2) was found to be 69.36 (Tables 5 and 6). Regarding the positive symptoms, there is remarkable reduction in the P scores. The mean for the positive symptoms on the initial assessment (PANSS1P) was 35.66 and on discharge (PANSS2P) it was 19.12 (Tables 5 and 6). On the other hand, there was also a remarkable reduction in the mean of the negative symptoms (N): PANSS1N was 21.82 on admission and PANSS2N was 14.17 on discharge. Regarding the general symptoms (G), the mean PANSS1G was 60.81 on admission and mean PANSS2G on discharge was 35.91 (Tables 5 and 6).

We found that 53% of the patients spent about one to two months in treatment at the traditional healer centres, and only 10 patients stayed for more than one year (Figure 3). The average mean duration of stay was about 4.5 months, and the average mean duration of the untreated illness before seeking treatment in the traditional healer centre was 15.8 months.

Table 1. Socio-demographic characteristics of the people with psychotic disorders treated in traditional healer centres in Sudan

Characteristics	*n*	%
Age (Years)		
16–20	15	11.6
21–30	65	50.4
31–40	40	31.0
41–55	9	7.0
Gender		
Male	92	71.3
Female	37	28.7
Residence		
North Sudan	7	5.4
East Sudan	12	9.3
West Sudan	13	10.1
Central Sudan	97	75.2
Marital status		
Single	84	65.1
Married	34	26.4
Divorced	11	8.5
Education level		
Never been to school	40	31.0
Primary school	55	42.6
Secondary school	28	21.7
University	6	4.7
Occupation		
Working	59	45.7
Not working	61	47.3
Student	9	7.0

Table 2. Medical-social history precipitating factors, reasons for psychotic illness of people treated in traditional healer centres in Sudan

Characteristics	*n*	%
Duration of untreated illness (months)		
1–12	100	69.8
13–24	18	13.9
25–48	14	10.9
49–96	7	5.4
Past history of mental illness		
Positive	23	17.8
Negative	106	82.2
Family history of mental illness		
Positive	39	30.2
Negative	90	69.8
Past medical illness		
Yes	50	38.8
No	79	61.2
History of alcohol abuse		
Yes	20	15.5
No	109	84.5
History of drug abuse		
Yes	12	9.3
No	117	90.7
Precipitating factors for psychotic illness		
Family-social factors	43	33.3
Financial-legal	29	22.5
Ill health	7	5.4
None	50	38.8
Reasons for psychotic illness*		
Gin	20	15.5
Shiatan	21	16.3
Evil spirit	33	25.6
Wrongdoing	25	19.4
Magic	59	45.7
Do not know	51	39.5

* Respondents gave more than one reason, therefore *n* > 129 > 100%

Discussion

This study was a follow-up of a cohort of inpatients with psychotic disorders receiving treatment in traditional healer centres in central Sudan. There was a general trend for the symptoms scale (PANSS) to show an obvious reduction from the day of arrival and admission to the centre to the time of discharge. Traditional healers make a unique contribution that is complementary to other approaches. They also tend to be the entry point for care in many low-income communities including Sudan and other African countries (Richter, 2003). The help that patients received at this traditional healer centre served as an alternative to clinical psychiatric treatment for these people with mental disorders. This therefore raises a lot of questions about the effectiveness of the help they received.

The observed reduction of 49% in the mean PANSS scores in our study in Sudan is similar to one of the studies conduct by Abbo (2011) about the outcome of traditional healing in Uganda, where they observed a 30%–40% reduction in the PANSS score. Furthermore, Raguram, Venkateswaran, Ramakrishna and Weiss (2002), in a study in a temple environment in India, observed a 20% reduction

in the Brief Psychiatric Rating Scale scores. It is quite interesting to note that these results represent a level of clinical improvement that matches that achieved by many psychotropic agents, including the newer atypical agents (Raguram et al., 2002). In clinical studies a reduction of at least 20%, 30%, 40% or 50% of the initial PANSS score has been used as a cut-off to define 'response' (Leucht et al., 2005).

Although traditional healing approaches produce significant improvement in the signs and symptoms of psychotic disorders measured on the PANSS, still we cannot recommend traditional healing as an alternative to modern ways of management for people with mental disorders because a lot of issues need to be raised about the approaches practised by the healers in these centres, such as isolating patients in an unhealthy, non-hygienic environment, depriving them of nutritional food, beating them,

Table 3. Service choices for treatment of people with psychotic disorders in Sudan and the reasons provided for that choice

Characteristics	*n*	%
Number of visits to the THC		
Only one time	60	46.5
More than one time	69	53.5
Previous visits to other THC		
Yes	65	51.9
No	64	48.1
Availability of health services near home		
Nearby	90	69.8
Far away	39	30.2
History of visits to psychiatric services		
Yes	67	69.8
No	62	30.2
Reasons of 48.1% for not visiting psychiatric services		
Far away from home	5	3.9
Costly	5	3.9
Not useful	21	16.3
Do not know about it	31	24.0
Reasons for seeking treatment in the THC Effectiveness		
Yes	127	98.4
No	2	1.6
Near to their home		
Yes	20	15.5
No	109	84.5
Cost of treatment in THC		
Cost is less compared to psychiatric services	23	17.8
Cost is not less	106	82.2

THC = traditional healer centre

Table 4. Treatment methods and intervention procedure and duration for treating people with psychotic disorders in traditional healer centres

Characteristics	*n*	%
Intervention methods:		
Restriction of food		
Yes	120	93
No	9	7
Chaining the patient		
Yes	106	82.2
No	23	17.8
Beating the patient		
Yes	31	24
No	98	76
Isolation in dark room		
Yes	44	34.1
No	85	65.9
Restriction of visitors		
Yes	24	18.6
No	105	81.4
Stop psychiatric treatment if any		
Yes	26	20.2
No	103	79.8
Treatment procedures		
Rogya	129	100
Bakhra	126	97.7
Mehaya	118	91.5
How patients come to the THC		
Alone	3	2.3
With family	126	97.7
Method patient brought		
Voluntarily	12	9.3
Involuntarily	117	90.7
Time patients spend in the THC for treatment (months)		
1–6	103	79.8
7–12	16	12.4
13–18	10	7.8

Rogya = reciting verses of the holy book to the patient
Bakhra = writing verses of the holy book on paper or leaves, burning it and treating the patient with the smoke
Mehaya = writing verses of the holy book on a board, paper or leaves, washing in water and giving the liquid to the patient to drink or to wash his/her body
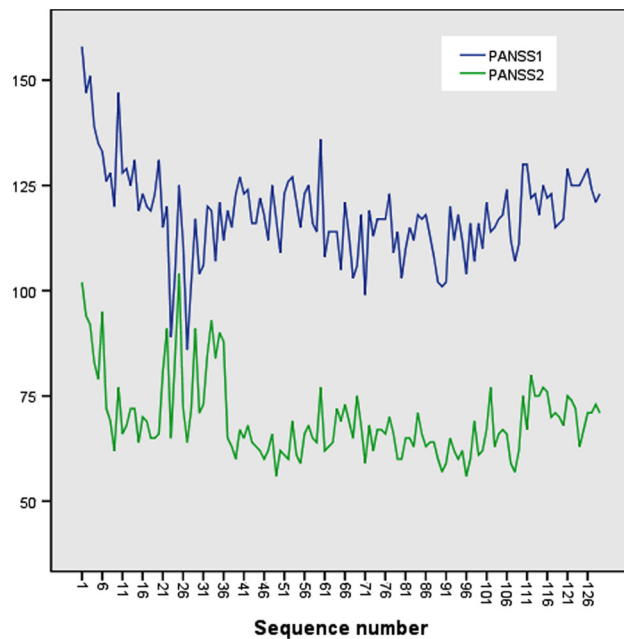THC = traditional healer centre

chaining them to the wall and stopping their antipsychotic medication. Furthermore, administering traditional treatment without the patient's consent raises a lot of concern about human rights and ethical issues; in some cases patients are treated this way for up to 18 months. It is important to mention at this point the effect of war and conflicts and instability in a country like Sudan that make a broad segment of the population prone to poverty and lacking access to health services; high numbers of patients with mental disorders have no other choice but to approach traditional healers for help.

Reasons for PANSS improvement

There has been a lot of discussion about the reasons and factors behind the improvement in PANSS scores witnessed after traditional treatment, particularly concerning the cultural power of staying in the traditional healer centre that has the effect of reducing severe agitation, aggression, talkativeness and most of the severe psychotic symptoms. There has been a long-standing debate about this issue between sociologists and psychologists (Buhrmann, 1984; Cheetham & Griffiths, 1982; Gumede, 1990; Straker, 1994), which mentions differences between African and western healing, some of which are listed below (Cheetham & Griffiths, 1982):

- African healers had a practical relationship, while western had an idealized (Rogerian) relationship.

Table 5. Descriptive statistics of PANSS on admission to and discharge from traditional healer centre

	N	Minimum	Maximum	M	SD
PANSS1	129	86	158	118.36	10.556
PANSS2	129	56	104	69.36	9.457
PANSS1P	129	26	44	35.66	4.221
PANSS2P	129	15	26	19.12	2.359
PANSS1N	129	15	35	21.82	3.690
PANSS2N	129	9	26	14.17	3.315
PANSS1G	129	35	82	60.81	6.582
PANSS2G	129	27	56	35.91	5.287
Valid N (list-wise)	129				

Figure 2. Comparison of the PANSS total mean, positive, negative and general subscale scores on admission and discharge

Figure 1. Sequence chart of the PANSS on admission and discharge
PANSS1 = admission
PANSS2 = discharge
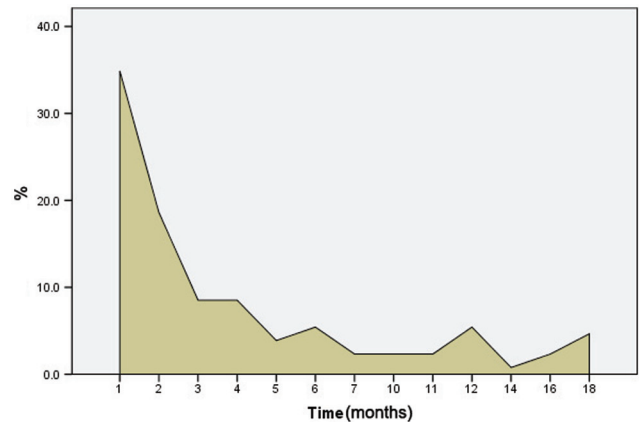
Figure 3. Time spent by patients with psychotic disorders in traditional healer centres

Table 6. Comparison of the mean subscale scores of PANSS on admission to and discharge from the traditional healer centre

PANSS subscales	Admission	Discharge	p
Mean positive symptoms	35.66	19.12	.0001
Mean negative symptoms	21.82	14.17	.0001
Mean general symptoms	60.81	35.91	.003
Total mean PANSS	118.36	69.36	.0001

(one-way ANOVA compare means)

- African healers had an open community relationship, while western had a confiding (private) relationship.
- African healers had a directive approach, while western a mostly indirective approach.

- Traditional healers deal with the supernatural and natural world, while western deal mostly with the natural world.
- Traditional healers' focus is who caused this, while western focus is on what is happening.
- Traditional healers aim at social cohesion, while western aim at individual empowerment.
- Traditional healers tells client why he/she has come, while in the western approach the client tells the therapist why he/she has come.
- Traditional healers mostly incorporate pharmacology in addition to other healing methods, while western approaches depend mainly on pharmacology.
- Traditional healers generally prescribe a ritual, while western approaches rarely prescribe ritual.
- Traditional healers' boundaries are often very wide (e.g. client lives with healer), while western are mostly restricted (e.g. weekly visit).

- Traditional healers' client motivation generally seen as conscious, while western client motivation generally seen as an unconscious.
- Traditional healers believe dreams are direct communication from ancestors, while western believe dreams are intra-psychic and symbolic.
- Traditional healers' personal values are intrinsic to the process, while western therapists' personal values are subjugated.
- Traditional healers' main tools are materials like bones, while western main tool is verbal.

Advantages of the traditional healing approach

We can view the advantages of traditional healing approaches in comparison to the medical health care system from many different aspects, including:

- *Culture.* Traditional healers and ritualists share the sociocultural value system of their client.
- *Personality of the healer.* Traditional healing recognizes the importance of the personality of the therapist who achieves and maintains confidence-inspiring charisma. In modern medicine the therapeutic technique rather than the personality of the therapist is assumed to be the most important factor.
- *Holistic approach.* Traditional healing practices usually integrate physical, psychological, spiritual and social methods, as opposed to modern medicine, which is becoming increasingly fragmented through over-specializing and technologizing.
- *Accessibility and availability.* Traditional healers are the first resort in most developing areas due more to their geographical permanence and accessibility than their therapeutic merits. Modern health staff tends to be urban located, highly mobile and changing.
- *Affectivity therapy and altered state of consciousness.* Traditional healing utilizes suggestive methods and manipulation of culturally validated images and symbols, working on the patient's affectivity to achieve the therapeutic goals rather than relying on rational understanding and insight in order to correct faulty behaviour. The effective utilization of altered state of consciousness, induced by physiological and psychological means in the ritual therapy of substance dependence, is of special interest in view of the assumed interrelationship of such states with opiate receptors and the neuroendocrine opioid system.
- *Collective therapy management.* Traditional healing in most cases also involves the patient's family and other community members who may join forces with the healer and patient to define the underlying problem and remedial action. Traditional healing

therefore tends to be relational. It also tends to foster kinship and community cohesion to facilitate the patient's re-integration.
- *Social engineering.* The traditional healer's advice carries weight through his prestige and charisma and may in some cases also be sanctioned by supernatural authority. The healer is therefore in a position to manipulate directly or indirectly the patient's immediate human environment to favour the achievement of the therapeutic goals.
- *Cost-effectiveness.* There is no doubt that utilization of the traditional healer resources is considerably more cost-effective for the public than utilization of the official health services. Consumer cost for utilization of traditional healer services varies and is usually individualized; often there are no obligatory fees but instead there is the expectation of donation.

Some researchers believe that the improvement seen in mental illness is due to residence in the traditional healer centre and to the intervention techniques and the therapy methods practised by the healer. Another factor or reason could be the supportive care regardless of the duration of stay in the traditional healer centre. In this study, the mean duration of stay in the traditional healer centre was 4.5 months; some researchers have argued that a few weeks of stay in a supportive traditional healing environment is better than a long stay in a modern psychiatric setting. This may explain the better outcomes for schizophrenia reported in low-income traditional communities.

Peltzer and Machleidt (1992) studied the bio-psycho-social therapeutic models for schizophrenia in three traditional African settings in terms of organization, environment, culture, family and follow-up and compared them to the current western model of psychiatric practices. They concluded that the traditional healer centre setting is in a number of ways superior to the western model. On the other hand, things have changed in modern psychiatry today, in the era of the atypical antipsychotics and the huge shift from long-stay institutional care towards community psychiatric mental health care. Furthermore, the availability of psychiatry departments in general hospitals and the availability of mental health services at primary health care level in many countries may contribute to the shifting of this balance. The management of psychiatric disorders becomes more easy and comprehensive in modern psychiatric settings. The popularity of alternative medicine in the community should alert decision-makers to look at the difficulty of access to the health system (Al-Faris et al., 2008). The common reasons given for visiting traditional healers were belief of treatment success, preference of natural materials and non-response to medical treatment. Complementary and alternative medicine is a reality and it deserves more investigation and appropriate legislation and control (Al-Rowais, Al-Faris, Mohammad, Al-Rukban, & Abdulghani, 2010).

In our study more than 50% of the patients spent one to two months only in the traditional healer centres for treatment; only 10 patients stayed for more than one year. Those who stayed for more than two months were involved in rehabilitation activities rather than therapy and treatment. These rehabilitation activities included participation in religious rituals and ceremonies, welcoming guests to the centre, cooking food and cleaning the centre, participating in the traditional healer school by teaching small kids, and so on. Ae-Ngibise et al. (2010) in their study in Ghana has mentioned that limited research has been conducted to explore the factors that support or obstruct collaboration between traditional healers and public sector mental health services. They indicated many reasons for the appeal of traditional and faith healers, including cultural perceptions of mental disorders, the psychosocial support afforded by such healers, as well as their availability, accessibility and affordability. A number of barriers hindering collaboration, including human rights and safety concerns, scepticism around the effectiveness of 'conventional' treatments, and traditional healer solidarity, were identified. Mutual respect and bi-directional conversations surfaced as the key ingredients for successful partnerships. They concluded that collaboration is not as easy as commonly assumed, given paradigmatic disjuncture and widespread scepticism between different treatment modalities. Promoting greater understanding, rather than maintaining indifferent distances, may lead to more successful cooperation in future. Sorketti, Zuraida and Habil (2010) stated that collaboration between psychiatrists and traditional healers could help to end harmful methods of practice by the traditional healers, such as: isolating patients in an unhealthy, non-hygienic environment; depriving patients of nutritional food; beating patients; misdiagnosis; and mismanagement.

Sorsdahl, *Flisher, Wilson and Stein* (2010) stated that, in many traditional belief systems in Africa, including South Africa, mental health problems may be attributed to the influence of ancestors or to bewitchment. Traditional healers are viewed as having the expertise to address these causes. They found that traditional healers held multiple explanatory models for psychotic and non-psychotic disorders. Psychotic illnesses appear to be the main exemplar of mental illness and were treated with traditional medicine, while non-psychotic illnesses were not viewed as a mental illness at all. They concluded that investigations of the effectiveness of traditional healer treatment for psychiatric disorders should be conducted. Karim, Saeed, Rana, Mubbashar and Jenkins (2004) from Pakistan stated that mental illnesses are stigmatized and widely perceived to have supernatural causes. The extent of stigma on mental illness varies according to the cultural and sociological backgrounds of each society (Al-Adawi et al., 2002). Jacobsson and Merdasa (1991), in their study in Ethiopia, stated that according to Islamic teaching in that area, mental disorders are caused by evil spirits sent by God to punish the unfaithful people. Some Muslim sheiks treat mental cases with prayers but herbal remedies are also used. Jolly (1999) looked at the concept of the indigenous healers and drew on experiences of those closely involved with the progress of one soldier who, after feeling unwell, believed he was destined to become a shaman. Initially treated by western methods, which failed to resolve his situation, he returned to Nepal to consult with the local traditional healers. The soldier spent six weeks in Nepal and was seen by three different types of local shamans. Upon his return to Britain, the soldier claimed to be free of symptoms and returned to his normal military duties.

Borras et al. (2007) examined how religious beliefs and practices impact upon medication and illness representations in chronic schizophrenia. One hundred and three stabilized patients were included from Geneva's outpatient public psychiatric facility in Switzerland. Interviews were conducted to investigate spiritual and religious beliefs and religious practices and religious coping. Medication adherence was assessed through questions to patients and to their psychiatrists and by a systematic blood-drug monitoring. Thirty-two per cent of patients were partially or totally non-adherent to oral medication. Fifty-eight per cent of patients were Christian, 4% Buddhist, 3% Muslim, 2% Jewish, 14% belonged to various minority or syncretic religious movements, and 19% had no religious affiliation. Two-thirds of the total sample considered spirituality as very important or even essential in everyday life. Fifty-seven per cent of patients had a representation of their illness directly influenced by their spiritual beliefs (positively in 31% and negatively in 26%). Religious representations of illness were prominent in non-adherent patients. Thirty-one per cent of non-adherent patients and 27% of partially adherent patients underlined an incompatibility or contradiction between their religion and taking medication, versus 8% of adherent patients. Religion and spirituality contribute to shaping representations of disease and attitudes toward medical treatment in patients with schizophrenia. This dimension should be on the agenda of psychiatrists working with patients with schizophrenia (Borras et al., 2007).

Mona and Rakhawy (2010) in Eygpt stated that mentally disordered people have a considerable tendency towards the use of faith healing and believe in its abilities to improve their conditions. Behaviour-seeking tendency is generally directed towards primary health care services, relatives and faith healers. Such results can be the foundation for mental health reforms and for future research in the Arab world. Odejide, Oyewunmi and Ohaeri (1989), in their overview about psychiatry in Africa, mentioned that to achieve the goal of mental health care for all Africans, psychiatry should be included in the primary health care programme, regional postgraduate medical centres are needed, and a means of gathering statistics and funding research should be fostered. Patel, Simunyu and Gwanzura

(1997) reported that pathways to care for mental illness are diverse and are dependent on sociocultural and economic factors.

The important role that religious beliefs may have on perceptions of mental illness cannot be ignored. Many religions, including Islam, advocate witchcraft and spirit possession, all of which are thought to influence the behaviour of a person so as to resemble that of a mentally ill individual. Thus this research explored Muslim faith healers' perceptions of mental and spiritual illness in terms of their understanding of the distinctions between the two, the aetiologies and the treatments thereof. Six Muslim healers in the Johannesburg community in South Africa were interviewed and thematic content analysis was used to analyse the data. From the results it is clear that the faith healers were aware of the distinction between mental and spiritual illnesses. It was also apparent that Islam has a clear taxonomy that distinguishes illness and the causes thereof. Treatments are then advised accordingly. The conclusion was that understanding of mental illness needs to acknowledge its various culturally inclined taxonomies to better understand and aid clients (Ally & Laher, 2008). Professor Tigani El Mahi stressed that our attitudes towards religious healers should aim to encourage good quality of practice while trying to end harmful or faulty methods (Elsafi & Baasher, 1981). El-Gaili, Magzoub and Schmidt (2002) reported, in their study in Sudan, that until recently, interest and concern about mental health was mainly left to religious healers and such healers continue to see the majority of mental patients. Traditional healers in Sudan perform many valuable services and social benefits to the community; nevertheless, traditional healing is not formally institutionalized, as there is no responsible government entity to guide and supervise the delivery of traditional healing services. Adewuya and Makanjuola (2009) stressed that any effort to improve professional mental health services must consider and address beliefs and preferences of the public in regard to mental health treatment.

Clinical implications

This study provides good, clinical, evidence-based data for policy makers to use to improve mental health services policies and plans, and can also be useful for other counties with similar traditional healing methods and a similar cultural background.

1. Traditional healing approaches produce some improvement in the signs and symptoms of psychotic disorders, but a lot of issues and concerns about the approaches practised by traditional healers need to be addressed.
2. Traditional healer centres may constitute a community resource for mentally ill people in a culture where they are recognized and valued.

3. We need to modify community concept, attitudes and practices concerning mental health services and the care of the mentally ill, and raise public awareness to decrease stigma of mental illness and enhance utilization of available services.
4. We need to ensure community involvement and participation in the delivery and utilization of mental health services.
5. We need to extend mental health services in the community, making use of the primary health care settings, and in collaboration with the traditional healing centres, integrate the mental health services into the main stream of the general health services and primary health care so as to decrease the duration of untreated mental illness by early community detection and collaboration with traditional healer centres.
6. We need to train the staff in primary health care settings and other relevant sectors (e.g. teachers, social workers, etc.) in early detection and management of common mental disorders.
7. We need to develop more financial and human resources to meet the mental health service needs at all levels.
8. To encourage more mental health research relevant to community needs and demands, especially that related to mental health and traditional healing practices.
9. Allocation of more financial and human resources to make mental health services available and accessible

Conclusion

The results of this study suggest that traditional healing approaches produce significant improvement in the signs and symptoms of psychotic disorders. We cannot underestimate the role of traditional healers in providing culturally and sociably accepted care to their community. An atmosphere of understanding, trust and respect should be created between modern health workers, traditional healers and the communities they serve. It is very important for psychiatrists to collaborate with traditional healers because most people with mental illness consult traditional healers first, or they alternate between healers and doctors, thereby wasting a lot of resources. We can at least make use of the traditional healer centres to be like community psychiatric practice in the western health care model.

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The traditional belief system in relation to mental health and psychiatric services in Sudan

E. A. Sorketti, N. Z. Zuraida and M. H. Habil

Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, email ehabsorketti@yahoo.com

Traditional healers' centres may constitute community resources for people with a mental illness. Traditional healers often have the respect of the population they serve. Many low-income countries are seeking to integrate mental health into their mainstream health services and primary healthcare, so as to decrease the duration of untreated mental illness. Traditional healers can help to meet these needs. A series of four studies has been conducted in central Sudan. In-patients with mental disorders undergoing treatment with traditional healers were recruited, as well as some of the healers themselves. The resulting observations should help practitioners trained in 'Western' psychiatry to better understand traditional healing as an alternative healthcare system. The results should contribute to current debates on whether or not traditional healers in Africa should be officially recognised as healthcare providers. They should also deepen social scientists' understanding of the role of culture in mental health and help policy-makers to improve mental health services.

Traditional healers' centres may constitute community resources for people with a mental illness in a culture where they are recognised and valued. Traditional healers often have high credibility and deep respect among the population. They are knowledgeable about local treatment options, as well as about the physical, emotional and spiritual lives of the people they serve, and are able to influence their behaviour. Therefore, it is imperative to consider traditional healers as partners in an expanded response to mental disorder, and to maximise the contribution that can be made by traditional healers in meeting the needs of those who require some form of mental health service (Anderson & Kaleeba, 2002, p. 5).

A series of four studies has been conducted in central Sudan (see Sorketti, 2008, 2009; Sorketti & Habil, 2009; Sorketti et al, 2010; Sorketti et al, 2011), with the following aims:

- to delineate the sociodemographic characteristics of people with mental disorders who seek treatment from traditional healers

- to record their clinical presentations and diagnoses

- to establish the outcomes afforded by traditional approaches to the treatment of people with psychosis

- to generate a profile traditional healers

- to investigate the knowledge, beliefs, attitudes and practices of the wider Sudanese community in relation to people with mental disorders, traditional healing and formal psychiatric services.

The resulting observations should help practitioners trained in 'Western' psychiatry to better understand traditional healing as an alternative healthcare system, one that is used by a large section of the Sudanese population – as is the case in other African countries, and elsewhere. The results should contribute to current debates on whether or not traditional healers in Africa should be officially recognised as healthcare providers. They should also deepen social scientists' understanding of the role of culture in mental health. The data may help policy-makers to improve mental health services.

Methods

We used both qualitative and quantitative research methods for the four studies, which were conducted in selected traditional healers' centres in central Sudan. In-patients with mental disorders undergoing treatment in these centres and the traditional healers themselves were recruited. The sample size was calculated using the Kish–Leslie formula for a descriptive study.

Both qualitative and quantitative research methods were used. These included focus group discussion, in-depth interviews with key informants and healers, structured questionnaires (for interviews with both patients and traditional healers), the Mini International Neuropsychiatric Interview (MINI, to elicit the diagnosis) and the Positive and Negative Syndrome Scale (PANSS, to assess those with a psychosis, at both admission and discharge from the centres).

Ethical approval was obtained before the start of the study and informed consent was obtained from all participants.

Results

We interviewed more than 400 patients receiving treatment at traditional healers' centres and were able to follow-up 129 patients with psychotic disorders from admission until discharge from the centres, to study the outcome of the various interventions.

We were able to interview 28 traditional healers to assess their concepts, attitudes and practices in relation to mental disorder.

Focus group discussions were held with the relatives and families of patients treated in these centres.

Discussion

We need to modify community concepts, attitudes and practices concerning mental health services and the care of people who have a mental illness, to raise public awareness and to decrease the stigma of mental illness and enhance utilisation of services.

It is vital to establish channels of collaboration and common understandings between traditional healers and mental health professionals in those countries where the majority of people with mental illness consult traditional healers first. Traditional healers are in a position to help in the early detection of mental illness; in turn, early management will lead to better outcomes. Collaboration with psychiatrists will help to eliminate some potentially harmful methods of practice by the traditional healers, such as misdiagnosis, isolating patients in an unhealthy, non-hygienic environment, depriving patients of nutritional food, and beating patients. Collaboration can help to improve community awareness and decrease the stigma of mental illness. Use should be made of traditional healers' centres as community rehabilitation facilities for people with mental illness.

If the education level of traditional healers can be improved, this will enable them to have a better understanding of mental illness and the benefits of modern medication. This could be achieved through seminars and programmes, and workshops to raise awareness of new psychiatric treatments.

It was evident from the studies that traditional healing can produce some improvement in the signs and symptoms of patients, even those with psychotic disorders, but, despite this, the approaches used by traditional healers do raise ethical and human rights issues, which need to be addressed.

We need to ensure community involvement and participation in the delivery and utilisation of mental health services. Many low-income countries are seeking to integrate mental health services into mainstream general health services and primary healthcare, so as to decrease the duration of untreated mental illness, through early community detection. Collaboration with traditional healers would be of enormous strategic benefit in this regard.

More research is needed into traditional healing and mental health in Sudan, especially community needs and demands; to this end, the establishment of a specialist research institute for mental health and traditional healing in developing countries would be of great advantage.

Although the researchers did their best to make the studies as comprehensive as possible, there were of course some limitations:

- Some harmful and even abusive approaches are practised by traditional healers in these centres, such as depriving patients of food. The researchers were only observers but were able to advise patients and their families to think about modern psychiatric treatment, and provided addresses of local psychiatric hospitals and mental health services.

- These studies included only traditional healers, and so psychiatrists' opinions about traditional healing practices and collaboration were not ascertained.

- For patients with a psychosis, consent to participate in the study was obtained from a close relative.

- We were prohibited from taking photographs and making tape-recordings.

- Transportation was often a difficulty for the research team because many of the centres were in remote villages.

We need to bring what was happening in these centres to the attention of our psychiatric colleagues and indeed of mental health professionals more widely, as well as to the attention of mental health service providers, decision-makers in the Ministry of Health, government officials and human rights organisations. Collaboration will help to improve the situation and to put an end to some of the harmful practices we found. The current situation is most probably due to the lack and high cost of mental health services, but also to the long experience in Sudan of war, internal conflict, political instability, poverty and lack of education.

Much work has to be done in order to convince patients' families and to work closely with the traditional healers to educate them (not to fight them) about mental illness and the value and effects of modern psychiatric treatment. There is at present a gap between psychiatrists, mental health professionals and people with mental disorders. This is true of many low-income countries. Psychiatrists and other service providers need to make more effort to reach those patients who require modern psychiatric management.

There is a lack of appropriate legislation to regulate traditional healers in Sudan (as in many other countries). Such legislation is urgently needed.

While it is important to know what role cultural and social factors play in determining the health-seeking behaviours of people with mental disorders and their relatives, it is imperative that researchers investigate what is going on in these centres from cultural points of view, and that they do not judge them.

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Pathways to mental healthcare in high-income and low-income countries

E. A. Sorketti,[1] N. Z. Zuraida[2] and M. H. Habil[3]

[1]Psychiatrist and Mental Health Researcher, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia, email ehabsorketti@yahoo.com

[2]Professor and Head Department, Consultation Liaison Psychiatry, Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

[3]Professor of Psychiatry and Head of University of Malaya Center for Addiction Science; Department of Psychological Medicine, Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia

Understanding the way in which people seek care for mental disorders is important for planning services, training and referral mechanisms. Pathways to care fall broadly into three categories: via primary care physicians; via native healers; and via patient choice (patients can have direct access to mental health professionals). The pattern and nature of access to service in low-income countries are different from those in high-income countries.

Pathways to care can be defined as the contacts made during the period between onset of illness and the initiation of treatment (Rogler & Cortes, 1993). Pathway studies have been used to investigate how people use services (including time on the pathway) and the role of carers. These studies can provide information regarding the way health services perform in relation to mental healthcare (Gater *et al*, 2005): how primary and general healthcare services are used; whether people with mental disorders seek help outside the formal healthcare services; where and when they get treatment, and what treatment they get; whether care is delayed; the variation in and duration of pathways; who initiates the care seeking.

Pathway studies can also be used to help monitor the effects of service developments over time and to compare different services. If repeated, they can allow a comparison of service functioning to be made over time. The pathways method provides detailed service utilisation data, which can map the dynamic consequences of changes in service organisation and provision. It may be used to operationalise the measurement of service accessibility (Amaddeo *et al*, 2001). Moreover, the pattern of care-seeking of psychiatric patients is important for service and policy issues (Giasuddin *et al*, 2012).

International comparison of pathways to psychiatric care

The pattern and nature of access to service in low-income countries are different from those in high-income countries. However, factors other than resources may determine the receipt of care for mental disorders (Gureje & Lasebikan, 2006). These factors include: knowledge about the aetiology of the mental illness; negative attitudes to mental illness in the community; lack of awareness that the impairment is a medical problem and that there is an effective intervention for it; belief in a supernatural causation of mental illness; and fear of stigma (Gureje & Lasebikan, 2006). In contrast to findings from the high-income world, where general practitioners (GPs) and mental health professionals are central in pathways to psychiatric care, studies from Africa have found that GPs play a less prominent role, as other help providers, such as traditional healers, are more important in this regard (Temmingh & Oosthuizen, 2008).

In one European study, a large majority of patients with mental disorders were referred directly by their GP and hospital doctors; non-medical sources of referral were minimal – 2% in Manchester and 10% in Eastern Europe. Traditional healers did not play a major role (Gater *et al*, 2005). A series of studies from Africa have examined pathways to care for psychiatric patients. Studies from Nigeria (Aghukwa, 2012), Ethiopia (Girma & Tesfaye, 2011) and South Africa have found significant delays in treatment in patients with psychiatric disorders, where traditional healers were the predominant first contact. In Arab countries (Sayed *et al*, 1999; Al-Adawi *et al*, 2002; Salem *et al*, 2009) the majority of patients with mental disorders try home remedies and family help and consult traditional healers (faith healers, diviners and herbalists) before seeking any biomedical doctor's help or Western treatment.

Pathway studies have demonstrated that pathways to psychiatric care follow three patterns (Fujisawa *et al*, 2008).

- The first is dominated by the role of primary care physicians. Most patients first contact their GP, who refers them to mental health professionals; thus, GPs act as gatekeepers to psychiatric services. This pattern is typically seen in western and eastern European countries; the UK and Australia are examples.

- The second pattern is seen in Bali (Indonesia), India, Harare (Zimbabwe), Nigeria, Saudi Arabia and the United Arab Emirates (UAE), where native healers play an important role.

- The third pattern is seen in Ankara (Turkey), Lower Silesia (Poland) and Verona (Italy), where patients are allowed to see any carer of their choice and are likely to have direct access to mental health professionals. In Japan, patients are allowed to access any medical facilities of their choice, and patients with psychiatric problems prefer to see physicians in general

hospitals rather than private practitioners (Fujisawa *et al*, 2008). This is in contrast to countries in which people are supposed to see GPs before they are seen by specialists.

Direct access to mental health professionals has both advantages and disadvantages. In the Goldberg & Huxley model (Huxley, 1996), GPs are expected to function as gatekeepers, and to refer only patients with more severe illness to higher levels of specialisation. Direct access may lead to the wasteful use of the time of highly specialised professionals, as GPs are able to treat milder forms of illness. Such an arrangement would thus increase the cost of care. On the other hand, direct access to mental health professionals may shorten the period between the onset of symptoms and the patient's arrival at mental health services for those who have milder symptoms at the beginning of their illness but who do not recover as well when treated by GPs. People with severe illnesses pass more easily through the filters to secondary professional care than do people with common mental disorders (Huxley, 1996).

Help-seeking behaviour in many Asian countries such as India (Campion & Bhugra, 1997); Bangladesh (Giasuddin *et al*, 2012), Cambodia (Coton *et al*, 2008), Malaysia (Phang *et al*, 2010; Razali & Najib, 2000), Indonesia (Kurihara *et al*, 2006) and Singapore (Chong *et al*, 2007) is not different from that in Arab and African countries, where they follow the second pattern: native healers play an important role. Duration of the untreated illness was longer in African, Arab and Asian studies than that reported in studies done in the West. The decision to consult a particular healing specialist is often taken by the family or carer. A traditional healer was consulted first because of the deep-seated belief in supernatural causation of the mental illness and trustworthiness of faith healers; this is a reflection of cultural beliefs relating to help-seeking (Chadda *et al*, 2001).

The attitudes and beliefs of family in Asian, African and Arab societies are likely to be crucial in the pathways to care. A common view is that 'modern' (i.e. Western) treatments are effective in curing medical (physical) illness, but are powerless against black magic or supernatural causes; in particular, psychiatrists do not have the expertise to deal with supernatural powers (Razali *et al*, 2008). Witchcraft, charming and possession by evil spirits are regarded as common causes of illness and are the most common explanations of mental illness offered by traditional healers to their patients. Deep-seated cultural beliefs among patients and their families are a major barrier to the receipt of modern psychiatric care. People generally recognise that medical care is useful, but still believe that it does not deal with the core problem, which is spiritual.

Factors that influence the help-seeking

Help-seeking is a dynamic process determined by certain social, demographic, sociocultural and psychological factors and clinical conditions

(Madianos *et al*, 1993). These factors influence the interpretation of psychopathological symptoms, the formation of concepts and stereotypes regarding the effectiveness of psychiatry, coping mechanisms and, finally, the decision to visit a traditional healer, physician or psychiatrist. A low level of education was found to determine directly the formation of negative attitudes to psychopathological symptoms and the use of mental health services (Madianou *et al*, 1986; Madianos *et al*, 1987). There is evidence that help-seeking for psychiatric disorders depends on the perception of illness and attitudes to treatment (Huxley, 1996). Urbanisation is associated with more frequent use of mental health services. When the ratio of psychiatrists to population is high, the individual more often turns to a psychiatrist (Shapiro *et al*, 1984). Symptom definition, severity of symptoms and patient response to treatment have been found to predict help-seeking behaviour (Madianos *et al*, 1993).

Conclusion

Understanding the way in which people seek care for mental disorders is increasingly recognised as important for planning mental health services, as well as for the provision of appropriate training and referral mechanisms between health and social care sectors.

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APPENDIX K: CONFERENCE PRESENTATIONS

Letter of Acceptance

Dear Ehab Sorketti,

It is our great pleasure to announce that your paper 15: The Outcome of the Alternative and Complementary Methods used by Traditional Healers for Treating People with Mental Disorders has been officially accepted for an oral presentation for the 12th Association of Pacific Rim Universities Doctoral Students Conference (12th APRU DSC). Your paper has been categorized under Subtheme 5: Life Sciences and Health. Thank you very much for producing such an excellent paper, submitting it and preparing for the subsequent presentation. Your consideration for our conference is very much appreciated.

The paper selected for the conference will eventually be complied into Conference Proceedings and published to conference participants. Your chance of publishing the accepted paper on other publications will not be affected.

The 12th APRU DSC will be held in Tsinghua University, Beijing from July 4th to July 7th, 2011. We will be expecting you with great joy.

Best wishes,

12th APRU DSC Organizing Committee
Tsinghua University

2011-6-7

The Outcome of the Alternative and Complementary Methods used by Traditional Healers for Treating People with Mental Disorders

Dr. Ehab Ali Sorketti Koriana[1]

[1]Psychiatrist, M.B.B.S, M.P.M (Master Psy Medicine UM Malaysia) PhD student (Mental Health) Department of Psychological Medicine, Faculty of Medicine, University of Malaya , 50603 Kuala Lumpur, Malaysia , Phone: +60379492068, Fax: +60379556477, E-mail: sorketti@hotmail.com

ABSTRACT:

Objectives: To illicit and investigate the types of mental disorders, symptoms and classification of mental illness among the people with mental illness in the traditional healer centers, to identify the type of services, interventions procedures offered by traditional healers to treat patients with mental disorders and to study the outcome of these intervention measures on treating mental illness

Methodology Design and Settings: Prospective follow up quantitative study over one and half year of follow up of patients with mental disorders in the traditional healers Centers in Sudan. **Subjects:** are the people with mental illness undergoing treatment in the traditional healers Centers in Sudan. A sample of 405 patients, were randomly recruited for the study from 10 randomly selected traditional healers Centers. **Outcome Measures:** Structured questionnaire, The Mini International Neuropsychiatric Interview (MINI) , and the Positive and Negative Symptoms Scale(PANSS)

Results: 15.8 %(64) of the people with mental disorder in the traditional healer center were found to have major depressive Disorder, 27.4% (111) have Manic episode and 34.6 %(140) were found to have psychotic disorders, 5.9% (24) have generalized anxiety disorder, 3%(12) have panic disorder,and0.7% with agoraphobia and 3%(12) have social phobia and 1.7% (7) have Obsessive Compulsive Disorder .about 4% (16) have Alcohol Dependency and only 0.7% (3) reported drug dependency .There was significance reduction in the PANSS score (P= 0.0001) as the mean for the overall PANSS score on admission was118.36 and 69.36 on discharge from the traditional healer center **Conclusions:** Alternative and complementary methods and traditional healing approaches are effective in treating people mental illness but the quality of services provided in these Centers needs more further assessment and improvement.

Keywords: Traditional healing, Treatment Outcome, Mental Disorders

I. Introduction:

Mental health problems are a major public health concern worldwide. Evidence shows that African communities, including Sudan, use both modern and traditional healing systems. Sudan is a country with different modalities of health facilities of them are the traditional healer's centers. Traditional healing in Sudan is famous and popular. There is limited literature about the magnitude of the mental distress and associated factors among attendees of traditional healing practices in Sudan. This study aimed to determine the Outcome of Treatment of psychotic disorders by Traditional Healers in Sudan and the associated factors that influence the traditional healing practices. As most persons with mental disorders are treated by traditional healers in most developing countries it is important to do more comprehensive studies on the traditional treatment and to find ways of collaboration between traditional practice and modern medicine [1]. Collaboration between psychiatrists and traditional healers could help to end harmful methods of practice by the traditional healers, such as isolating patients in an unhealthy, non-hygienic environment, depriving patients of nutritional food, beating patients, misdiagnosis and mismanagement.[2] In a Previous study in Sudan Two hundred and four

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MALAYSIAN PSYCHIATRIC ASSOCIATION
P.O BOX 12712,
50786, KUALA LUMPUR
MALAYSIA

http://www.psychiatry-malaysia.org

14ᵗʰ June 2011

Dr. Ehab Ali Sorketti Koriana
Department of Psychological Medicine,
Faculty of Medicine,
University of Malaya
50603 Kuala Lumpur

Dear Dr. Ehab,

Invitation as Presenter at the 16ᵗʰ Malaysian Conference on Psychological Medicine (MCPM), 21ˢᵗ-23ʳᵈ July 2011, Sheraton Imperial Hotel, Kuala Lumpur - FREE PAPER PRESENTATION

In conjunction with the above event, it is with great pleasure that the Organising Committee of the Malaysian Psychiatric Association accepts your free paper submission and hereby invites you to be a Presenter at our congress. As the name suggest, the 16ᵗʰ MCPM is a biennial event which brings together fellow colleagues and other mental health professionals in Psychiatry and Mental Health from the ASEAN region as well as from other countries. The theme **"Applying the evidence; realising the change…"** is chosen to highlight the future direction of mental health care in providing a more efficient and effective services in the region.

2. The detail of your presentation has been arranged as follow:

   2.1 Free Paper (Oral presentation)

   Title   : **"THE TRADITIONAL BELIEF SYSTEM IN RELATION TO MENTAL HEALTH AND PSYCHIATRIC SERVICES IN SUDAN"**

   Author : **EHAB ALI SORKETTI KORIANA**

   Date   : **23ʳᵈ July 2011 (Saturday)**
   Time   : **3.15 pm– 4.45 pm**

Duration of your oral presentation is 10 minutes (8 minutes presentation and 2 minutes for question and answer session).

We thank you for the support and look forward to seeing you in Kuala Lumpur!

Thank you.

THE TRADITIONAL BELIEF SYSTEM IN RELATION TO MENTAL HEALTH AND PSYCHIATRIC SERVICES IN SUDAN

Abstract for oral presentation in the 16th Malaysian Conference on Psychological Medicine -Kuala Lumpur   21 - 23 July 2011

DR.EHAB ALI SORKETTI KORIANA (M.B.B.S, M.P.M, PhD Candidate in Mental Health)
DEPARTMENT OF PSYCHOLOGICAL MEDICINE, FACULTY OF MEDICINE, UNIVERSITY OF MALAYA,

Background: Use of Traditional healers' services is common practice worldwide, especially in developing countries. Only few studies have concentrated on the use of traditional healers services by people with mental disorders. We have tried to understand the traditional belief system in relation to mental health and psychiatric services in Sudan. The aim of the Research is to understand: The Socio-demographic Characteristics of the People with Mental Disorders who seek Treatment in the Traditional Healers Centers in Central Sudan. To know the Clinical Presentations, diagnosis, and the Outcome of the Traditional Healing Methods and interventions used for Treating People with Psychotic Disorders. We also aimed to understand The Traditional Healers Profile, Knowledge, Belief attitude and Practice towards people with mental disorders.

Methodology: We used both qualitative and quantitative research methods to conduct Four studies: Study1: Knowledge Attitude and Practice of the Sudanese Community towards Mental illness, Traditional Healing and Modern Psychiatric treatment: Study 2: Descriptive Cross-sectional study. Study 3: follow up study of cohort of psychotic patients. Study 4: Traditional healers Profile study.

Study area: 10 selected traditional healers' centers in Central Sudan. **Study population and Sampling:** 405 inpatients with mental disorders undergoing treatment in the traditional healers' centers and 30 traditional healers were recruited .The Sample size was calculated using the Kish Leslie formula for single proportions for descriptive study.

The Socio-demographic Features and the Clinical Presentation of the People with Mental Disorders Treated in the Traditional Healers Centers in Central Sudan

DR. EHAB ALI SORKETTI KORIANA (Psychiatrist, M.B.B.S, M.P.M, PhD Candidate in Mental Health). **Prof. Dr. Nor Zuraida Zainal and Prof.Dr. Mohamad Hussain Habil**, DEPARTMENT OF PSYCHOLOGICAL MEDICINE, FACULTY OF MEDICINE, UNIVERSITY OF MALAYA, Kuala Lumpur Malaysia

The 8th international conference in Psychiatry, "Comorbidity within Psychiatric disorders and Medical Illnesses" Jeddah –KSA from 17 – 19 April 2012.

Background:

Use of Traditional healers' services is common practice worldwide, especially in developing countries. Only few studies have concentrated on the use of traditional healers services by people with mental disorders. We have tried to understand the traditional belief system in relation to mental health and psychiatric services in Sudan. The aim of the Research is to understand: The Socio-demographic Characteristics of the People with Mental Disorders who seek Treatment in the Traditional Healers Centers in Central Sudan. To know the Clinical Presentations, diagnosis, and the Outcome of the Traditional Healing Methods and interventions used for Treating People with Psychotic Disorders. We also aimed to understand The Traditional Healers Profile, Knowledge, Belief attitude and Practice towards people with mental disorders.

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Study area:

10 selected traditional healers' centers in Central Sudan. Study population and Sampling: 405 inpatients with mental disorders undergoing treatment in the traditional healers' centers and 30 traditional healers were recruited. The Sample size was calculated using the Kish Leslie formula for single proportions for descriptive study.

Measures and instruments:

Structured Questionnaire, (MINI) mini international neuropsychiatric interview to illicit the diagnosis. PANSS, Positive and negative Syndrome Scale was used to assess the psychotic group of patients on admission and discharge from traditional healers centers. Ethical approval was obtained before the start of the study and informed consent was obtained from all participants.

Results:

405 were interviewed; 309(76.3%) were male and 96(23.7%) were female. The mean age was 31.48 years. 69.4% (281) were from Central Sudan, 64.4% (261) were single. 34.1% (138) never been to school, 39.3 %(159) studied in primary school, 19.5 %(79) studied until secondary school level. 46.9 %(190) are jobless. The mean duration of stay in the traditional healer center is 5 months. The mean duration of untreated illness is about 14 months. 15.8 %(64) were found to have major depressive Disorder, 27.4% (111) have Manic episode, and 34.6 %(140) were found to have psychotic disorders, 5.9% (24) have generalized anxiety disorder. Interventions Methods were Restriction of food in 86.9 %(352) Chaining of the patients in 69.9 % (283). 33.3% (135) patients were isolated. In 15.8% no visitors were allowed. In 18% their psychiatric medication were stopped by the healers. Recitation of the holy book was used as a method of treatment in all patients in the selected 10 traditional healer centers. Bakhra in 99.3%, and Mehaya in 93.1% of cases. We manage to follow up 129 patients with psychotic disorders from admission until discharge from the traditional healers' centers to study the outcome of the traditional healers' intervention. The Mean for the overall PANSS score on admission was 118.36 and 69.36 on discharge. There was 49 % reduction on the PANSS score (P=0.0001). 28 traditional healers were interviewed to assess the Traditional Healers concept attitude and practice towards people with mental disorders. Fifteen (54%) of the healers believed that psychiatric medication was useful for treating mental illness and they believed that combining traditional treatment and psychiatric medication could be useful. Belief in the value of psychiatric medication and modern psychiatric management was related to the educational level of the traditional healer: the more years of formal education the healer had received, the stronger was the belief in modern methods of management and the use of psychiatric medication for treating people with mental illness (P = 0.025). 89% (25) of the traditional healers were ready to collaborate with psychiatrists and mental health services.

Conclusion:

It is vital to establish channels of collaboration and common understandings between traditional healers and mental health professionals in Sudan and other African and developing countries where a majority of people with mental illness consult traditional healers first. Collaboration could help in the early detection and early management of mental disorders, with the prospect of better outcomes. Collaboration could also help to end harmful methods of practice by the traditional healers, such as isolating patients in an unhealthy, non-hygienic environment, depriving patients of nutritional food, beating patients, misdiagnosis and mismanagement. Also may help to improve community awareness and decrease the stigma of mental illness. The traditional healer centers could be used as basis for community rehabilitation facilities for people with mental illness. Improving the education level of traditional healers might enable them to have a better understanding of mental illness and of the benefits of modern psychiatric treatment.

Further Readings:

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2-Sorketti, E. A. (2009) Sudan's national mental health programme and burden of mental illness. International Psychiatry, 6, 16–18.
3-Sorketti, E. A. & Habil, M. H. (2009) The current situation of the people with mental illness in the traditional healer centers in Sudan. Malaysian Journal of Psychiatry, 18, 78–81.
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5-Sorketti, E. A., Zainal, N. Z. & Habil, M. H. (2011) The characteristics of people with mental illness who are under treatment in traditional healer centres in Sudan. International Journal of Social Psychiatry, March 2012 vol. 58 no. 2 204-216
6- E. A. Sorketti, N. Z. Zuraida and M. H. Habil. The traditional belief system in relation to mental health and psychiatric services in Sudan, International Psychiatry Volume 9 Number 1 February 2012
7- Ehab Ali Sorketti, Nor Zuraida Zainal and Mohamad Hussain Habil, The treatment outcome of psychotic disorders by traditional healers in central Sudan, International Journal of Social Psychiatry, DOI: 10.1177/0020764012437651

Discussion

The observed reduction of 49% in the mean PANSS scores in this study is almost similar to one of the studies conduct by R Raguram et al in a temple environment in India that resulted in 20% reduction in the brief psychiatric rating scale scores.

Catherine Abbo 2009 in a study about the outcome of traditional healing in Uganda observed 30 to 40% reduction in the PANSS score.

The reasons behind improvement?

The cultural power of staying in the traditional healer center.

2nd reason could be the supportive care.

The mean duration of stay in the traditional healer center is 4.46 months, which means few weeks of stay in a supportive traditional healing environment is better than institutional care for long stay or life long in modern psychiatric settings.

Accessibility and Availability:

The popularity of alternative medicine in the community should alert decision makers to look at the difficult accessibility to the health system.

Traditional healers are the first resort in most developing areas due more to their geographical permanence and accessibility than their therapeutic merits. Modern health staff tends to be urban located, highly mobile and changing.

The Advantages of the traditional healing Approaches in Comparison with the Medical Health Care System:

Culture. Traditional healers and ritualists share the sociocultural value system of their client.

Personality of the healer. Traditional healing recognizes the importance of the personality of the therapist who achieves and maintains confidence-inspiring charisma. In modern medicine the therapeutic technique rather than the personality of the therapist is assumed to be the most important factor.

Holistic approach :

Traditional healing practices usually integrates physical , psychological, spiritual and social methods as opposed to modern medicine which is becoming increasingly fragmented through over specializing and technologizing.

Traditional healing therefore tend to be relational. they foster kindship and community cohesion to facilitate the patient reintegration.

Social engineering

The traditional healer advise carries weight through his prestige and charisma and may in some cases also be sanctioned by supernatural authority, the healer is therefore in a position to manipulate directly or indirectly the patients immediate human environment to favor the achieving of the therapeutic goals

Cost Effectiveness

There is no doubt that utilization of the traditional healer resources is considerably more cost-effective for the public than utilization of the official health services.

Consumer cost for utilization of traditional healer services vary and usually individualized, often there is no obligatory fees but instead expectation of donation
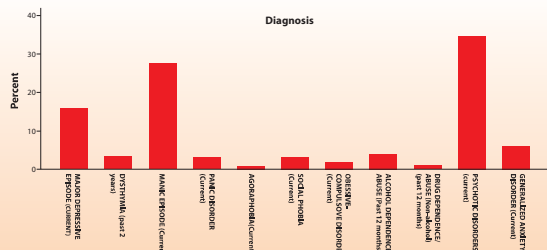
Conclusion

Alternative and complementary methods and traditional healing approaches are effective in treating people mental illness but the quality of services provided in these Centers needs more further assessment and improvement.

Traditional healer centers may constitute a community resource for the mentally ill people in a culture where they are recognized and valued.

Traditional healers often have high credibility and deep respect among the population they serve. They are knowledgeable about local treatment options, as well as the physical , emotional and spiritual lives of the people , and are able to influence behaviors

Diagnosis According to MINI:

Comparison of the PANSS total mean, positive, negative and general subscale scores on admission and discharge

Time spent by patients with psychotic disorders in traditional healer centres

The Belief of the Patients and their Families about the Reasons of the Mental Illness

- GIN
- SHIATAN
- EVILSPRIT
- WRONG DOWING
- MAGIC
- DO NOT KNOW

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1.	**Professor Dr Adeeba Kamarulzaman** [Dean]	Medicine, Dean Office.	Penggiat Sosial Wanita 2011 ... more info	Finalist Anugerah Perdana Menteri.		
2.	**EHAB ALI SORKETTI KORIANA** [Student]	Psycological Medicine	**Abstract Title:** The Outcome of the Alternative and Complementary Methods used by Traditional Healers for Treating People with Mental Disorders. ... more info	The 12th Asia Pacific Rim Universities (APRU) Doctoral Students Conference.	4-7 July	Tsinghua University, Beijing
3.	**SEK-PENG CHIN** [Student]	Pharmacy	**Abstract Title:** Homology Modeling Of Human M1 Muscarinic Acetylcholine Receptor . ... more info	The 12th Asia Pacific Rim Universities (APRU) Doctoral Students Conference.	4-7 July	Tsinghua University, Beijing
4.	[Students]	Biomedical Science	Malaysian Symposium on Biomedical Science 2011. ... more info	Best oral/poster presentation in 4 out of 5 categories.	12-13 March	IIUM, Pahang