DISCRIMINATORY ATTITUDES AND PRACTICES RELATED TO HIV/AIDS AMONG HEALTHCARE PERSONNEL, AND STIGMATIZATION OF PEOPLE LIVING WITH HIV/AIDS

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FACULTY OF MEDICINE
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ORIGINAL LITERARY WORK DECLARATION

Name of Candidate: Saguntala a/p Selvamani

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Title of Thesis ("this Work"): **Discriminatory attitudes and practices related to HIV/AIDS among healthcare personnel, and stigmatization of people living with HIV/AIDS.**

Field of Study: **Epidemiology**

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ABSTRACT

Stigma and discrimination towards HIV/AIDS remain to be a challenge. In addition to distressing the lives of people living with HIV/AIDS, stigma is also causing hurdles to the progress and application of HIV prevention, treatment, care and support programmes. This research studies the discriminatory attitudes and practices related to HIV/AIDS from the perspectives of professional healthcare personnel and people living with HIV/AIDS. It assesses the factors associated with professional healthcare personnel's discriminatory attitudes and their practices related to HIV, as well as investigates the enacted stigma among HIV-positive individuals in healthcare settings. This is a cross-sectional study comprising two parts. It was conducted between early August 2016 and April 2017 at the Federal Territory of Kuala Lumpur. The first part of the study was conducted among professional healthcare personnel (doctors) from public tertiary hospitals and four district health offices in Kuala Lumpur. This study was conducted among 370 doctors, using the universal sampling method. Meanwhile, the second part of the study was conducted among 282 people living with HIV (PLHIV) from two non-governmental organizations based in Kuala Lumpur using the self-administered method. Univariate and multiple logistic regression analyses were performed to analyse the data. In the first part of the study, 51.6% of the healthcare personnel admitted to having discriminatory attitudes and 53.8% of them acknowledged having poor practices while caring or treating PLHIV. Value-driven stigma was a strong determinant of discriminatory attitudes towards HIV/AIDS among healthcare personnel. Meanwhile, healthcare personnel who have perceived risk, have value-driven stigma and observed their colleagues being discriminative towards HIV-positive patients were two times more likely to have poor practices related to HIV/AIDS compared to those with no stigmatizing behaviour. In the second part of the study, the mean age of people living with HIV was 36.7 years. Gender wise, 83.7% of the participants were male, 11%

female and 5.3% were transgender. The majority stated that HIV transmission were through sex with man who was HIV-positive (48.6%), followed by sex with woman who was HIV-positive (27%), shared needle with HIV-positive person (11.7%) and 14.2% of the participants refused to answer this question. In the multivariate analysis, the final result for the second part study showed that PLHIV with low levels of stigma were two times more likely to have good general healthcare seeking behaviour compared to those who have experienced higher stigmatization in healthcare settings. Stigma and discrimination among healthcare personnel in urban Malaysian healthcare settings appear to be driven primarily by perceived risk towards the illness, negative feelings as well as being judgemental towards PLHIV and experience of observing discriminatory behaviour by other colleagues. All this leads to discriminative behaviour and practices among the healthcare personnel. Hence, stigma reduction interventions are urgently needed to target these misconceptions and improve interactions with PLHIV. The application of this study can be used to provide a better quality of care and life for the people living with HIV/AIDS.

ABSTRAK

Stigma dan diskriminasi terhadap HIV/AIDS tetap menjadi satu cabaran. Selain daripada menganggu kehidupan seharian pesakit HIV/AIDS, stigma juga menyebabkan rintangan terhadap kemajuan serta penggunaan program pencegahan, rawatan, penjagaan dan sokongan HIV. Kajian ini mengkaji sikap diskriminasi terhadap penyakit HIV/AIDS dari perspektif doktor dan pesakit HIV/AIDS. Ia menilai faktor-faktor yang berkaitan dengan sikap diskriminasi di kalangan doktor dan amalan mereka semasa mengendalikan pesakit HIV. Kajian ini juga menyiasat pengalaman stigma di kalangan pesakit HIV-positif semasa mereka mendapatkan perkhidmatan kesihatan di fasiliti-fasiliti perubatan. Kajian ini merupakan kajian rentas yang mempunyai dua bahagian. Ia telah dijalankan di antara bulan Ogos 2016 dan April 2017 di Wilayah Persekutuan Kuala Lumpur. Bahagian pertama kajian ini dijalankan di kalangan 370 doktor dari hospital awam dan empat pejabat kesihatan daerah di Wilayah Persekutuan Kuala Lumpur. Kajian bahagian pertama menggunakan kaedah pensampelan "universal". Manakala, kajian bahagian kedua telah dijalankan di kalangan 282 pesakit HIV/AIDS daripada dua pertubuhan bukan kerajaan yang bertempat di Wilayah Persekutuan Kuala Lumpur. Dalam kajian bahagian pertama, 51.6% daripada doktor mengakui mempunyai sikap diskriminasi dan 53.8% daripada mereka mempunyai amalan yang kurang baik ketika merawat atau mengendalikan pesakit HIV. Faktor stigma yang berasaskan nilai berkaitan dengan sikap diskriminasi terhadap HIV/AIDS di kalangan doktor. Sementara itu, doktor yang mempunyai persepsi risiko semasa mengendalikan pesakit HIV/AIDS, mempunyai stigma yang berasaskan nilai dan sikap diskriminasi yang telah diperhatikan adalah dua kali ganda lebih cenderung mempunyai amalan buruk yang berkaitan dengan HIV/AIDS berbanding dengan mereka yang tidak mempunyai stigma berkenaan penyakit tersebut.

Dalam kajian bahagian kedua, usia purata pesakit HIV adalah 36.7 tahun. 83.7% daripada peserta adalah lelaki, 11% perempuan dan 5.3% adalah mak-nyah. Majoriti menyatakan bahawa jangkitan HIV adalah melalui seks bersama lelaki yang HIV-positif (48.6%), diikuti oleh wanita yang HIV-positif (27%), suntikan jarum (11.7%) dan 14.2% peserta enggan untuk menjawab soalan tersebut. Analisa menunjukkan bahawa pesakit HIV dengan tahap stigma yang rendah mempunyai dua kali ganda kemungkinan untuk mempunyai kepatuhan bagi mendapatkan rawatan kesihatan berbanding dengan meraka yang mengalami tahap stigma yang tinggi di fasiliti perubatan. Stigma dan diskriminasi di kalangan doktor di fasiliti perubatan masih didorong oleh faktor-faktor seperti persepsi doktor mengenai risiko sewaktu mengendalikan pesakit HIV/AIDS, faktor stigma yang berasaskan nilai dan pengalaman memerhatikan sikap diskriminasi oleh doktor-doktor yang lain. Oleh demikian, intervensi pengurangan stigma diperlukan segera untuk menyasarkan salah faham dan meningkatkan interaksi dengan pesakit HIV. Penerapan kajian ini boleh digunakan untuk menyediakan perkhidmatan kesihatan yang lebih berkualiti bagi pesakit-pesakit HIV/AIDS.

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LIST OF SYMBOLS AND ABBREVIATIONS

ACTG	:	AIDS Clinical Trials Group
AIDS	:	Acquired immune deficiency syndrome
ART	:	Antiretroviral treatment
CME	:	Continuing Medical Education
DHO	:	District Health Office
DNA	:	Deoxyribonucleic acid
FSW	:	Female sex workers
FTKL	:	Federal Territory of Kuala Lumpur
GARPR	:	Global AIDS Response Progress Report Malaysia
GHKL	:	General Hospital Kuala Lumpur
HIV	:	Human immunodeficiency virus
IBBS	:	Integrated Bio-Behavioral Survey
K1M	:	Clinic 1 Malaysia
KLASS	:	Kuala Lumpur AIDS Support Services Society
MAC	:	Malaysian AIDS Council
MCH	:	Mother Child healthcare clinic
MSM	:	Men who have sex with men
MTAAG+	:	Positive Malaysian Treatment Access & Advocacy Group
NCHSR	:	National Centre in HIV Social Research
NMRR	:	National Medical Research Register
NSPEA	:	National Strategic Plan for Ending AIDS 2016-2030
PHC	:	Primary healthcare clinic
PLHIV	:	People living with HIV
PMTCT	:	Prevention of mother-to-child transmission
PWID	:	People who inject drugs
RNA	:	Ribonucleic acid
SDG	:	Sustainable Development Goals
TAPS	:	Treatment Adherence Peer Support Programme
TG	:	Transgender
UNAIDS	:	Joint United Nations Programme on HIV/AIDS
USAID	:	United States Agency for International Development
WHO	:	World Health organization
WPRO	:	Western Pacific Regional Office

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CHAPTER 1: INTRODUCTION

1.1 Introduction

This thesis explores professional healthcare personnel's discriminatory attitudes and practices related to HIV/AIDS. It also highlights the magnitude of enacted stigma among HIV-positive individuals in Malaysian healthcare. There are six chapters in this thesis. This first chapter introduces the research topic, outlines the problem statement, research objectives, questions, and hypotheses. It concludes by summarizing the flow of this study and layout of the subsequent chapters.

1.2 Overview of the Study

Malaysia is a confederation of states with a culturally diverse society. It is a fast growing nation which focuses on economic development and globalization. Since its rapid economic growth in the second half of the twentieth century, the World Bank has categorized Malaysia as an upper-middle-income nation (WHO Western Pacific Region Financing Report, 2015). With its current population totaling over 32 million, Malaysians have certainly benefited from a finely-honed healthcare system since its independence more than 60 years ago. Currently, non-communicable diseases are the primary cause for most of the mortality and morbidity in Malaysia, but communicable diseases such as dengue, tuberculosis and HIV/AIDS remain top concerns.

Malaysia has remarkable achievements in response to the HIV epidemic since the first case was detected three decades ago, but unfinished business remains, and new challenges await. New HIV infections continue to decline. However, the progress in combating HIV among key populations has been inconsistent. Even though HIV prevalence among people who inject drugs is declining, sexual transmission of HIV appears to be increasing. According to the 2016 World Health Organization (WHO) and World Bank health data for Malaysia, HIV/AIDS remains one of the main causes of mortality in the country. (WHO Country Statistics, 2017a).

1.3 The Unending Epidemic

It is clear that HIV and AIDS are a serious challenge to mankind and remain one of the leading causes of death worldwide. In Malaysia, HIV is a concentrated epidemic, where the illness has spread in more than one defined sub population, but the virus is not well-established in the general population (WHO, 2013). This denotes that the prevalence of HIV/AIDS is consistently more than 5% in defined sub populations such as men who have sex with men (MSM), people who inject drugs (PWID), or local sex workers. Furthermore, new challenges that emerge, especially changes in the transmission patterns of the illness, require updated improvement in prevention and intervention. Hence, HIV/AIDS is still seen as a significant challenge especially in a population where access to HIV/AIDS prevention and intervention for behavioral changes is limited.

Due to this, the disease is a worrying epidemic to deal with, and the intricacy of it affects everyone without perturbing their social class, ranging from the religious, traditional, political and economic spheres of influence. Thus, there is a sense of urgency to stem the spread of this infection.

1.4 Problem Statement

Stigma and discrimination have accompanied the HIV/AIDS epidemic from the start, and the dread of the disease persists today. The prejudice towards HIV-infected individuals remains a challenge, and its consequences are wide-ranging. The former director of the WHO Global Programme on AIDS, Jonathan Mann once said that, at present mankind is going through a pandemic of stigma, where HIV/AIDS is not merely perceived as a medical problem but is a social and economic issue that affects countries as a whole (Parker et al., 2002). Stigma and discrimination are rife today, particularly from healthcare providers. As per the 2016 UNAIDS report, the current challenges on tackling HIV/AIDS mainly lie in eliminating the stigma and discrimination, especially

in healthcare sectors. Extensive studies identified that besides distressing the lives of people living with HIV, stigmatization in healthcare settings is also causing hurdles to HIV prevention, treatment, care and support programs (Katz et al., 2013; Rueda et al., 2016). Principally, the main issue that needs to be understood regarding HIV/AIDS is that the epidemic has withstood so far not purely because of the biological characteristics of the disease but also the continued stigma by the society.

1.4.1 Global Burden of the HIV/AIDS Epidemic

It has been more than three decades since HIV was discovered and it remains one of the leading causes of death worldwide. Nearly 76.1 million people worldwide have been infected with this virus of whom around 35 million have died due to AIDS-related illnesses since 1981 (UNAIDS Data, 2017a). In 2016, there were about 36.7 million individuals globally living with HIV/AIDS (Figure 1.1). Of this, 17.8 million people are women aged 15 years and above, and 2.1 million are children aged under 15 years (UNAIDS Data, 2017a). The 2017 UNAIDS report confirms that almost 15 million from the overall 36.7 million individuals are still unaware that they are infected with HIV.

In the year 2016 alone, the WHO approximated that 1.8 million people were infected and 1.0 million died (Global HIV/AIDS Statistic, 2017). Since the year 2010, new HIV infections among adults have declined from 1.9 million to 1.7 million in 2016, and the new HIV infections among children declined by 47% since 2010, from 300,000 incidences in 2010 to 160,000 incidences in 2016 (UNAIDS Data, 2017a). The statistics also shows that these HIV-infected individuals are mostly amassed in low and middle-income nations such as in the sub-Saharan Africa region where 70% of all HIV/AIDS cases are accumulated.

Figure 1.1: Approximated number of PLHIV in 2017
Source: Global HIV/AIDS statistics website (UNAIDS Data, 2017a)

Asia and the Pacific region

During the early emergence of HIV/AIDS in the 1980s, Asia was still not relatively affected by the weightiness of the disease compared to the rest of the world. A decade later, the HIV/AIDS epidemic has turned into a fast-spreading disease within the Asian region. According to the 2017 UNAIDS statistics, around 5.1 million people are living with HIV in Asian and the Pacific region (UNAIDS Data, 2017a; Global HIV/AIDS Statistic, 2017). After sub-Saharan Africa, Asia has the second leading AIDS-associated mortality worldwide.

In 2016, there were an estimated 270,000 new HIV infection cases in Asia and the Pacific. The new cases have declined by 13% between the years 2010 and 2016 (UNAIDS Data, 2017a). Nevertheless, the antiretroviral treatment coverage is still below 50% among people living with HIV in the region. Approximately only 2.4 million people have access to antiretroviral therapy in Asia and the Pacific in 2016 (UNAIDS Data, 2017a).

Meanwhile, in South-East Asia, an estimated 3.5 million people are living with HIV/AIDS of whom only 1.4 million are receiving antiretroviral treatment (Pendse, Gupta, Yu, & Sarkar, 2016). Myanmar and Thailand still have the highest prevalence of

HIV in South-East Asia. However, recently the Philippines has shown a sharp vertical upsurge of around 150% of HIV/AIDS cases from 2005 and 2016 compared to the other ten countries in the region (UNAIDS Data, 2017a). According to 2017 UNAIDS data, the Philippines documented less than 1,000 cases per year in 2005, but the figure climbed to 4,300 in 2010 and 10,000 new HIV infection cases in 2016.

1.4.2 The Epidemic of HIV/AIDS in Malaysia

The Malaysian Ministry of Health reported the very first HIV/AIDS case in the year 1986. More than three decades later, it remains a threatening epidemic that requires continuous monitoring. In 2015, there were 108,519 HIV/AIDS infected cases reported in Malaysia and the HIV/AIDS-related mortality was 17,916 cases in the past three decades (GARPR, 2016; NSPEA, 2016). In 2016, 3,397 new HIV cases were reported in Malaysia which is a slight increase from 3,300 cases in the previous year (GARPR, 2016). This indicates that almost nine Malaysians become newly HIV-infected daily (GARPR, 2016).

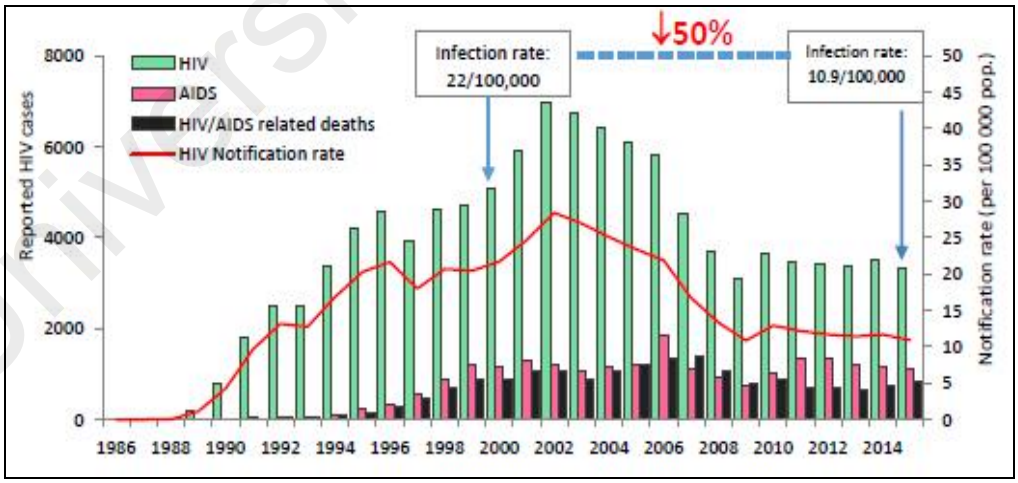


Figure 1.2: HIV/AIDS cases and deaths reported in Malaysia since 1986 to 2015
Source: Global AIDS Response Progress Report Malaysia, 2016

So far, Malaysia has been performing well in response to the HIV epidemic and have outstanding achievements particularly the drop in the incidence rate from 22 per 100,000 population in 2000 to 11.4 per 100,000 population in 2013 and recently to 10.9

per 100,000 (Figure 1.2) (GARPR, 2016; NSPEA 2016). The number of AIDS-related deaths has stabilized between the 2000 and 2015 (Figure 1.2) due mainly to the free first-line antiretroviral therapy (ART) and subsidized second-line therapy which has been provided by the government. Currently, the antiretroviral therapy initiative in Malaysia is based on guidelines by World Health organization (WHO) which is CD4 count less than 350 cell/mm. Even though the free first-line ART is available in all public hospitals and designated primary healthcare settings, only a total of 25,700 HIV-infected individuals were on treatment in 2015, which is only 28% of the total 90,603 people living with HIV (GARPR, 2016; NSPEA, 2016).

Besides that, the shift in the pattern of the disease requires attention. Males continue to represent the majority of all HIV cases in Malaysia, but the trend has changed with increasing female infections, with the male to female ratio declining from 9.6 in 2000 to 4.5 in 2010 and 4.0 in 2014 (Figure 1.3) (NSPEA, 2016).

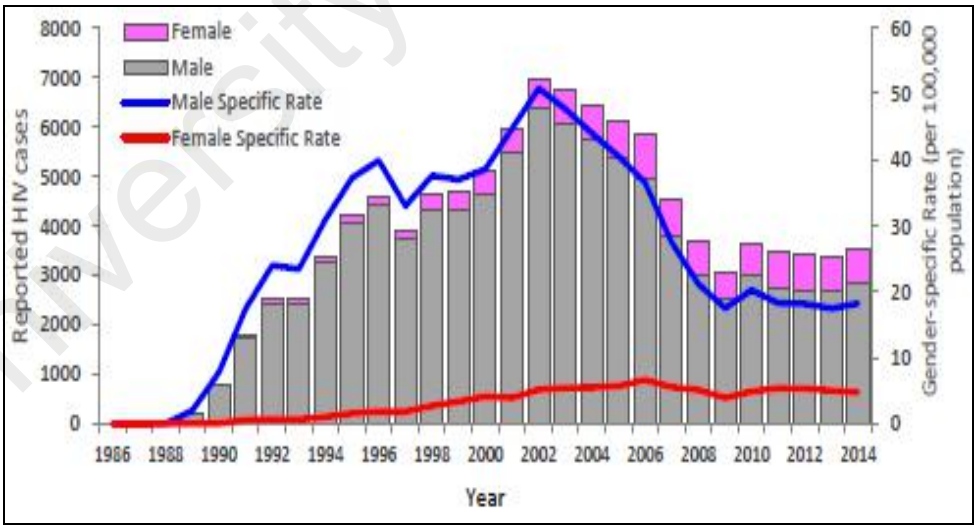


Figure 1.3: HIV/AIDS cases according to gender from 1986 to 2014
Source: Global AIDS Response Progress Report Malaysia, 2016

Furthermore, there is a modification in the transmission ratio of the epidemic, whereby there is an increase in the cases due to sexual transmission compared to the previous decade where cases were predominantly due to transmission from PWID. The

injecting drug use to sexual transmission ratio has declined from 3.9 in 2000 to 1.0 in 2010 and to 0.2 in 2014 (Figure 1.4). This is largely contributed to the success of harm reduction programs (NSPEA, 2016). The harm reduction program consists of methadone maintenance therapy (MMT) and needle syringe exchange program (NSEP) implemented by the Malaysian government in the year 2006. In partnership with the Malaysian AIDS Council (MAC), which plays a major role as a civil society stakeholder and an umbrella organization, it has contributed to the drastic reduction of this infection among PWID in Malaysia.

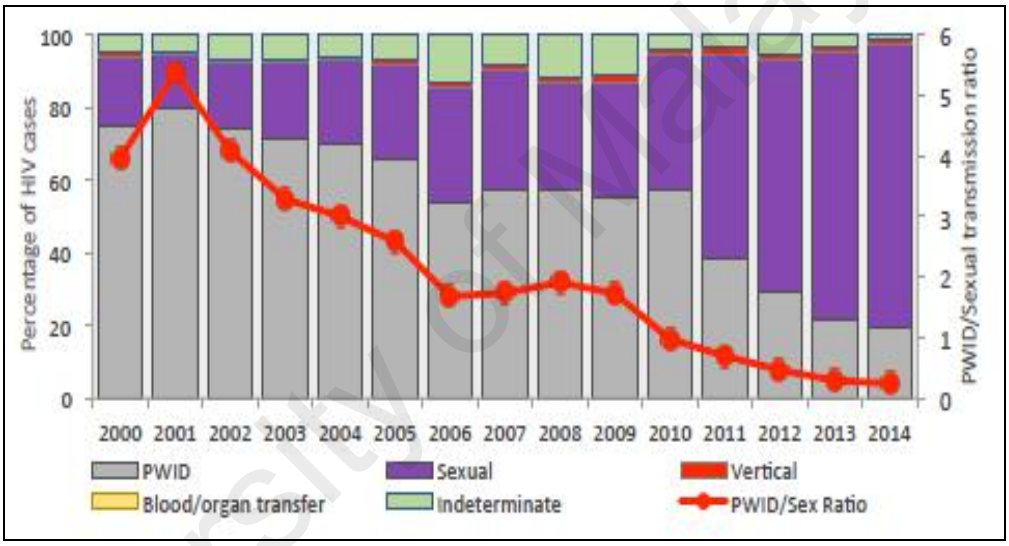


Figure 1.4: Transmission ratio of HIV cases in Malaysia from 2000-2014
Source: Global AIDS Response Progress Report Malaysia, 2016

Overall, Malaysia is showing an increase in HIV rate among young adults aged between 20-29 years old (40%) whom are in the tertiary education or the young processionals. Besides that, about 31% of reported infections are among adults aged between 30-39 years and another 16% is among those aged 40-49 years. The HIV rate among those 19 years and below has declined significantly especially below among those aged 13 years and younger due to the successful prevention of mother-to-child transmission (PMTCT) programs (Figure 1.5) (NSPEA, 2016).

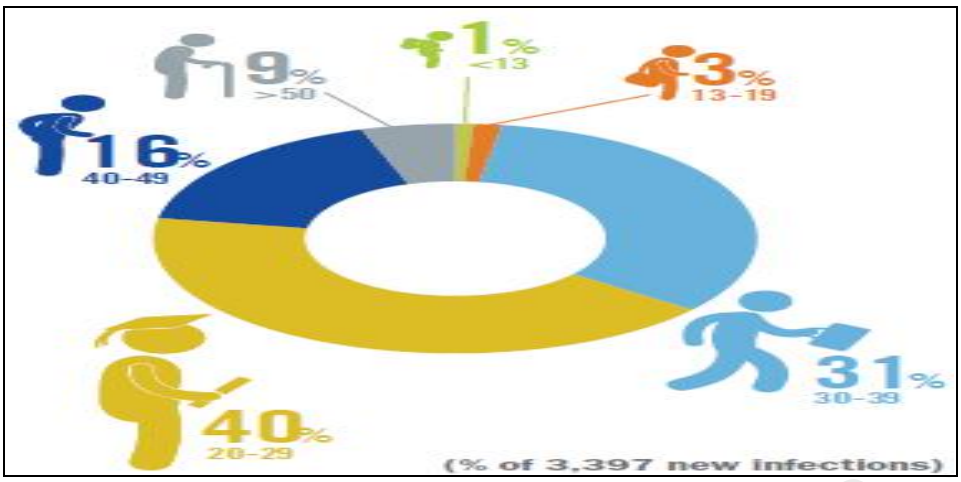


Figure 1.5: HIV transmission by age group in the year 2016
Source: Malaysian AIDS Council, 2018

1.4.3 Implication of the burden of HIV/AIDS cases

The HIV/AIDS epidemic has posed and will continue to pose tremendous challenges to public development. It leads to numerous bodily, mental and social issues that affect the individual and impacts the communities. The repercussion of the burden of HIV/AIDS has many impacts on the welfare of the country especially the healthcare system which indirectly affects the government finances and public services.

Impact of HIV on the healthcare sector and healthcare providers

HIV/AIDS may affect the healthcare sector in a number of different ways. The major impact of HIV on the healthcare providers is stigma by affecting the morale of health professionals. The quality of services could also be affected by the attitudes of the healthcare staff towards HIV/AIDS patients. Perceived risk and fear of contracting the disease and the psychological stress involved in treating HIV patients may lead to reductions in the quality of services provided. This eventually becomes a barrier for the PLHIV to access healthcare services. Studies illustrated that people living with HIV who observed discrimination or negative judgments in healthcare settings had avoided such services (United Nations, 2004). Most importantly, perceptions of stigma and discrimination in healthcare settings deter PLHIV from accessing the prevention

programs such as voluntary counselling and testing (VCT), PMTCT, Tuberculosis and sexual reproductive health services. It also affects the treatment initiation and adherence to antiretroviral treatment plus other care and support programs.

Impact of HIV on Government Finances

The World Bank suggested that the effect of HIV/AIDS on total healthcare costs is quite large, even in countries that are spared the most serious epidemics such as ours (United Nations, 2004). As HIV/AIDS increases the demand for healthcare, it tends to amplify the impact on total healthcare spending. One of the reasons for higher allocation to HIV/AIDS in the health budget is that it is still costly to treat HIV/AIDS than other chronic conditions. This increases the demand for healthcare services in the public healthcare sector. Other than treatment care, a lot of funds are channeled to focus on HIV prevention and control programs. Malaysia has implemented the Harm Reduction Program through the provision of clean needles and syringes and Methadone Maintenance Therapy (MMT), combined with the prevention of sexual transmission among PWID since 2006. This has been the cornerstone in the government's response to HIV for the past decade, and the success of this program is seen in the steady declination of the prevalence of HIV among PWID over the years (NSPEA, 2016).

1.5 The Rationale of the Study

i. To address the limited studies on stigma and discrimination in local settings

To date, there are very limited studies on stigma and discrimination targeting professional healthcare personnel in Malaysia. Previous researches done locally were more focused on medical students and other healthcare staffs such as nurses. Studies have shown that discriminating attitudes and practices by doctors towards HIV/AIDS individuals have affected the health seeking behaviour of these patients especially among people who inject drug, sex workers and men who have sex with men (MSM)

(Khan et al., 2017; Stewart et al., 2016; Stringer et al., 2016; Harapan et al., 2013; Bharat et al., 2001; Ngozi et al., 2009; Katz et al., 2013; Churcher, 2013; Nyblade et al., 2009; Reis et al., 2005; Schuster et al., 2005). These discriminatory attitudes and poor practices could certainly affect the success of control measures such as the harm reduction programs, adherence towards antiretroviral treatment and progress of HIV/AIDS prevention programs in Malaysia.

There is also limited baseline data on PLHIV enacted stigma and discrimination, particularly at healthcare facilities. Most studies on stigma and discrimination on PLHIV are focused on self-stigma or stigmatization by other community members such as family and the society. Also, the issue of confidentiality makes a systematic sampling of PLHIV a rather difficult affair. Hence, there is a crucial need to identify and study this issue among professional healthcare personnel and PLHIV in Malaysia.

ii. The National Strategic Plan to End AIDS by 2016-2030 (NSPEA, 2016-2030)

Currently, Malaysia is progressing and committed towards achieving Sustainable Development Goals (SDG) by 2030. The National Strategic Plan agrees to the UNAIDS strategic guidance and adopted the "Ending AIDS" programme by the year 2030 by achieving the 95-95-95 target which aims on 95% of key populations tested for HIV and knowing their results, 95% of people infected with HIV placed on ART and 95% of them adhering to treatment with suppressed viral load. The commitment also includes reaching 90% of the key populations with effective prevention. (NSPEA, 2016). Its target is to achieve the vision of "zero new infections, zero discrimination towards HIV/AIDS and zero AIDS-related deaths" by 2030. One of the main priorities and objectives of this strategic plan is to reduce stigma and discrimination and providing social protection as a cross-cutting issue for all key populations. The emphasis is on relieving the socioeconomic impact due to HIV/AIDS on the person, family and society plus creating and maintaining a constructive and empowering environment for the

government and public to play active roles in decreasing stigma and discrimination. Since, stigma and discrimination are challenges in HIV prevention, treatment, care and support programs in Malaysia, drastic and strong interventions to curb HIV/AIDS in Malaysia must be taken to end the epidemic by 2030.

a) The repercussion of "KL Getting to Zero by 2020" project, in line with NSPEA, 2016 -2030

This study focused on the Federal Territory of Kuala Lumpur. This given the recent commitment of the Federal Territory of Kuala Lumpur State Health Department to uptake the "KL Getting to Zero by 2020" project. This initiative is the fast-tracking phase of NSPEA during 2016-2020 which aims to reach the 90-90-90 targets, where 90% of key populations tested for HIV and knowing their results, 90% of people infected with HIV placed on ART and 90% of these adhering to treatment with suppressed viral load. The fast-tracking phase also aims to reach 80% of key populations with effective prevention (NSPEA, 2016).

In line with this project, multiple measures have been planned and executed together with the collaboration of governmental and non-governmental bodies to achieve the "zero new infections, zero discrimination towards HIV/AIDS and zero AIDS-related deaths". Therefore, this study's findings will provide data to monitor and evaluate the discrimination and stigma practices among professional healthcare personnel and PLHIV.

iii. Coverage of the survey in both primary and tertiary healthcare settings

This study is conducted not only among professional healthcare personnel in tertiary healthcare centers but also among primary healthcare doctors in the Federal Territory of Kuala Lumpur. This is due to the decentralization of the HIV services to almost all primary healthcare facilities in Kuala Lumpur. These responsible primary health facilities are linked closely with the main tertiary hospital for constant monitoring. The

integration of HIV services at primary health centers has increased the availability and accessibility to prevention, care and support programs for the HIV-infected individuals. The infectious disease clinics in primary healthcare facilities are run by the respective family medicine specialist and trained medical officers in the field of HIV/AIDS. Trained nurses and medical assistants also are available to provide preventive services such as counselling and testing. Since there is constant exposure to handling HIV/AIDS patients at this healthcare premises, it is essential to examine the stigma and discriminatory behaviour among the doctors in both settings.

iv. The prevalence of HIV in the Federal Territory of Kuala Lumpur

The number of overall HIV infected cases has declined in Malaysia, but there are certain geographic areas which have higher prevalence rates in Malaysia. The Behavioral Survey (IBBS) 2014 showed that the prevalence of HIV among FSW was highest in Kuala Lumpur (17.1%) (NSPEA 2016). There was also a high prevalence of HIV cases among MSM and TG in Kuala Lumpur whereby for MSM the prevalence of cases was at 22% (up from 10.2% in 2012) and for TG at 19.3% (up from 4.8% in 2012) (NSPEA 2016). Besides that, even though the nationwide prevalence of HIV among PWID were noted to be declining, but still 21% of the overall cases were detected in the Federal Territory of Kuala Lumpur. The increasing number of HIV cases in this territory especially via sexual transmission compared to the other states in Malaysia is an alarming issue which requires serious intervention. Hence, it is crucial to analyse the current situation among PLHIV especially on the issue of experiencing stigmatization at healthcare settings.

v. Shift in the pattern of transmission of the disease

A recent Ministry of Health, Malaysia report revealed that there is a shift in the pattern of the disease towards sexual transmission compared to the earlier part of the epidemic where it was concentrated among the injecting drug users' community (Figure 1.6). This is a perturbing matter given cultural and religious understanding plays important role at local setting. Particularly, the recent increase in the number of the homo and bisexual transmission incidences compared to the heterosexual transmission incidence must be examined (Figure 1.6), (NSPEA, 2016, MAC, 2018). There is the possibility of worsening of stigmatization and discriminatory attitudes towards the HIV-infected individuals from the key population group members such as the men having sex with men, transgenders and bisexual men. Thus, it is necessary to evaluate the present situation among healthcare workers especially among professional healthcare personnel in Malaysia to help achieve the objectives of the National Strategic Plan to End AIDS.

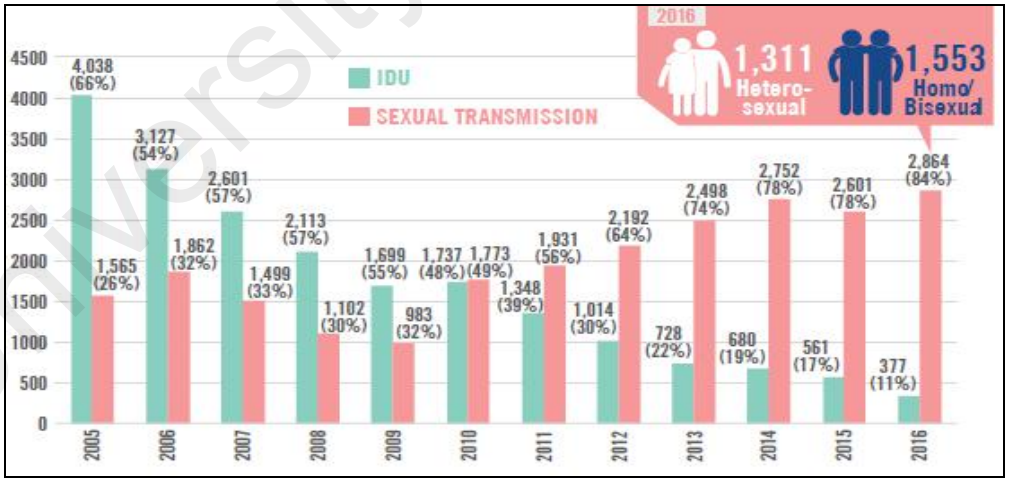


Figure 1.6: Comparison of new HIV infection between hetero and homosexual transmission in 2016
Source: Malaysian AIDS Council, 2018

vi. To study stigma and discrimination from the perspective of both parties

The key concept of this study was to explore and investigate the issues pertaining to stigma and discrimination from the perspectives of professional healthcare personnel and those living with HIV. The first part of the study was conducted only among doctors to bridge the knowledge gap in the stigma related to HIV/AIDS among the study population. It is hoped that the findings of this study will highlight the importance of eliminating stigma and discriminatory attitudes towards HIV/AIDS patients and enhance the importance of carrying out non-bias practices among professional healthcare personnel. Most importantly, it is expected to eradicate the treatment disparities towards individual with HIV/AIDS or the "biased-doctor-model" factor among professional healthcare personnel and break the cycle of discrimination and stigmatization while amplifying the positive attitudes towards HIV/AIDS among medical practitioners in Malaysia (Satel & Klick, 2006). Moreover, identifying the factors associated with stigma will subsequently indicate the need for necessary actions to overcome this issue such as by implementing updated training programs on standard precautionary practice or practical programs on enhancing awareness of stigma.

The second part of the study was conducted among people living with HIV from non-governmental organizations. It highlights the outcome and results of the initial study by providing a continuous picture of the research problem as well as enhancing and complementing the findings from the first part of the study. Essentially, the study is conducted among people living with HIV to enable a more comprehensive understanding of the research question by highlighting the outcome of healthcare providers' discriminatory attitudes towards HIV/AIDS infected individuals and explores the effects of the enacted stigma towards these affected individuals.

It is projected that the findings of this study will influence the future policy-makers particularly for them to provide greater prominence to the public health benefits of

reducing HIV/AIDS stigma and discrimination, where it can be done through policy making with national governments by promoting the inclusion of effective strategies in national HIV/AIDS plans or by augmenting the currently available strategies. Furthermore, it is hoped to promote awareness and action among other stakeholders.

1.6 Research Questions

1.6.1 First Part of the study: from the perspective of professional healthcare personnel

1. What is the level of awareness on facility profile, level of perceived risk, value-driven stigma, observed discriminatory attitudes, discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS among professional healthcare personnel?
2. What is the association between professional healthcare personnel's discriminatory attitudes towards HIV/AIDS and their practices related to HIV/AIDS?
3. What are the factors that related to discriminatory attitudes among professional healthcare personnel?
4. What are the factors that influences the practices related to HIV/AIDS among professional healthcare personnel?

1.6.2 Second part of the study: from the perspective of People Living with HIV

1. What is the prevalence of enacted stigma, general healthcare seeking behaviour and adherence to antiretroviral treatment among people living with HIV?
2. What are the effects of enacted stigma at healthcare settings towards people living with HIV?

1.7 Study Objective

1.7.1 General objective

To determine the discriminatory attitudes and practices related to HIV/AIDS among professional healthcare personnel in Federal Territory of Kuala Lumpur and its effects on people living with HIV.

1.7.2 Specific objectives for the first part of the study

Study of discriminatory attitudes and practices related to HIV/AIDS in the Malaysian healthcare sector from the perspective of professional healthcare personnel.

1. To assess the level of awareness of facility profile, level of stigma (perceived risk, value-driven stigma, observed discriminatory attitudes), discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS.
2. To examine the association between professional healthcare personnel's discriminatory attitudes towards HIV/AIDS and their practices related to HIV/AIDS.
3. To determine factors associated with discriminatory attitudes towards HIV/AIDS.
4. To study the factors associated with practices related to HIV/AIDS.

Hypothesis

1. There is an association between professional healthcare personnel's discriminatory attitudes towards HIV/AIDS and their practices related to HIV/AIDS.
2. There is an association between discriminatory attitudes among professional healthcare personnel and the following factors:

- Sociodemographic factors and work characteristics
- Stigma towards HIV/AIDS (stigma measure components - perceived risk, value driven stigma and observed discriminatory attitudes)

3. There is an association between practices pertaining to HIV/AIDS among professional healthcare personnel and the following factors:

- Sociodemographic factors and work characteristics
- Stigma towards HIV/AIDS (stigma measure components - perceived risk, value driven stigma and observed discriminatory attitudes)

1.7.3 Specific objectives for the second part of the study

Studying the effects of discrimination towards HIV/AIDS in the Malaysian healthcare sector from the perspective of people living with HIV.

1. To study the prevalence of enacted stigma in healthcare setting , general healthcare-seeking behaviour and adherence to antiretroviral treatment among people living with HIV.
2. To assess the effects of enacted stigma in healthcare setting towards people living with HIV.

Hypothesis

1. The effects of enacted stigma in healthcare setting towards people living with HIV are as follows:

- General healthcare seeking behaviour
- Adherence to antiretroviral treatment

1.8 Outline of the Thesis

The main part of the thesis is divided into six chapters. Chapter one introduces the research. Chapter two reviews the literature pertaining to the prevalence of discriminatory attitudes and practices related to HIV/AIDS among professional healthcare personnel and the associated factors. It also reviews the prevalence of

enacted stigma at healthcare facilities among PLHIV and its impact on healthcare seeking behaviour as well as adherence to antiretroviral treatment. This review concludes with a summary of the gaps in the literature. Chapter three presents details on the research methodology. Chapter four presents the results of the study. Chapter Five contains the discussion, interprets the findings based on the research objectives. It also offers recommendations and details the public health implications of the findings. The chapter also discusses this study's strengths and limitations. Chapter six concludes the research with a summary of the findings and public health policy implications regarding ongoing discrimination of HIV/AIDS, especially in healthcare settings. This section also includes recommendations for future research.

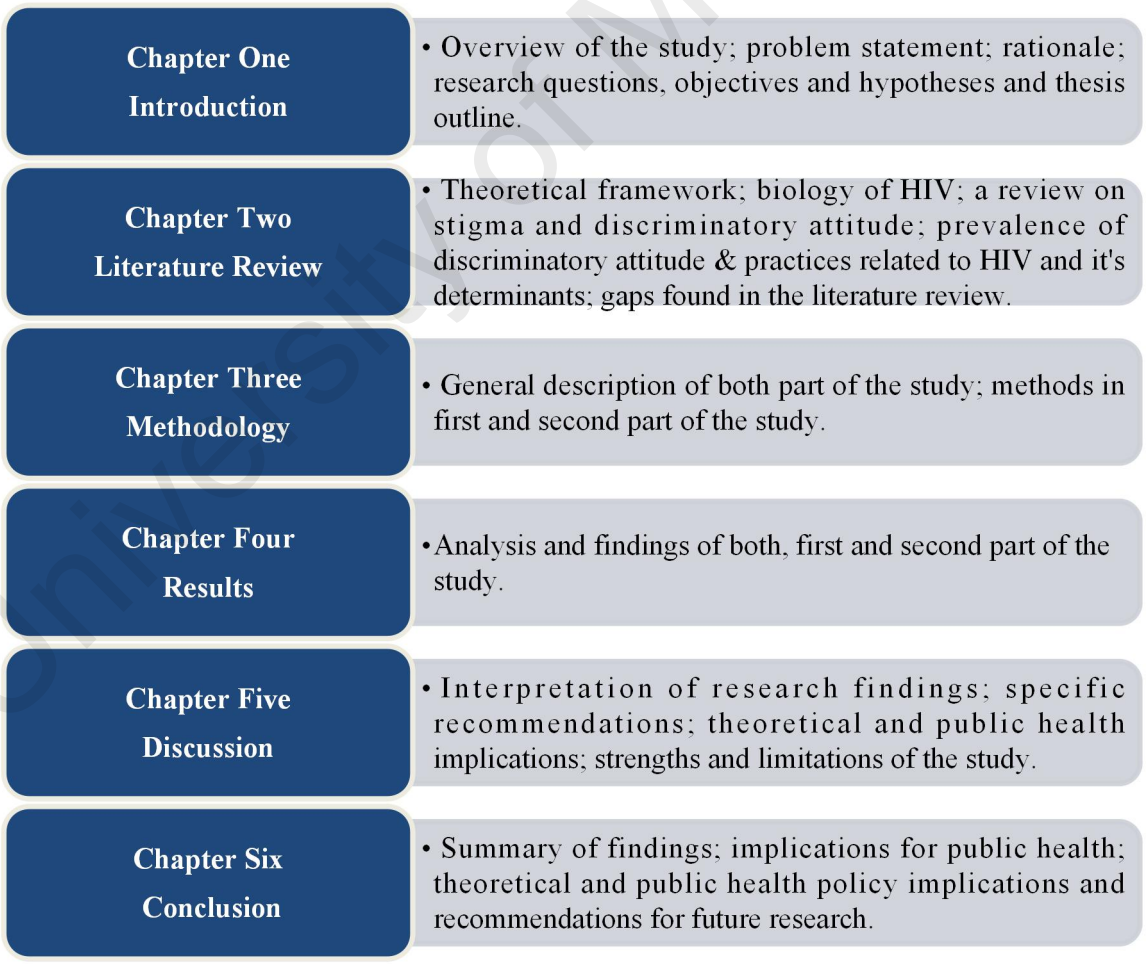


Figure 1.7: Thesis Outline

1.9 Conclusion of Chapter One

It is necessary to understand the stigma and discrimination related to HIV concerning the prevalence, policy and programs. The number of new HIV infections continue to drop. But lately almost half of the newly infected HIV cases in Malaysia are due to sexual transmission among key populations and their sexual partners. Even after three decades, the epidemic remains, but the challenges have changed course. One of the primary stakeholders in the prevention and care of HIV/AIDS is the Ministry of Health (MOH). The MOH aims for impartiality in healthcare for PLHIV through the provision of comprehensive healthcare services. This study examines whether healthcare services are provided fairly for people living with HIV.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter reviews the literature pertaining to professional healthcare personnel (Section 2.5) and people living with HIV (Section 2.6). The reviews were conducted using keywords to find articles or information relating to the subject. Databases and libraries were referred to in the collection of data.

This review begins with a brief description of the biology of HIV and explains stigma and discrimination. This is followed by a review of the prevalence of discriminatory attitudes and practices related to HIV/AIDS especially looking into the comparison of the incidence between higher income nations and middle or lower income nations' healthcare settings. The third section lists the determinants of discriminatory attitudes and practices of the professional healthcare personnel while handling HIV/AIDS patients. This section describes the issues related to stigmatization such as the perceived risk and fear towards PLHIV, value-driven stigma as well as the experience of observing another healthcare personnel's discriminatory attitudes towards the HIV-positive individual.

The review continues to the second part of the study by explaining the prevalence of HIV-infected individuals' enacted stigma in healthcare settings, globally, regionally and locally. This is followed by exploring the stigma towards key affected populations and the effects of the enacted stigma in healthcare facilities and its impact on prevention, care and treatment of the disease.

2.2 Article Selection Criteria

Articles were collected by reviewing the published literature on stigma and discrimination towards HIV/AIDS. An online search of articles published from 1990 to 2018 was performed using a combination of bibliographic databases (e.g., PubMed, Scopus, Science Direct and Google Scholar) and the World Wide Web. Additional

articles were gathered through bibliographic searches. Papers which have addressed or contain information on discrimination towards HIV/AIDS were included in this review. Other criteria such as the paper had to be in English, published between 1990 and 2018 and include studies on prevalence of stigma and discriminatory attitudes towards HIV/AIDS, associated factors of discriminatory attitudes and practices related to HIV among healthcare personnel and the impact of this stigmatization towards PLHIV and their behaviour towards prevention and treatment programs.

Articles were collected by entering relevant keywords, including "discriminatory attitudes," "discrimination", "stigma" and "practices on PLHIV," along with "HIV/AIDS", "PLHIV", "enacted stigma," "healthcare providers" and "healthcare settings." The articles were obtained in full and reviewed to determine whether they met the inclusion criteria.

Only 450 articles were evaluated against the inclusion criteria. Those articles that did not meet the requirements were excluded, resulting in a total of 225 articles that were retrieved and included in the review (Figure 2.1).

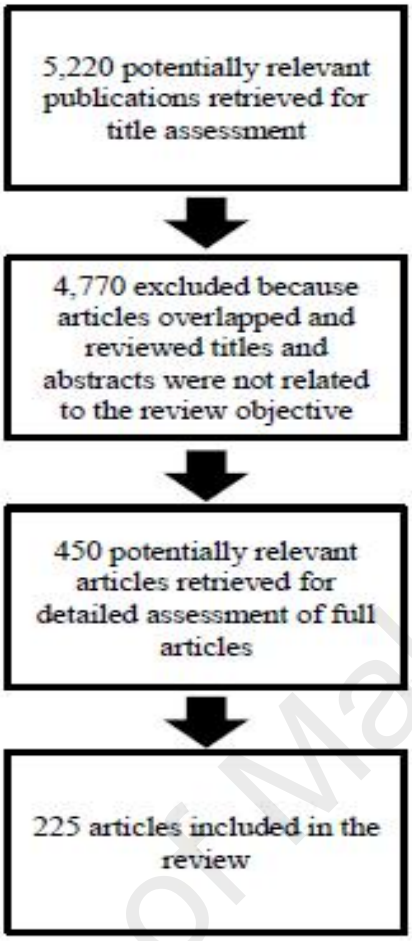


Figure 2.1: Number of articles included in the review

2.3 Biology of HIV

HIV is an abbreviation for the human immunodeficiency virus. It belongs to the Retroviridae family, and it is a type of lentivirus which causes Acquired Immune Deficiency Syndrome (AIDS), an illness that affects and fails the immune system progressively. This immunocompromised condition subsequently let the affected human body to give sanctions to life-threatening opportunistic infections such as tuberculosis, pneumocystis carinii pneumonia, and toxoplasmosis plus cancers such as Kaposi Sarcoma to thrive (Barre-Sinoussi et al., 1983).

2.3.1 HIV types

Human immunodeficiency virus (HIV) is categorized into HIV-1 and the second type is HIV-2. The HIV-1 type virus was discovered earlier, and due to its high virulence

factor, it is the major cause for the infection to spread worldwide. HIV-2 has a lower transmissible factor hence; it has a restricted distribution globally where there is evidence of cases in West Africa and the Indian subcontinent only.

2.3.2 Structure of HIV

Figure 2.2 illustrates an intricate structure of HIV where the surrounding outer layer of the virus is made by a lipoprotein membrane (CDC, 2017). These proteins are implanted in the outer layer of the virus as glycoprotein (gp) 120 and the transmembrane gp 41, creating a "bristle" like structure (CDC, 2017). The gp 120 is required during the formation of new virus particle and the gp 41 is an essential for the cell fusion process (CDC, 2017). Meanwhile, the gag p 17 protein, which acts as the matrix protein is positioned between the outer layer and core. The HIV gene is made of two single strands RNA. The p 24 protein which acts as the viral capsule covers these two single strands HIV RNA and the other necessary enzymes for HIV replication process, such as the protease enzyme, reverse transcriptase enzyme and the integrase enzyme (CDC, 2017). For its replication process, the HIV needs a host cell. Then the RNA will be transcribed into DNA with the aid of enzyme reverse transcriptase. HIV primarily infects the CD4+ T cells and fails its function in the human immune system. These virus can be transmitted through sexual contact, exposure to infected body fluids or tissue (while injecting drug, blood transfusion and during occupational exposure) and through vertical transmission (UNAIDS, 2016)

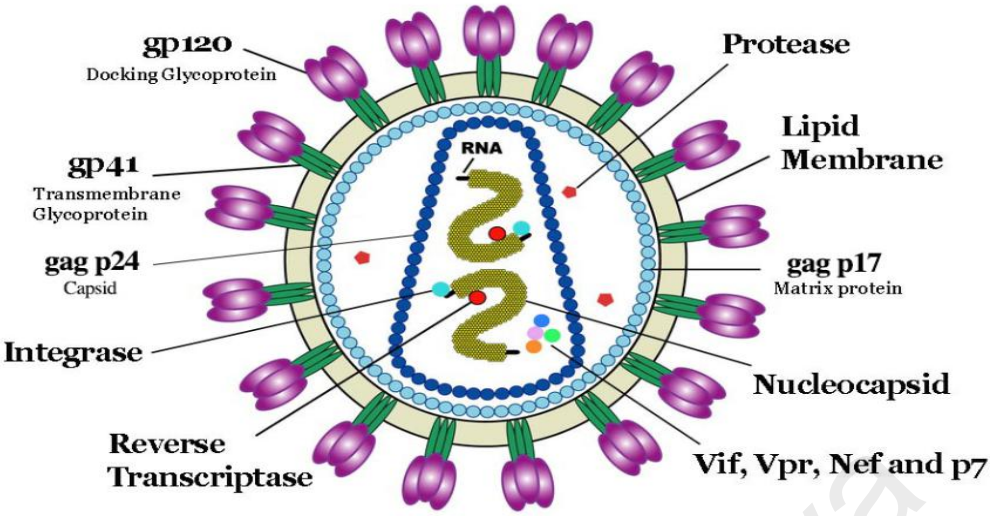


Figure 2.2: Human Immunodeficiency Virus Structure
Source: Centre for Disease Control and Prevention website, 2017

2.4 Stigma and Discriminatory attitudes

Stigma is defined as humiliation or embarrassment involved to something considered as socially obnoxious. Those who are stigmatized are marked and ostracized for their dissimilarity and they are criticized for that difference. One of the most well-known twentieth-century sociologist Erving Goffman defined stigma as “the event whereby a person with a certain character is profoundly disgraced and discredited by his or her society is rejected as an outcome of the attribute. Stigma is a progression by which the reaction of others spoils normal identity” (Goffman, 1963).

Goffman classified stigma into three different arrangements (Goffman, 1963). The first form of stigmatization is towards obvious or exterior disfigurements (Goffman, 1963). Obvious marks such as blemishes, scars, physical appearances changes in leprosy or physical and societal incapacity such as obesity are included in this category. The next form of stigmatization is among individual with different or deviated behaviours (Goffman, 1963). Those are the drug abusers, people who are identified with mental illness and alcoholism are mark out in this way. The third form of stigmatization is the "tribal stigmas" that differentiate those stigmatized individuals according to their

religion, ethnic group and tradition which are considered to be different from the average customary population's culture, religion and nationality (Goffman, 1963).

There are several types of stigma (Earnshaw & Chaudoir, 2009). Enacted stigma is refers to external stigma or discrimination. This is the experience of "unfair behaviour or treatment" by others towards certain individual (Gray, 2002). Felt stigma, which is also known as internal stigma or self-stigmatization refers to the "shame and expectation of discrimination" by the affected individuals themselves (Gray, 2002). Moreover, there is the perceived community stigma which is the sensed or believed existence and severity of stigmatizing attitudes in the community against HIV positive individuals and the anticipated stigma which is the expectation of being treated negatively by others (Earnshaw & Chaudoir, 2009; Turan et al., 2017). There are also different sources of HIV-related stigma, which may include institutions, healthcare workers, co-workers, community members, family, friends, and sexual partners. (Turan et al., 2017). This study focuses on enacted stigma at healthcare setting and its impact towards people living with HIV.

Stigma and discriminatory attitudes are related. Many researchers have stated that there is a clear line of distinction between stigma and discriminatory attitudes (Deacon, 2006; Brown et al., 2003; Jacoby, 1994). They have reasoned that these two are separate entities, but are closely linked with each and other (Deacon, 2006; Collymore, 2002). Stigma has been identified as a complex, diverse and deeply rooted phenomenon that is dynamic in different cultural settings. It is a collective social process rather than a mere reflection of an individual's subjective behaviour (Policy Project, 2003).

Meanwhile, discriminatory attitudes is the act or performance which is the protraction of stigma. It is the outcome of the stigma that results in acts of exclusion or marginalization of certain individuals or groups.

2.4.1 The Relationship between Stigma and HIV/AIDS

The human immunodeficiency has a long history of stigmatization (Goffman, 1963). History shows that individuals with HIV have been marked out from the time when the first case of AIDS was identified in the early 1980's (Goffman, 1963). Stigmatization towards HIV takes place due to several reasons. To begin with, it is a life-threatening disease which is still incurable (Schietinger, 2005). So far, the clinical goals of treatment have been delineating to the suppression of viral reproduction, re-boosting the depress immune response, ceased further progression of the disease, increase the infected individuals' survival rates and to provide a better quality of life to these people (Global HIV/AIDS Statistics, 2017; UNAIDS, 2016; Schietinger, 2005). Other than that, lack of proper knowledge, perception and understanding on the topic of HIV/AIDS has led to fear and stigmatization (Global HIV/AIDS Statistic, 2017; UNAIDS, 2016). For example, people who do not understand how HIV is transmitted may be frightened of getting infected with it through public contact. Unacknowledged conditions are producing misconceptions that cause stigmatization to persist. Stigmatization also occurs when there are strong opinions concerning societal groups that are most affected by HIV. There are partiality and deleterious stances among the public when it comes to women, sexual behaviour, gay men, drug abusers and others (Global HIV/AIDS Statistics, 2017; UNAIDS, 2016). These stigmatizers may have an opinion regarding the marked out-group behaviour and most people think that people with HIV and AIDS are immoral or irresponsible.

In a nutshell, stigma causes the stigmatized people to be treated with a lack of reverence and dignity. The stigma in people with HIV/AIDS can lead to numerous destructive outcomes such as rejection, disrespect, chattered about, insulted and excluded from social activities. Due to this dread, many individuals with HIV/AIDS are

hesitant and worried to disclose their status. Instead of receiving the support and aid that they need, these people are suffering in silence.

2.4.2 Stigma and Discrimination in Healthcare Settings

Stigmatization and discriminatory attitudes towards people living with HIV exist not only in the public, it also exists among healthcare providers (Harapan et al., 2013). healthcare professionals should medically assist someone infected or affected by HIV and provide life-saving information on how to prevent it. However, in reality, HIV-related discrimination in healthcare remains an issue. The discrimination towards PLHIV in healthcare settings can take many forms, including mandatory HIV testing without consent or appropriate counselling. Health providers may minimize contact with or care of patients living with HIV, delay or deny treatment, demand additional payment for services and even isolate people living with HIV from other patients (UNAIDS, 2017b). Besides that, healthcare workers may violate the patient's privacy and confidentiality, including disclosure of the person's HIV status to family members or hospital employees without authorization.

For women living with HIV, denial of sexual and reproductive health and rights services can be even devastating. For example, 37.7% of women living with HIV surveyed in 2012 in a six-country study in the Asia Pacific region reported being subjected to involuntary serialization (Women of the Asian Pacific Network of People Living with HIV, 2012). Above all, people from key affected populations face additional discrimination in healthcare settings. Discriminatory attitudes held by healthcare providers lead them to make judgments about a person's HIV status, behaviour, sexual orientation or gender identity, eventually leading these individuals to be treated without respect or worthiness. These views are often fueled by ignorance about HIV transmission routes among healthcare professionals. At present, around

92,895 people are living with HIV in Malaysia and these people may be subjected to discrimination and stigmatization in the healthcare facilities (GARPR, 2016).

2.5 First Part of the Study: Discriminatory Attitudes and Practices related to HIV/AIDS among Professional Healthcare Personnel

2.5.1 Professional Healthcare Personnel's Discriminatory Attitudes towards HIV/AIDS

Many healthcare professional related studies have shown evidence that these professionals have negative approaches and discriminatory attitudes towards people living with HIV (Salih et al., 2017; Stringer et al., 2016; Harapan et al., 2013; Amoran 2011; Katz et al., 2013; Reis et al., 2005). Since the beginning of the epidemic in the early eighties, these studies have brought out the significant portion of healthcare personnel with this negative attitudes (Katz et al., 2013; Ahsan Ullah, 2011; Bharat et al., 2001; Ngozi et al., 2009). Some of the studies have highlighted that there were health personnel's whom purposely avoided caring for HIV/AIDS patients and believed that they had the right to refuse them care (WHO, 2004).

To date, the HIV epidemic is prominent in lower and lower-middle-income nations especially in the Central Asia and sub-Saharan region (UNAIDS, 2017a). A systematic review by Bharat, Aggleton & Tyrer in 2001 summarized 30 studies and concluded that stigma and discrimination towards HIV/AIDS are evident in healthcare settings. More than 50% of the studies showed high discriminatory attitudes towards HIV-positive people. This issue still occurs despite education campaigns, care and support programs to eliminate this problem for the past three decades (Bharat et al., 2001). Many studies stressed that besides than low and middle income countries, developed higher income nations also have high levels of discriminatory attitudes among healthcare personnel that include the denial of healthcare, unfair barriers to the provision of health services, providing substandard quality of care and a lack of respect towards people living with

HIV/AIDS (Katz et al., 2013; Harapan et al., 2013; Ahsan Ullah, 2011; Bharat et al., 2001; Amoran 2011; Ngozi et al., 2009; Chien & Andrewin, 2008; Sayles et al., 2007; Reis et al., 2005; Devroey et al., 2003). A recent survey conducted in high and upper-middle income European countries showed that 60% of countries in the European Economic Area reported that their healthcare professionals have negative and discriminatory attitudes towards men who have sex with men (MSM) and people who inject drugs (PWID). This hindered the provision of adequate HIV prevention services for these key populations (ECDC Special Report, 2017).

In Malaysia, few studies examined the discriminatory attitudes of professional healthcare personnel towards HIV/AIDS. The studies that do exist were conducted a decade ago and reported contrasting results. A study of nurses by Gulifeiy and Rahmah in 2008 showed that 57% of them have good attitudes towards HIV/AIDS patients. Another local study done by Hasnah in 2006 among doctors, nurses and other healthcare providers found that almost 74% of them have good attitudes towards HIV/AIDS. Since these studies were conducted a decade ago, a reassessment is necessary to evaluate the current situation regarding discriminatory attitudes among professional healthcare personnel in Malaysia.

A review by Mehrabi et al. in 2016 on stigma and discrimination related to HIV in Malaysia stated that even after three decades of the epidemic, there had been little progress in HIV-related stigmatization research. Hence, the knowledge and understanding of HIV stigma are still at rudimentary levels in Malaysia. At present, there are few studies that conflict with the findings from previous researches (Li et al., 2013; Malaysia AIDS council's Annual report, 2006-2009; 2011). These studies found that stigmatizing attitudes come not only from the general public but also from the healthcare service providers. Even though self-stigmatization adds a hurdle to HIV treatment and prevention interventions, it is difficult to determine the prevalence of self-

stigma and health providers' stigmatizing attitudes. Hence, more studies need to be done to determine the extent of stigmatization among the health service providers and the people infected with HIV.

2.5.2 Professional Healthcare Personnel's Practices related to HIV/AIDS

A professional healthcare personnel's daily work practice especially when it is related to HIV/AIDS is greatly influenced by their perception on stigma and their discriminatory attitudes towards HIV/AIDS (Stahlman et al., 2017; Chew & Cheong, 2013; Nyblade et al., 2009; Wu et al., 2008; Li et al., 2007). Their practices are also affected by their opinion on the risk of exposure to infectious disease. This could be due to ongoing contagious disease among healthcare personnel. According to a WHO report, annually there are around two million healthcare workers worldwide vulnerable to percutaneous injury which is the root cause of various infectious diseases (WHO, 2015). Each year, almost 88,000 healthcare personnel are exposed to HIV/AIDS infection, and this exposure alone is the reason for at least 2000 to 5000 healthcare personnel becoming HIV-positive (WHO, 2015). This report evidence that healthcare personnel's poor knowledge of standard precautions and personal protective equipment are some of the key reasons for the occurrence of this incidence (Stein et al., 2003; Bennett & Mansell, 2004; WHO, 2015). Hence, the ongoing incidence related to this issue is expected to lead to the misapplication of safety precautions among professional healthcare personnel. This will result in biased and discriminatory practices towards people with HIV/AIDS (Frazer et al., 2011; Welch & Bunin, 2010; Rintamaki et al., 2007; Temple-Smith et al., 2006).

Additional forms of their applied discriminatory practices include being abusive (mostly performing verbal abuse), giving inferior treatment, patient avoidance, care refusal, hostility and being disrespectful to the HIV-positive individuals (Ahsan Ullah, 2011; Chien & Andrewin, 2008; Devroey et al., 2003). Furthermore, some of these

professional healthcare personnel tend to compel patients on mandatory testing and disclose their HIV status without consent or force them on treatments and compulsory detention (Harapan et al., 2013; Amoran 2011; Reis et al., 2005). Such discriminative practices exhibited by healthcare personnel will prevent people not only from accessing HIV testing, treatment and care, but it also risks causing other harmful impacts such as affecting their self-concept, mental health and quality of life (Chambers et al., 2015; Fife & Wright, 2000; Gonzalez, Solomon, Zvolensky et al., 2009; Lee, Kochman & Sikkema 2002).

2.5.3 Factors Associated with Discriminatory Attitudes and Practices related to HIV/AIDS

The incurable status of HIV/AIDS is a source of fear for the public and healthcare community (Wang et al., 1993). Fundamentally, the stigmatization towards HIV/AIDS is originated from three main factors: the moral judgement towards people living with HIV, dread towards this illness and the experiences of witnessing others stigmatizing people living HIV/AIDS (UNAIDS, 2016).

2.5.3.1 Perceived Risk and Fear

It is indisputable that healthcare personnel still perceived risk towards HIV/AIDS. Many studies have shown evidence that there is a concrete association between irrational fears concerning the transmission of the disease and discriminatory attitudes and practices related to HIV/AIDS among professional healthcare personnel (Famoroti et al., 2013; Herek et al., 2002).

In a study based in the United States healthcare settings by Davtyan, Olshansky, Brown & Lakon, healthcare professionals expressed that historically negative depictions of HIV have played a significant role in shaping the global landscape of HIV/AIDS, which still contributing to the stigmatizing behaviours among community and even

among the healthcare workers (2017). This study's findings stated that HIV is still presented as a deadly and highly communicable disease and these portrayals gave rise to intense fear, hysteria and panic to the overall society. healthcare professionals also noted that perceived risk and fear towards HIV continues to linger given there being no effective treatment (Davtyan et al., 2017).

Research in other Western countries has shown similar findings. One study based in Alaska and New Mexico reported that healthcare providers perceived HIV as more stigmatized compared to other communicable diseases (Brems, Johnson, Warner & Roberts, 2010). This study found that behavioral healthcare providers such as the psychiatrists and psychologists demonstrated more awareness of stigma and compassion towards PLHIV compared to the general and surgical based healthcare professionals (Brems, Johnson, Warner & Roberts, 2010). Moreover, a systematic review by Ngozi et al. in 2009 which summarized 64 articles on stigma towards HIV/AIDS in the Sub-Saharan African region noted that perceived risk by healthcare personnel is still strongly lingering in the healthcare system and it has led to less healthcare service delivered to HIV-positive patients. Nevertheless, there are still no local studies that have assessed how healthcare professionals conceptualize stigma towards HIV/AIDS and its health impacts on the people living with HIV/AIDS.

Even though healthcare personnel have confidence and good knowledge about the mode of transmission of the disease, they are still sceptical (Harapan et al., 2013). Cianelli et al. (2011) stated that perceived risk and fear of work-related HIV transmission was described as a possible explanation for refusing care to PLHIV and for doctor-experienced anxiety and nervousness when administering care to patients with HIV. Olalekan, Akintunde and Olatunji (2014) observed similar findings, that fear of occupational infection encouraged some healthcare personnel to refuse care to PLHIV.

Some researches found that healthcare personnel perceived risk towards HIV/AIDS after viewing the life experience of people living with HIV. Studies have mentioned lifelong misery of continuing living with the disease, the loss of hope and productivity which is encountered by these HIV/AIDS infected individuals and the fear for the unavoidable forthcoming death are some case in point (WHO, 2015; Ahsan Ullah, 2011; Hasnah, 2006; Herek et al., 2002). Likewise, the perceived risk and fear towards HIV/AIDS have also led the healthcare personnel to judge the people with HIV/AIDS as "other" category and marginalized them. Research conducted among Black men, who are men who have sex with men (MSM) living with HIV showed that stigma from healthcare personnel affected preventive efforts such as seeking help for getting tested and treated (Eaton et al., 2015).

2.5.3.2 Value-driven Stigma

In the population of healthcare providers, behavioral manifestations towards HIV stigma appear to be driven not only by perceived risk and fear but also due to moral judgement and pre-existing prejudice towards the marginalized community and the disease itself (Ekstrand et al., 2012). People living with HIV are often seen being blamed and convinced that they deserve it because the transmission of the virus is linked to stigmatized behaviour. Value-driven stigma or moral judgement towards HIV-positive individuals is strongly associated with discriminatory attitudes especially when the individuals are being mistreated according to their high-risk behaviour and lifestyle (Harapan et al., 2013; Katz et al., 2013; Bharat et al., 2001; Ngozi et al., 2009).

Researchers have depicted such behaviour as symbolic stigma (Ekstrand et al., 2013). This type of stigmatization appears to be more overt behavioral manifestations of HIV/AIDS stigma. Many studies have shown evidence of this. Stigma towards this illness increases the pre-existing discrimination among the general society and causes partiality by disproportionately affecting the socially marginalized population. This

amalgamated stigma may vary according to the region (Dieleman et al., 2007; Niang et al., 2003; Chan, Rungpueng & Reidpath, 2009; Chan, Stoove & Reidpath, 2008; Chan et al., 2009 and Chan et al., 2007).

A society's cultural foundation is another popular reason which leads to prejudiced behaviour against people living with HIV. This stigma often affects the attitudes, behaviours and decision making of the healthcare providers who delivers HIV-related care (Bharat et al., 2001; Li et al., 2007; Ford et al., 2004; Kinsler et al., 2007; Wolfe et al., 2008; White & Carr, 2005; Mills, 2006; Ekstrand et al., 2008). Similar findings were noted in a systematic review in Thailand in 2013. Thirty-four summarized articles showed evidence that the most at risk populations were judged, blamed and shamed plus discriminated in government healthcare settings (Churcher, 2013). In year 2013, Duff found similar findings and described that value-driven stigma is mostly driven by the cultural beliefs, religious practices, customs and social influence of a society.

Studies in India also found that cultural aspects influence and instigate taboos surrounding social discourse about sexual orientation and high-risk behaviour practice which has led to negative feelings and judgement such as rejection and isolation towards individual infected with HIV/AIDS (Nagothu et al., 2018; Duff, 2013). These judgments are usually rationalized by blaming PLHIV for their own choice of behaviours which led to infection and the belief that individual infected with HIV would deliberately influence and manipulate others too into similar behaviour and this, further legitimize the isolation for people living HIV or the key population group members.

To date, there is no data available for Malaysian healthcare provider's moral judgments and value-driven stigma related to HIV/AIDS. Blaming, shaming and being judgemental towards PLHIV seem to endorse coercive measures and intent to discriminate against PLHIV in personal and professional contexts of healthcare personnel. Hence, understanding the precise nature of stigma and its effects on

behaviour in healthcare setting is vital to the development of effective stigma reduction interventions among people living with the disease (Weiss, Ramakrishna & Somma, 2006).

2.5.3.3 Observed Discriminatory Attitudes

Observed discriminatory attitudes is another perturbing issue. healthcare personnel especially the junior ones tend to pursue the same discriminatory attitudes which has been witnessed or indirectly "taught" to them. Judgemental views and the prejudiced decisions made by senior healthcare personnel or other colleagues and their discriminatory practices influence the attitudes and practices of other healthcare personnel towards HIV/AIDS positive people (Katz et al., 2013; Bharat et al., 2001; Ngozi et al., 2009). A study conducted by Famoroti et al. in 2013 noted that almost half of the healthcare provider who participated in this study (45.8%) said they had observed patients to be required to undergo HIV tests unnecessarily, even when the patient does not have any requirement to do so or have any high-risk behaviour. Furthermore, recent researches found similar findings. In a study conducted in the United States of America, it was found that healthcare personnel have observed their colleagues being discriminative and applied poor practices while performing invasive and non-invasive procedures to HIV-infected individuals (Davtyan et al., 2017).

2.5.3.4 Awareness of Policies or Guideline related to HIV/AIDS

A systematic review conducted by Nyblade et al. in 2009 summarized 48 articles, assessing the relationship between lack of specific policies, guidelines and protocols related to HIV/AIDS stigma/discrimination and discriminatory attitudes by healthcare workers at healthcare settings. healthcare facilities which do not follow these guidelines or healthcare personnel who are not aware of these facility profiles or rarely practice the available policies, guidelines or protocols related to HIV/AIDS are more discriminative

and apply poor practice towards HIV-positive individuals (Sohn & Park, 2017; Wu et al., 2008; Oanh et al., 2008).

The systematic review also discussed on interventions to reduce discrimination towards HIV/AIDS by implementing the programs at individual, community and policy levels. Studies have shown impacts, where the improper awareness of facility profiles have affected the HIV patients from accessing preventive, care and supports measures (Wu et al., 2008; Oanh et al., 2008).

2.5.3.5 Sociodemographic and Work Characteristics of Healthcare Personnel

Studies have revealed that there are decisive findings between ethnicity and religion practice with discriminatory attitudes and practices related to HIV/AIDS. A recent Malaysian review and local studies summarized that stigma and discrimination are highly present among Malaysians, but there are no studies on healthcare personnel (Koh, 2014; Wong et al., 2008; Li et al., 2007). Nevertheless, other Asian studies conducted by Harapan et al. (2013) and Hossain & Kippax (2010) which has similar religion background discovered that religious healthcare personnel tend to be more discriminating as compared to the non-religious personnel. Meanwhile, age and sex have been an inconclusive predictor for discriminatory attitudes among healthcare personnel. Several researches have found that older and female healthcare personnel tend to be more discriminative compared to the younger ones and the male healthcare personnel (Harapan et al., 2013; Gulifeiy & Rahmah, 2008; Hossain & Kippax, 2010). However, this result is in contrast to the findings by Reis et al. (2005).

Besides that, many studies have found that HIV/AIDS related training is highly associated with healthcare personnel practices and discriminatory attitudes towards people living with HIV. Professional healthcare personnel who attended training showed more compassion and less discriminatory attitudes towards HIV-positive individuals (Harapan et al., 2013; Hossain & Kippax, 2010; Bharat et al., 2001).

Furthermore, training related to HIV/AIDS improve their awareness of facility profile protocols and guidelines pertaining to HIV/AIDS. Apart from that, according to findings from Li et al. (2007), work category also influences the behaviour of a healthcare worker where the specialist or higher educated medical professionals tend to be more discriminative, less interactive and apply poor practices towards HIV-positive patients.

Years of work experience also had a significant association between discrimination and practices related to HIV/AIDS. healthcare personnel who have worked for more than six years have shown good practices related to HIV-positive people (Gulifeiy & Rahmah, 2008). However, this can also be influenced by the departments where the healthcare provider works. Some studies have found that surgical based healthcare personnel are more discriminative compare to the non-surgical based healthcare personnel (Mahendra et al., 2007; Ganczak, 2007; Sadoh et al., 2006; Link & Phelan, 2001). Other studies found that long experienced surgical based healthcare personnel tend to be less discriminative compared to less experienced healthcare personnel (Essomba et al., 2014; Hossain & Kippax, 2010). Meanwhile, other studies found that knowledge level regarding HIV/AIDS is significantly higher among the healthcare providers in surgical departments compared to those in non-surgical departments such as general medicine, paediatrics or even emergency medicine (Gulifeiy & Rahmah, 2008; Deacon, 2006; Essomba et al., 2014). This is because higher awareness of HIV/AIDS related subjects has proven to show lesser discriminative behaviours and practices among healthcare providers (Deacon, 2006).

Many studies have presented findings of discrimination and stigmatization at primary healthcare. Dong et al. (2018) found that 77.7% of the healthcare personnel who participated had discriminated against PLHIV in the process of providing medical attention. This finding is higher than those reported by Chien & Andrewin (2008). One

of the most commonly reported forms and discrimination at primary healthcare was forced testing, providing dissimilar treatment, the disclosure of patients' information and refusing to provide treatment. At the same time, research suggested that professional healthcare personnel at primary care level with more contact with HIV-infected patients or has higher HIV patient load tend to show less stigma and more positive attitudes towards these individuals (Feyissa, Abebe, Girma, & Woldie, 2012; Bennett, Weyant, Wallisch and Green, 1995).

2.6 Second Part of the Study: Enacted Stigma in Healthcare Settings

2.6.1 Prevalence of Enacted Stigma in Healthcare Settings among People Living with HIV

From the beginning of the time of emergence of the disease, HIV-infected individuals have been facing ostracization and discrimination. Despite progress in the treatment and care of people living with HIV, HIV-related stigma persists. healthcare settings and providers have been identified as important sources of stigma (Feyissa, Abebe, Girma, & Woldie, 2012; UNAIDS, 2016). This is particularly alarming because experiencing stigma has influenced healthcare seeking behaviour among PLHIV and has been associated with adverse health outcomes (Earnshaw, Bogart, Dovidio, & Williams, 2013).

Previous researches have studied the stigmatization but generally it's from the perspective of community and have addressed the issue of internalized or self-stigma from the perspectives of PLHIV (Wong et al., 2008; MTAAG+, 2012; Koh, 2014; Integrated Biological and Behavioural Surveillance Survey 2014; Nobre et al., 2017). Nevertheless, there is still very little research done locally assessing enacted stigma at healthcare facilities and it's impact on HIV-infected individuals.

Many studies from other parts of the world have indicated that PLHIV has experienced stigmatizing behaviours within health facilities. The literature indicated

discrimination in healthcare environments towards people living with HIV manifesting as denial of care, confidentiality breaches, negative attitudes and humiliating practices by healthcare workers (Schuster et al., 2005; Nyblade et al., 2009).

A study based in United Kingdom by Elford et al. revealed that almost one in three respondents (29.9%) had been discriminated at healthcare facilities because of their HIV-positive status (2008). Of those who reported experiencing discrimination, nearly a half of them (49.6%) said this had involved professional healthcare personnel such as their dentist or primary healthcare physician (Elford, Ibrahim, Bukutu & Anderson 2008). A more recent study in Finland, which has low adult prevalence of HIV cases and stable annual number of newly diagnosed cases for the past ten years, has shown that stigma impacts not only the health-seeking behaviour but also the health-related quality of life of the person living with HIV (Nuno Nobre et al., 2018). Besides that, a literature review from a different setting by Olalekan, Akintunde and Olatunji in 2014 summarized 48 studies of which 36 found found that HIV-positive individuals have experienced stigmatization in healthcare setting.

In the regional level, a systematic review conducted in Thailand which included 34 articles, showed evidence that more than 50% of the studies resulted in HIV-positive people especially those from high-risk population facing negative experiences at public healthcare settings (Churcher, 2013). Likewise, Nudelman's study on five countries, specifically in India found that people living with HIV and the key population group members have experienced lack of confidentiality in health facilities and the stigmatization is widespread among the community and at healthcare facilities (2013). Another survey by World Health organization (WHO) in India, Indonesia, Philippines and Thailand found that 34% of PLHIV reported breaches of confidentiality by health professionals in healthcare settings (WHO, 2008).

Meanwhile, in Malaysia, studies on enacted stigma specifically in healthcare settings are limited. A stigma index study conducted by Positive Malaysian Treatment Access and Advocacy group (MTAAG+) in 2010 measured the HIV-related stigma and discrimination experienced by people living with HIV in Malaysia. This survey covered the overall aspect of experienced stigma such as at family and community level, work level while receiving education services and healthcare services, at prisons, during medical policy insurance application and finally on the subject of the HIV-positive individual's internalized stigma. About 7% of the study participants responded that they had experienced some sort of stigma and discrimination in healthcare settings (MTAAG+, 2012). The findings also showed that 13% reported that they were forced to undergo medical procedures such as HIV testing against their will, while almost half the PLHIV (41.2%) admitted they were tested for HIV without any pre-test counselling (MTAAG+, 2012). Only one in three PLHIV will disclose their HIV-positive status to healthcare providers (MTAAG+, 2012).

Moreover, studies in Asian culture have found strong gender inequality pertaining to this issue. The literature shows that women tend to experience more stigma compare to men, where it proposes issues on gender bias regardless of the cause of infection, and it also clarifies the influence of male-controlled community (Subramanian et al., 2009; Nudelman, 2013). It also found a significant association between experienced stigma at health setting and women, whom were widowed, separated or divorced (Subramanianbet al., 2009).

For women living with HIV, denial of sexual and reproductive health and rights services can be devastating. For example, 37.7% of women living with HIV surveyed in 2012 in a six-country study in the Asia Pacific region reported being subjected to involuntary sterilization (Women of the Asian Pacific Network of People Living with HIV, 2012). Meanwhile, another study was done by Dietz et al. (2010), among young

female HIV-positive individuals showed increased level of experienced stigma in healthcare settings; It also explored the impact of this stigmatization on the social well-being of female adolescents. Overall, studies have concluded that other than the individuals from the key population, women are more at risk for discrimination. This is an issue to be taken into serious consideration given the growing number of female HIV patients in Malaysia.

2.6.2 Key Affected Populations and Enacted Stigma

Stigma prevents people from obtaining a timely diagnosis and engaging in life-saving care. It may also prevent those who are HIV-infected from seeking health and other accommodations, particularly if they are from marginalized communities. Men who have sex with men (MSM), people who use drugs, female sex workers (FSM), transgenders (TG) and prisoners have a higher prevalence of HIV infection because they engage in behaviours that put them at higher risk of becoming infected and they are discriminated against populations in society. In a way, punitive approaches to drug use, sex work and homosexuality only fuel stigma and hatred against these populations and pushes them further into hiding and away from services to prevent, treat and mitigate the impact of HIV.

People Who Inject Drugs

Approximately 13 million people worldwide inject drugs, and the majority live in middle and low-income countries (WHO, 2018). Of these, 1.7 million of them are living with HIV (WHO, 2018). According to the 2016 National Strategic Plan to End AIDS (NSPEA) report, there are around 170,000 PWID in Malaysia. Nevertheless, the prevalence of HIV among them has declined from 60 to 75% of all newly reported cases to 19.3% in the past decade (NSPEA, 2016).

Drug-dependent people are frequently subjected to laws, policies and practices that violate their human rights. This increases their vulnerability to HIV and HIV-related risk behaviours and negatively affects the delivery of HIV programs, compromises their health as well as the health of their communities. Additionally, people who inject drugs also are experiencing stigmatization while participating in drug treatment, particularly when receiving methadone maintenance therapy (MMT). Although methadone maintenance is an evidence based treatment for opioid use disorders, it is also widely viewed as an alternative form of addiction (Amato et al., 2005; Connery, 2015). Literature has shown that PLHIV on methadone treatment has experienced the same forms of stigma as people who use illicit drugs (Conner & Rosen, 2008; Earnshaw, Smith & Copenhaver, 2013; Etesam, Assarian, Hosseini & Ghoreishi, 2014). Hence, the stigmatization on methadone has been a barrier not only for implementation and use of this therapy, but it also has been a hindrance for PLHIV to come forward for initiation or compliance to this course of treatment (Joseph, Stancliff & Langrod, 2000).

Men Who Have Sex with Men (MSM)

Men who have sex with men are considered as vulnerable population for HIV. This diverse group includes men who identify themselves as gay or as bisexual, which are heterosexual men who have sex with men. They are particularly susceptible to HIV because sex between men involves practice of anal sex whereby, when there is no protection is used, it has a higher risk of HIV transmission than unprotected vaginal sex (CDC, 2015).

Men who have sex with men are also subjected to HIV because of all sorts of social stigma, discriminatory practices and criminalization of same-sex conduct. Labra illustrated how social representations of HIV as the ‘‘gay plague’’ in the early 1980s, and indistinguishably linked the disease to mortality, stigma, impropriety, and punishment (2015). In the same year, Saki, Kermanshahi, Mohammadi, and Mohraz

(2017) noted that the initial identification of AIDS cases in MSM led many to think that HIV primarily impacted people who engaged in ‘‘unusual’’ and ‘‘unacceptable’’ behaviours. Recent findings by Davtyan, Olshansky, Brown, & Lakon among healthcare providers noted that the depictions is yet to change. This study shows that healthcare professional were still practising historically unfavourable portrayals of HIV, as it is deadly, uncontrollable, contagious and a by-product of deviant lifestyles as responsible for the enduring stigmatization of people living with HIV (Davtyan et al., 2017).

Furthermore, sex between men is taboo in many cultures and some countries wholly deny the existence of homosexuality and limit the research and funding on the health of this population. There is often little information available about sex between men in these contexts, and this can provide a false impression of limited or no risk (Semugoma, Nemande & Baral, 2012). The criminalization of same-sex conduct also creates barriers to accessing healthcare and HIV prevention measures, which also contributes to the underlying determinants of health.

The recent UNAIDS data on Asia and the Pacific region revealed that HIV prevalence among men who have sex with men (MSM) was more than 5% in at least ten of the 21 countries that reported the data. It stated HIV prevalence among MSM is predominantly higher in the urban areas (UNAIDS, 2017). Besides that, it has been found that MSM is becoming infected by HIV at a younger age across this region. A study carried out in Bangkok found that HIV incidence among those aged 18 to 21 was more than double than the incidence among men over 30 years (UNAIDS, 2017).

In Malaysia, new HIV-infections were reported to be transmitted via homosexual or bisexual unprotected sex (Figure 1.6) (MAC, 2018). The increasing trend of HIV infection reported by National Surveillance among MSM is supported by the findings of two IBBS surveys (in 2012 and 2014) that observed an increase of HIV prevalence from 7.1% to 8.9% over the years (NSPEA, 2016). On the whole, the rate of transmission

among men who have sex with men (MSM) in Malaysia has doubled since 2008; these estimates only included notified cases and did not consider any unreported cases (MAC, 2018).

Studies have indicated negative experiences with healthcare providers related to MSM sexual orientation and practices has discouraged this key population individuals to seek healthcare services (Lim, et al., 2019; Reis, et al., 2005; Lazarus et al., 2012; Risher et al., 2013). However, survey by Kim et al. (2017) stated the prevalence of experienced stigma in healthcare setting was less common in the MSM group (5.2%) compared to the other vulnerable or at-risk communities. Nevertheless, according to the National Surveillance, MSM persists as one of the most important key population for HIV transmission at local setting (NSPEA, 2016; MAC, 2018). This surveillance has indicated additional perturbing findings including a decline in condom usage from 74% in 2012 to 57% in 2014 among MSM community whereby this unsafe practice is mostly aggravated by increasing trend of alcohol and narcotics usage prior to sex among this community's members (IBBS, 2014; NSPEA, 2016).

Sex Workers

Sex workers are particularly vulnerable to HIV because of their exposure to multiple sexual partners, inconsistent condom usage, discrimination and stigma, lack of education or information and barriers to accessing healthcare services. Globally, the prevalence of sex workers infected with HIV differs according to region. Review by Baral et al. in 50 low and middle-income countries revealed that the overall HIV prevalence among female sex workers is estimated to be 12% (2012). Meanwhile, in Sub-Saharan region, the prevalence of HIV among sex workers is three times higher than the average, 37% (The World Bank, 2013).

The criminalization of sex work creates barriers to accessing HIV prevention and treatment services. According to the Global Commission on HIV and the Law, more

than 100 countries worldwide have criminalized some aspect of sex work (2012). Hence, this affected key population experienced stigma from many entities including stigmatization from the healthcare facilities (Cohan et al. 2006; Kurtz et al. 2005; Scambler & Paoli, 2008; Lazarus et al., 2012; Risher et al., 2013).

Till the end of year 2014, the estimated sex worker population in Malaysia is about 45,000, out which 21,000 are female sex workers (NSPEA, 2016). The sex workers account for approximately 0.6% of the total reported HIV cases in Malaysia, but this number might be under reported as they may not identify themselves as sex worker (NSPEA, 2016). The National Surveillance also showed that sex workers' knowledge of HIV transmission and prevention remains low at 39% (IBBS, 2014).

Transgender Person (TG)

Stigma and discrimination have a huge impact on key affected populations, especially transgender communities who face a daily battle with prejudice and discrimination. The estimated number of TG sex workers is about 24,000 person in Malaysia (NSPEA, 2016). Based on IBBS studies in 2012 and 2014, the HIV prevalence among TG population seems to be on the rise, from 4.8% in 2012 to 5.6% in 2014. Up to now, limited research has been conducted at local settings pertaining to experienced stigma at health facilities among this key population.

A survey conducted in Thailand has found that only 21% of transgender women have taken HIV test in 2011 (UNDP, 2012). The low uptake of testing and seeking treatment indicates the increased level of stigma and discrimination at health facilities towards TG population whereby, it indirectly creates a barrier to accessing crucial services as healthcare services.

2.6.3 Effects of Enacted Stigma in Healthcare Settings towards People Living with HIV

2.6.3.1 General Healthcare Seeking Behaviour

Across cultures, HIV stigma has repeatedly been shown to inflict hardship and suffering to individuals living with HIV (Krishna et al., 2005). Researchers have concluded that one of the critical effects of stigma is discrimination in delivering healthcare services to these affected individuals. Other than interfering with their decisions to seek HIV counselling and testing (Feng et al., 2007; Obermeyer & Osborn, 2007), it also causes hurdles for their willingness to disclose their infection to their partners or other family members (Calin et al 2007; Chandra, Deepthivarma & Manjula, 2003; Kumarasamy et al., 2005; Steward et al., 2008) and acquire care as prevention of mother to child transmission (PMTCT) (Varga, Sherman & Jones, 2006; Eide et al., 2006; Bond, Chase, & Aggleton, 2002). Nevertheless, the additional concern is that HIV stigma has also been found to be a barrier for PLHIV to seek essential general healthcare aid where it deters infected individuals from seeking timely medical treatment for other common illnesses (Kinsler et al., 2007; Bharat et al., 2001 and Morrison et al., 2011). A study by Nyblade, Singh, Ashburn et al. (2011) even mentioned on prohibition for PLHIV participation in vaccine research.

These findings have been reported in both high and low-income countries. People living with HIV in Senegal and Indonesia have reported avoiding or delaying seeking treatment for STI and other HIV co-infection out of fear of public humiliation and fear of discrimination by healthcare providers (Ford et al., 2004 and Niang et al., 2003). Similarly, HIV stigma in South Africa, Jamaica and India has been associated with delays in testing and treatment services, sometimes resulting in presentation beyond the point of optimal drug intervention (Wolfe et al., 2008 and White & Carr, 2005).

Moreover, studies have found that PLHIV has experienced discrimination not only during care at regular health facility but also experience it while receiving temporary and clinical services (Katz et al., 2013; Martinez et al., 2012; Wasti et al., 2012; Rulian, Fan, Peng & Hong, 2012). Insult, shaming and humiliation by healthcare professionals', partiality in receiving healthcare services and healthcare personnel's ignorant behaviour towards PLHIV is some of the main experienced stigma that faced by these people (Saki et al., 2015). A meta-analysis done by Rueda et al. (2016), found that people who experienced HIV-related stigma were 21% less likely to access or use health and social services. Thanawuth et al. (2008) depicted even worst finding, whereby 79% of the HIV-infected individuals were found to be disconnected from the healthcare sector due to reasons as manifestations of stigma and insufficient counselling and knowledge provided on the disease progression.

Other issues such as PLHIV fears of confidentiality breaches by healthcare personnel is another concern for them to not attend or comply to general healthcare seeking behaviour (Le Coeur et al., 2009). Several studies conducted on people who inject drugs (PWID) found that fear of disclosure to public health facilities, based on fear of criminalization or discrimination also affected the ability of PWID to seek aid at healthcare facilities and even causes them to delay their course of treatment (Thanawuth & Chongsuvivatwong, 2008 and Rithpho et al., 2009).

Research findings have shown that discrimination at healthcare facilities have led to consequences as forcing the patients to conceal their HIV status, default follow-up for regular antiretroviral treatment and even discourages them to seek healthcare as general basis for other symptomatic illness. Eventually, it adversely affects the care and treatment and act as a main hurdle for infected people to obtain amenities. In the long run, strategies of the patients to conceal their status illness from professional healthcare

personnel may lead to increase in the disease prevalence (Saki et al., 2015; Wasti et al., 2012; Rulian, Fan, Peng & Hong, 2012).

In conclusion, stigma diminishes adherence through psycho-social processes, as people living with HIV who undergo enacted stigma may adopt strategies to conceal their status, leading to delayed treatment initiation or treatment interruptions. Despite a few studies that do not support the association between HIV-related stigma and access to and usage of healthcare services, other studies support the notion that enacted stigma among people living with HIV is associated with low access to care or delayed presentation in care.

2.6.3.2 Adherence to Antiretroviral Therapy

Many factors affect HIV-positive individual's adherence to antiretroviral treatment (ART). External stigma, which involves facing HIV-related prejudice and discrimination in social institutions is one of the main aspects and an on-going issue which affects the compliance of patients towards their medication (Karamouzian, Akbari, Haghdoost, Setayesh, & Zolala, 2015). It also causes a decline in their overall quality of life (Holzemer & Uys, 2004) and precipitating the increase in the number of people who have never been tested for HIV before (Hu et al., 2014).

A review by Katz et al. in 2013 assessed the association between adherence to antiretroviral treatment and impact of stigma towards the HIV-positive people. Sixty one percentages of these studies showed a strong relation between adherence to medication and experiencing stigma by HIV-positive individuals at healthcare settings. Similar results were summarized in a Malaysian review by Koh in year 2014. Previous studies also has suggested that experienced stigma at healthcare institutions not only affects PLHIV antiretroviral treatment adherence, but it also causes direct impact to their physical health whereby it acts as chronic stressor to the body and worsens their general well-being (Earnshaw et al., 2013). Nevertheless, a recent meta-analysis does

not back this previous finding. Sweeney & Vanable (2016) stated that internalized and anticipated stigma consistently predict PLHIV health and their adherence to ART, but experienced stigma does not.

Other studies have addressed the issues of healthcare personnel practical and cultural subjects and its association with patients' adherence to antiretroviral treatment. At the same time, they highlighted the need for policy-makers to develop an appropriate social policy to promote adherence of medication among these patients (Wasti et al., 2012). Besides the stigma experienced in healthcare settings, the locality, situations surrounding the healthcare facility and the patients' perception on accepting the stigmatizing behaviours also influence their adherence to antiretroviral treatments. Even though multiple studies have demonstrated the role of stigma as major hindrance for people living with HIV to access treatment and care (Saki et al., 2015), some studies showed the acceptance of stigma by HIV-positive patients, especially the stigma experienced in healthcare settings by healthcare personnel whereby the patients were focused on coping strategies by receiving treatment and maintaining proper health (Steward et al., 2009; Lekas et al., 2011).

Furthermore, discrimination towards key population is still indisputable. Studies on men having sex with men (MSM) by Herrmann et al. (2013), Jeffries et al. (2015) and Wu et al. (2015), stated that stigma related to generalizations has led to assumptions that MSM are sexual perverts and are sexually immoral. The stigmatizing experiences related to their sexual identity at healthcare settings has caused MSM who are HIV-positive to avoid attending HIV clinics for ART treatment and are afraid to seek other healthcare needs. Another comparable study of men who have sex with men living with HIV also showed that stigma from healthcare providers led patients to delay HIV care appointments with longer gaps and missed medication dosage (Eaton et al., 2015). Experiences of stigma in healthcare settings have also been associated with other

harmful outcomes, including a higher likelihood of CD41 T-cell counts to be less than 200 cells/mm3 and diagnosis with a chronic illness co-morbidities. (Earnshaw, Bogart, Dovidio, & Williams, 2013). Other than MSM, people who inject drugs (PWID) who are HIV-positive encountered similar experiences. People who inject drugs experiences negative treatment from healthcare staff, and their concern regarding confidentiality at public healthcare facility resulted in 18% of this study participants to purchase HIV treatment privately (Rithpho et al., 2009).

Many studies have proven that stigma at healthcare facilities is affecting the HIV treatment course of PLHIV. In the long-term, many HIV-infected individuals have chosen to discontinue the follow up and default the medication overall while some preferred to obtain it from the private facilities. As stated by the The Joint United Nations Programme on HIV/AIDS (UNAIDS) report (2017b), we are still far behind from achieving a decline in new HIV infection cases, which was the fast-track target agreed upon to reduce the number of new infections to fewer than 500,000 cases per year by 2020. Also, the low levels of ART coverage, low viral suppression rates and improper testing strategies too are necessary points to ponder upon (Lazarus et al., 2016). Since stigma and discrimination have repercussion towards this target, it is essential to identify the issues.

2.7 Limitations and Gaps in the Review

This chapter reviewed studies on HIV/AIDS stigma and discrimination. Most of the factors relating to discriminatory attitudes and stigma towards HIV/AIDS were identified from the studies conducted among professional healthcare personnel at healthcare facilities and PLHIV from the general population or during their treatment at healthcare settings. There are limited reported factors among practising healthcare personnel on local public healthcare institutions, and there is also very constricted information on PLHIV experienced stigma particularly at healthcare facilities as well as

its impact on medication adherence and towards general healthcare seeking behaviour. Moreover, some areas were identified as requiring more in-depth studies, such as the inclusion of the overall community of medical personnel from the public and private healthcare sectors as well as the factors associated with it. Therefore, more studies covering these items are required for better assessment. Also, many studies were focused on enacted stigma among community members, family and at workplace but very few researchers explored the matter of enacted stigma at health facility in-depth among the people living with HIV. Despite these limitations, many of the included studies were of large populations with the majority demonstrating relatively similar determinants of stigma and discrimination among professional healthcare personnel and PLHIV.

2.8 Conclusion of Chapter Two

This review documented the prevalence of professional healthcare personnel's discriminatory attitudes and practices related to HIV/AIDS around the world and it's determinants. It also discussed the occurrences of enacted stigma in healthcare settings from the perspective of people living with HIV. Overall, stigma and discriminatory attitudes towards HIV/AIDS particularly in healthcare settings is still present and practised by healthcare providers. However, very little is known about these topics in our setting. Stigma and discrimination have been among the main reasons why people are still reluctant to get tested, start treatment and adhere to the course of treatment to achieve viral suppression. In Malaysia, more than half do not know their status and treatment coverage has not reached target. Hence, there is an important need to look into this this issue further in-depth.

Having said that, since Malaysia is committed to achieving the UNAIDS "Ending AIDS" program by year 2030 through achieving the 95-95-95 target, this implies that

we are still a long way off from the set targets and there is still room for plenty of improvement in healthcare system pertaining to this issue.

CHAPTER 3: METHODOLOGY

3.1 Introduction

This chapter describes the research methodology used in this study. It depicts the flow of the study, starting with the methods used for data collection and those used to generate the findings in order to achieve the objectives of the study.

In section 3.6, quantitative data were collected using a universal sampling method with the goal of identifying the determinants of selected variables on discrimination related to HIV/AIDS among professional healthcare personnel in healthcare premises. Meanwhile, section 3.7 collected data among people living with HIV from non-governmental organizations using the self-administered method.

3.2 Study Design

A cross-sectional study was conducted to assist with data collection. Data were collected from two population settings from August 2016 until April 2017. This study design was chosen as they are capable of answering the research questions especially regarding exploring aetiology and collecting data on the characteristics of the social behaviour among healthcare providers and people living with HIV.

3.3 Ethical Approval and Funding

There were minimal problems encountered during the process of ethical clearance application. This is because part of the study involves people living with HIV. In January 2016, the research was submitted to the National Medical Research Register (NMRR) for review. After several revision of the proposal, the complete registration for NMRR and ethical clearance was received on March 2016 from the Medical Research Ethics Committee [NMRR-16-93-28802 (IIR)]. In April 2016, the ethical approval was obtained from the University Malaya Medical Centre Ethics Committee (MEC ID NO: 20161-2098) after the requirement to defend this study to the ethical committee.

Additionally, permission was obtained from the non-governmental organizations such as the Kuala Lumpur AIDS Support Services (KLASS) Society and the PT Foundation to conduct the study among their clients.

In May 2016, approval for funding was received. This study is fully funded by a Postgraduate Research Grant (PPP) provided by the Institute of Research Management and Monitoring (IPPP), University of Malaya (grant number: PG195-2015B). The total amount of grant received for this project was RM14,500. This amount was allocated to a number of expense categories.

Table 3.1: Budget allocation

GRANT	EXPENSE CATEGORY	ALLOCATION (RM)
IPPP grant	Professional services and other services	9,500.00
	Supplies and other material	5,000.00
	Travel expenses	0.00
	Maintenance and minor repair	0.00
	TOTAL	**14,500.00**

3.4 Study Area

The study area is the Federal Territory of Kuala Lumpur, the national capital of Malaysia. It covers a land area of 243km^2 and it is the most densely inhabited city in Malaysia, with a population of 1.76 million as of 2016 (Department of Information, Malaysia, 2015). It has a population density of 6,696 inhabitants per square kilometre and is also the most densely populated administrative district in Malaysia (Department of Information, Malaysia, 2015). Besides that, greater Kuala Lumpur, also known as the Klang Valley, is an urban agglomeration which has an estimated population of 7.25 million as of 2017 (Department of Information, Malaysia, 2015).

Figure 3.1: Map of FTKL in Peninsular Malaysia and the districts in KL
Source: Department of Information, Malaysia, 2015

Justification:

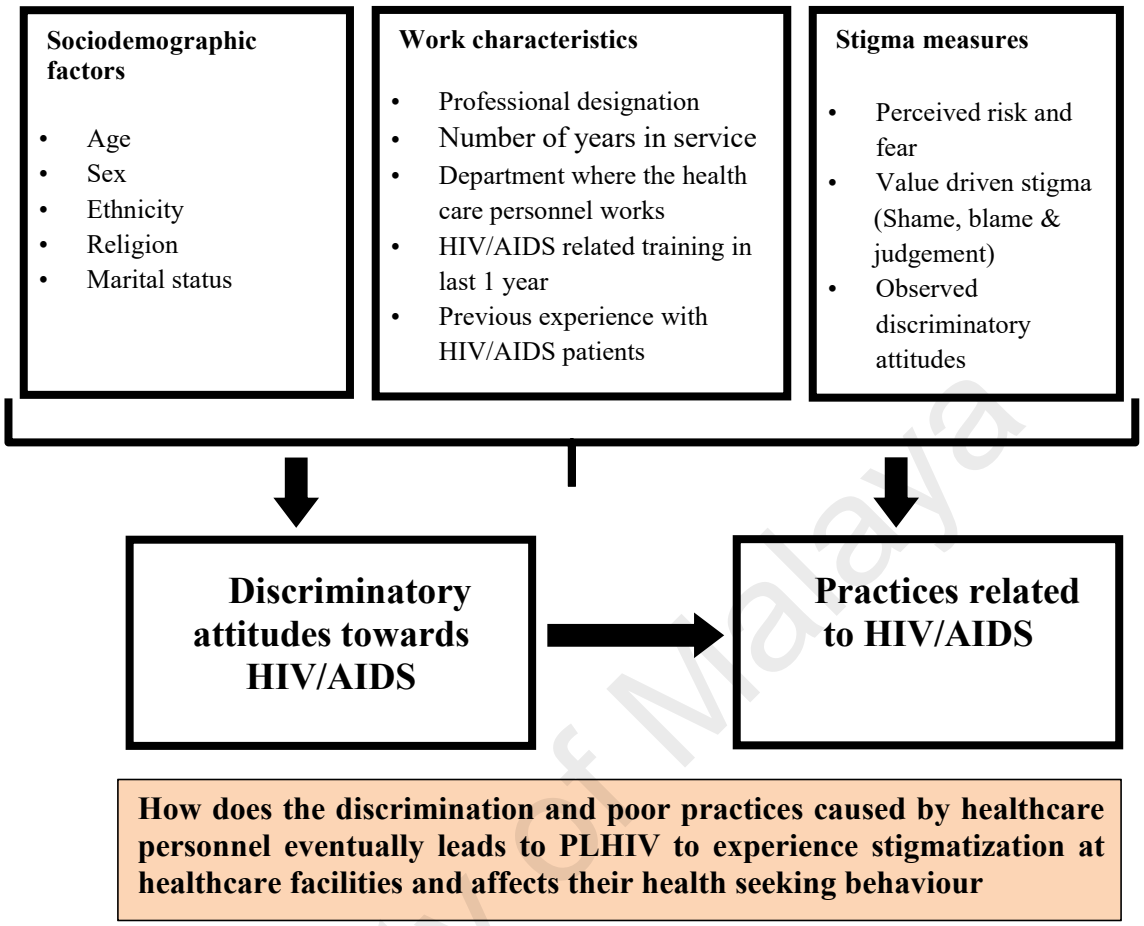
The Federal Territory of Kuala Lumpur is a densely populated area with one of the highest number of reported cases on HIV/AIDS in Malaysia. In 2014, the prevalence of HIV/AIDS among men who have sex with men (MSM) and transgenders (TG) was highest in Kuala Lumpur where for MSM, the prevalence was at 22%, up from 10.2% in 2012 (GARPR, 2016). Meanwhile, for the TG the prevalence was at 19.3%, up from 4.8% in 2012 (GARPR, 2016). Even among female sex workers (FSW) the prevalence was highest in Kuala Lumpur at 17.1%. Only among the people who inject drugs (PWID), the prevalence peaked in other states such as in Kelantan (44.7%), Terengganu (30%), Johor (27.1%) other than Federal territory of Kuala Lumpur (21.3%) (GARPR, 2016). Hence, looking at the shift in the pattern of the disease, where there is an increase in the cases due to sexual transmission in the urban area, compared to the previous decade where cases were predominantly due to transmission from PWID, it is an indisputable issue to study.

Besides that, based on the National Strategic Plan for Ending AIDS (NSPEA), the State Health Department of Federal Territory Kuala Lumpur has launched the "Kuala Lumpur Getting to Zero HIV 2016-2020". One of the primary emphases of this program is the decentralization of the HIV services to primary healthcare facilities in Kuala Lumpur (GARPR, 2016). There are now designated clinics in each district health office in Kuala Lumpur, which have started operating their infectious disease clinics (HIV clinics) with trained family medicine specialists and medical officers. This has increased the chances of professional healthcare personnel in this study area to encounter even more HIV/AIDS patients, and this will be able to capture the main objectives of the study. Also, given the soaring number of reported HIV-positive individuals in Kuala Lumpur, there are plenty of non-governmental organizations actively involved as peer support groups for these peoples.

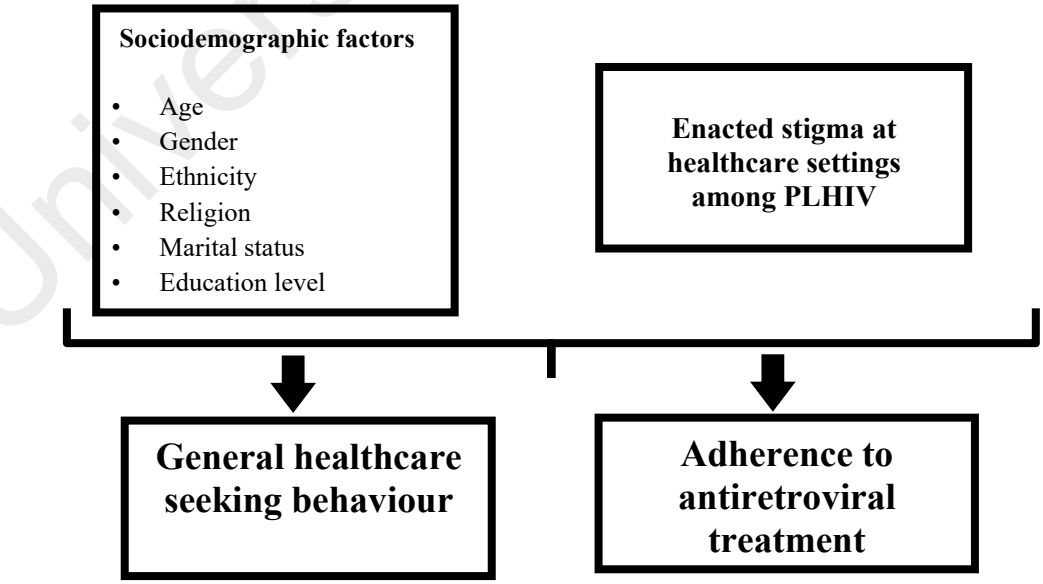
3.5 Conceptual framework of the study

The conceptual framework below indicates the direction of the study as well as the relationships of different domains in the study. The first part of the study is conducted among professional healthcare personnel, where it investigates on the discriminatory attitudes and poor practices related to HIV/AIDS among the doctor population. This is followed by the second part of the study, which was conducted among people living with HIV (PLHIV). It provides a continuous picture of how discrimination and prejudiced practices (outcomes) by healthcare personnel at the healthcare settings lead to PLHIV to experience stigmatization at health facilities and how this affects their health seeking behaviour. Using this framework, questionnaires were developed for the first and second part of this study.

First part of the study: Professional healthcare personnel



Second part of the study: People living with HIV



3.6 First Part of the Study: Among Professional healthcare Personnel

3.6.1 Location of health premises

In total, there are four district health offices and one public tertiary hospital in Federal Territory of Kuala Lumpur. All the five health premises were included in this study. The district health offices involved were the Kepong District Health Office, Cheras District Health Office, Titiwangsa District Health Office and Lembah Pantai District Health Office. Meanwhile, General Hospital of Kuala Lumpur is the public tertiary hospital included in this study.

3.6.2 Background Information of the Health Premises

Malaysia has a widespread healthcare system, operating a two-tier system where the large part of it is the government-led and funded public healthcare service, and the other is the private healthcare sector (Najwa et al., 2016). Administratively, the governance of the public healthcare sector is divided into national level, state health departments and the district health offices.

The management of the public hospital facilities is usually taken care at the state level or at the federal level itself. Till the end of year 2017, there are a total of 135 public hospitals under the Ministry of Health Malaysia and these hospitals are divided into tertiary and district hospital facilities all over the country. Even though private hospitals have been proliferating over the past decade but hospital care in Malaysia is still heavily dominated by the public sector. Approximately 75% of all hospital beds and 71% of the total hospital admissions were reported in the public sector (MOH, 2017; Lim, Sivasampu, Ariza and Nabilah, 2009).

The public tertiary hospitals under the Ministry of Health are categorized as government speciality hospitals with specific consultative care which offers multiple sub speciality services such as gastroenterology, neurosurgery, cardiac surgery, general medicine, paediatrics, general surgery, oncology, obstetrics and gynaecology and

psychiatry. These facilities also are well equipped with the instruments for advanced investigations as well as treatments and usually get their referrals from the primary or secondary healthcare facilities.

Meanwhile, the district health office is defined as the health centre which covers each district in a state whereby its place of coverage depends on the geographical boundaries of the state itself. A district health office also is responsible for the basic operational level in the healthcare system. It mainly acts as a network of primary healthcare facilities that delivers a comprehensive range of promotive, preventive and curative healthcare services to a defined population and collaborative efforts between the district or tertiary hospital and district health office. Each district health office comprises primary healthcare centers, mother and child healthcare centers and Community Clinics (KKOM) or even the rural community clinics. Besides that, district health offices also coordinate public health matters such as conducting surveillance to enhance prevention of diseases (infectious disease control and prevention plus vector-borne disease), detect and investigate health problems, implement prevention strategies, promote healthy behaviours to the district's community, manages and promotes the sanitation of the environment, manages law pertaining to health and others more. The district health office is head by a professional public health personnel or also known as district health officer.

The data for this study were collected from the public tertiary hospital and district health offices which are in the boundary of the municipality of Federal Territory of Kuala Lumpur.

General Hospital Kuala Lumpur

The General Hospital Kuala Lumpur commonly known as HKL (Hospital Kuala Lumpur) is one of the oldest health facilities in Malaysia dating to the 1870s. It is a public tertiary referral hospital under the direct governance of federal system, and it is located on 150 acres of prime land in the city with 84 wards and 2,300 beds, making it one of the largest hospitals in the world (MOH, 2017).

It has 53 different departments and units. These include the administration and finance department, the pharmaceutical department, training and research, 28 clinical departments and 12 clinical support services. Hospital Kuala Lumpur has a huge number staff with almost 100 professions in various fields and disciplines. Out of the total number of staff, there are about 200 consultants and specialists and 600 medical officers plus house officers (MOH, 2017).

District Health Offices in the Federal Territory of Kuala Lumpur

All four district health offices which are under the administration of Federal Territory of Kuala Lumpur and Putrajaya Health Department were included in this study. These include the Kepong District Health Office, Cheras District Health Office, Titiwangsa District Health Office and Lembah Pantai District Health Office. All four district health offices commenced operations since year 2012. Overall, there are 13 primary healthcare clinics, 17 mother-child healthcare (MCH) clinics and 23 Community Clinic (KKOM) under these four district health offices. Approximately, 250 healthcare professionals are assigned to this health facility (MOH, 2017).

3.6.3 Study Population

3.6.3.1 Sampling Frame

The sampling frame for this study was the professional healthcare personnels working in one tertiary hospital and all four district health offices in Federal Territory of Kuala Lumpur during the study duration which was from August 2016 to April 2017.

Professional healthcare personnel are also acknowledged as doctors or physicians, are the persons who provides health services to healthcare consumers. This personnel are qualified for medical practice; operate within medicine, surgery, dentistry, rehabilitative, psychiatry or other allied health professions. These professional personnel may also be a public or community health expert who works in the preventive medicine field for the common good of the society.

Other than that, the working place of professional healthcare personnel also may vary according to their field of speciality and practice. Some these individuals' may work in a health centre as district health office or in primary healthcare facilities, meanwhile, others may be in hospitals. Professional healthcare personnel from four district health offices such as the Kepong District Health Office, Cheras District Health Office, Titiwangsa District Health Office and Lembah Pantai District Health Office plus the General Hospital Kuala Lumpur in Federal Territory of Kuala Lumpur were included in this study. Moreover, professional healthcare personnel from all levels, from the house officers (grade UD41) to medical officers (grade UD44 to grade UD54) and to specialists as well as consultants from various departments were included as study participant in this first part of the study. Overall, there are about 750 professional healthcare personnel at General Hospital Kuala Lumpur and 250 more personnel in all four involved district health offices. In total, 1000 professional healthcare personnel from public healthcare settings in the Federal Territory of Kuala Lumpur were included in this study.

3.6.3.2 Selection Criteria for Hospital/District Health Office

- Public tertiary hospital and district health offices which are under the Ministry of Health, Malaysia (to refer to Section 3.6.2)
- Located in the Federal Territory of Kuala Lumpur

3.6.3.3 Selection Criteria for Study Population

Inclusion Criteria

- Doctors from General Hospital Kuala Lumpur - House Officers (grade UD41), Medical Officers (grade UD54, grade UD52, grade UD48, grade UD44) and Specialists from all departments were included in this study.
- Doctors from Federal Territory of Kuala Lumpur District Health Offices (Kepong DHO, Cheras DHO, Titiwangsa DHO and Lembah Pantai DHO) – Medical Officers (grade UD54, grade UD52, grade UD48, grade UD44) and Specialists (Family Medicine Specialist) from all four district health offices were included in this study.
- Malaysian citizen

Exclusion Criteria

- Medical students attached to practical courses in hospital.
- Doctors who were on leave.

3.6.4 Flow chart of first part of the study

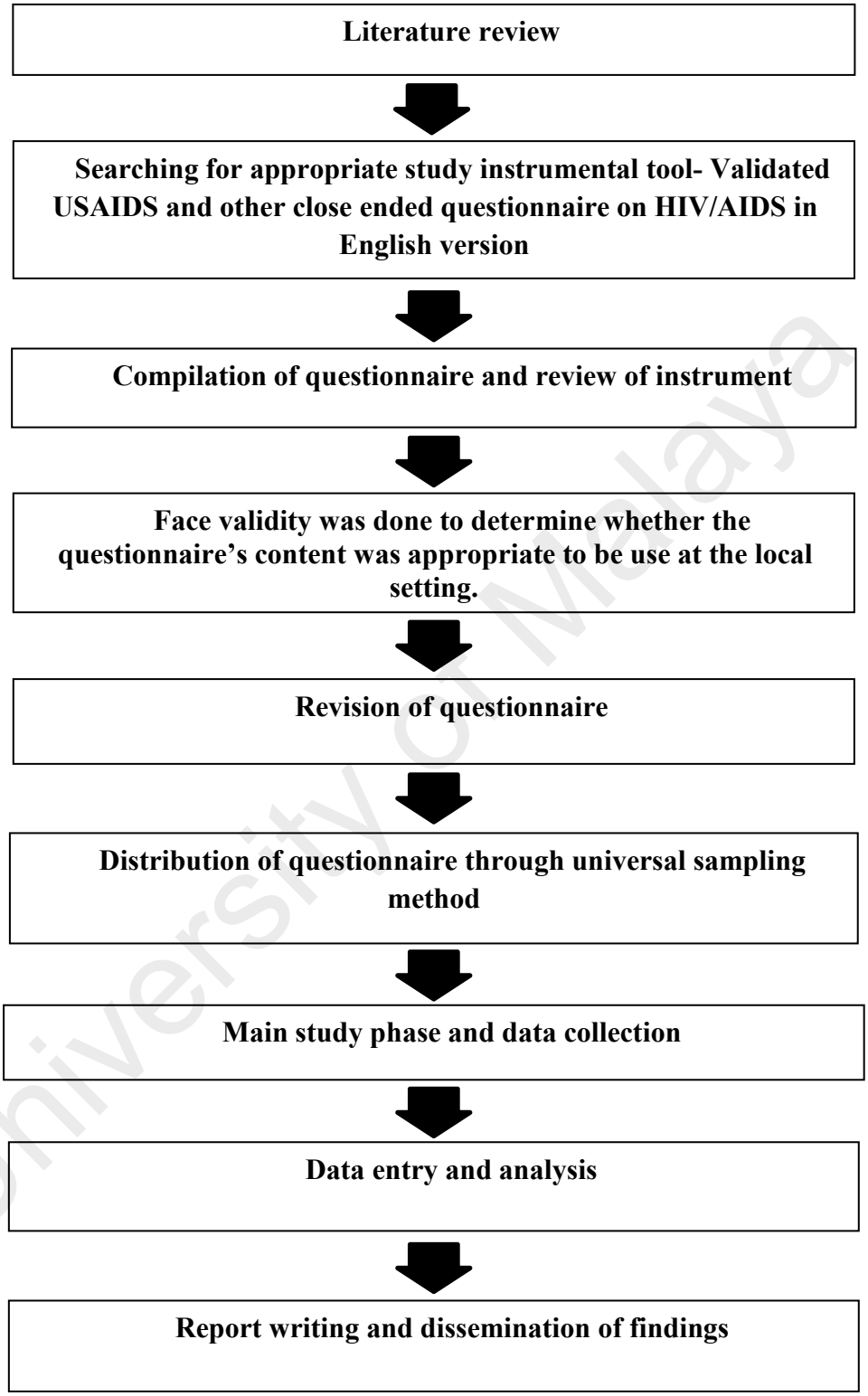


Figure 3.2: Flow chart of the first part of the study

3.6.5 Validation of the Study Instrument

3.6.5.1 Literature Review and Question Compilation

Following the literature review, a conceptual framework of predictors for discriminatory attitudes and practices related to HIV/AIDS was developed (Conceptual framework 3.5). Based on this conceptual framework, the study objectives were formed and subsequently the process of developing the questionnaire was initiated. The questions previously for healthcare professionals were collected from the existing literature and compiled (Feyissa, Abebe, Girma and Woldie, 2012; Hossain & Kippax, 2010; USAID, 2005; USAID, 2007; Rachel Jean-Baptiste, 2008; USAID, 2010; Health Policy Project, 2012; Nyblade et al., 2013; Jain, Carr and Nyblade, 2015; Nebhinani, Mattoo and Wanchu, 2012). All of the questions collected were combined and categorized according to each main domain:

- The demographic and work characteristics of the healthcare professional
- Facility profile, which is the knowledge regarding policies, guidelines or protocols related to HIV/AIDS
- The stigma measures such as perceived risk and fear, value-driven stigma and observed discriminatory attitudes
- Discriminatory attitudes towards HIV/AIDS
- Practices related to HIV/AIDS

Table 3.2: Compiled question items according to each domain

Domain (references of tools)	Variables
Sociodemographic factors	- Age - Sex - Ethnicity - Religion - Marital status
Work characteristics	- Professional designation - Number of years in service - Previous experience with HIV/AIDS patients - Department where the healthcare personnel works - HIV/AIDS related training last 1 year
Facility profile: Policies / guidelines / protocols related to HIV (USAID, 2010)	- Available in health facility - Staffs at health facility receive training on implementing these policies / guidelines - Policies used / followed at health facility
Perceived risk and fear (Feyissa, Abebe, Girma & Woldie, 2012; USAID, 2005; Jain, Carr & Nyblade, 2015; Nyblade et al., 2013)	- To touch sweat of PLHIV - To touch saliva of PLHIV - Give injection to PLHIV - To care/treat PLHIV - To dress wound of PLHIV - To conduct surgery/suture PLHIV - To set intravenous line to a PLHIV
Value driven stigma (Blaming, being judgemental and shaming behaviour driven by belief) (Feyissa, Abebe, Girma & Woldie, 2012; Health Policy Project, 2012, USAID, 2005;Jain, Carr& Nyblade, 2015; Nyblade et al., 2013)	- Stigma towards antenatal care and prevention of mother-to-child transmission of PLHIV - Work related HIV exposure - Stigma towards key population - Belief HIV is punishment from god and punishment for bad behaviour - Shame of HIV infection / PLHIV
Observed discriminatory attitudes (Feyissa, Abebe, Girma & Woldie, 2012; Jain, Carr & Nyblade, 2015; Nyblade et al., 2013)	- Observed PLHIV receiving less care - Observed extra precautions taken in the instruments used on PLHIV - Patients tested for HIV before scheduling surgery - Gloves used for non-invasive examinations - Senior doctor assigning PLHIV to junior doctor - Testing for HIV without consent - healthcare providers gossiping about PLHIV status

Table 3.2, continued

Domain (references of tools)	Variables
Discriminatory attitudes towards HIV/AIDS (Hossain & Kippax, 2010; Jain, Carr & Nyblade, 2015)	- PLHIV should not be allowed to mix with other people - Refuse to treat / work with PLHIV - Children with HIV should not be allowed in public school - PLHIV should not be allowed to work - PLHIV should be forced to resign from their job - HIV +ve medical students should not have the right to complete their degree - No need laws to protect PLHIV from discrimination - Refuse to work with HIV +ve colleague
Practices related to HIV/AIDS (USAID, 2007; Rachel Jean-Baptiste, 2008)	- Do not touch or examine PLHIV - Use protective wear for non-invasive exam - Delay treatment for PLHIV - Do not maintain the confidentiality of PLHIV - Prescribe 'non-serious' medicines (e.g. vitamins) to PLHIV with opportunistic infections - Postpone treatment or surgery for PLHIV as long as possible

Questions were then reviewed by the supervisor who provided comments and suggestions on each question. All comments and suggestions were analyzed by the researcher, and appropriate amendments were made. The questionnaire for the first part of the study is available in English language; in view of it is to assess professionals only.

3.6.5.2 Face Validity

The face validity of the questionnaire was done during its development process. It was presented to two experts in the field of public health and HIV/AIDS from different organizations with extensive experience in HIV/AIDS and public health research for evaluation (Leong, 2008; Lim, 2015). The questionnaire was reviewed to determine whether its content was appropriate to be used at the local settings. For this, each panel was given the questionnaire with space provided for their observations. These observations were then reviewed by the researcher, and the appropriate corrections were made.

3.6.5.3 Final review

Following the face validity, a final review was performed that resulted in some changes to the questionnaire especially regarding the instruction and order of the questions. The finalized questionnaire was then used during data collection for the first part of the study. It was not translated into Malay considering its study participants were professionals proficient in English.

3.6.6 Study Variables and Measurement

The study variables are categorized into independent and dependent variables. Table 3.3 illustrates the variables for each objective.

3.6.6.1 Dependent and Independent Variables for Each Objective

Table 3.3: Independent and dependent variables for each objective

Specific objectives	Independent variables	Dependant variables
1. To assess the level of awareness of facility profile, level of perceived risk and fear, value-driven stigma, observed discriminatory attitudes, discriminatory attitudes and practices related to HIV/AIDS.	- Facility profile - Stigma measures: level of perceived risk and fear, value - driven stigma, observed discriminatory attitudes.	- Discriminatory attitudes towards HIV/AIDS - Practices related to HIV/AIDS
2. To examine the association between professional healthcare personnel's discriminatory attitudes and their practices related to HIV/AIDS.	- Discriminatory attitudes towards HIV/AIDS	- Practices related to HIV/AIDS
3. To determine factors associated with discriminatory attitudes towards HIV/AIDS	- Sociodemographic factors - Work characteristics - Stigma measures: level of perceived risk and fear, value-driven stigma, observed discriminatory attitudes.	- Discriminatory attitudes towards HIV/AIDS
4. To study the factors associated with practices related to HIV/AIDS.	- Sociodemographic factors - Work characteristics - Stigma measures: level of perceived risk and fear, value-driven stigma, observed discriminatory attitudes.	- Practices related to HIV/AIDS

The Sociodemographic factors and work characteristics of professional healthcare personnel (Independent variables)

- Age
- Sex
- Ethnicity
- Religion
- Marital Status
- Professional designation
- Number of years in service
- Previous experience with HIV/AIDS patients
- Departments where the healthcare personnel works

- HIV/AIDS related training in last 1 year and number of attended training

3.6.6.2 Operational Definitions and Scales Measurement

Validated and closed-ended questionnaires were used for the first part of this study (as mentioned in Section 3.6.5.1), and these questionnaires were available in English. The paragraph below explains in detail the operational definition and the scalar measurements of the study variables.

Dependent Variables

(a) Discriminatory Attitudes towards HIV/AIDS

Discriminatory attitudes towards HIV/AIDS is defined as prejudice, harsh or poor behaviour by professional healthcare personnel towards HIV-infected individuals. The performance of the actual belief of stigma results in discriminatory attitudes towards the disease. Totally there are 15 items (questions) in this variable. It is measured with using a four-point Likert scale. “Strongly disagree” is scored as “1”, “Disagree” scored as “2”, “Agree” scored as “3” and “Strongly agree” is scored as “4”. Score one and two shows professional healthcare personnel disagreement to the behaviour of discrimination and score three and four shows professional healthcare personnel agrees to have discriminatory attitudes towards the illness. Since there are 15 items in this variable, the minimum total score for this variable is 15 and the maximum total score is 60. For the purpose of the analysis of this study, the total score of 15 to 30 is implied as no discriminatory attitudes towards HIV/AIDS, and the total score of 31 to 60 is implied as having discriminatory towards HIV/AIDS. The same measures have been used by Harapan et al. (2013), Hossain & Kippax (2012) and Gulifeiy & Rahmah, (2008).

(b) Practices related to HIV/AIDS

Practices related to HIV/AIDS is defined as the professional healthcare personnel's actual act of performing discriminative practices while providing treatment and care to HIV-infected individuals. Such bigoted practices are as using protective barriers as face mask and gloves when it is not needed especially for non-wounded physical examination and active or passive denial of services by providing substandard treatment to patients. Totally there are seven items in this variable. It is measured with using a four point Likert scale. "Never" is scored as "1", "Rarely" is scored as "2", "Sometimes" scored as "3" and "Always" is scored as "4". Score one and two shows professional healthcare personnel's good practice habit while treating people living with HIV and score three and four shows their unfavourable practice habit.

Since there are seven items in this variable, the minimum total score is 7 and the maximum total score is 28. For the purpose of the analysis of this study, the total score of 7 to 14 is implied as professional healthcare personnel's good practice habit and the total score of 15 to 28 is implied as having poor practices while caring and treating HIV positive individuals. The same measure has been used in USAID (2007) and Rachel Jean-Baptiste (2008).

Independent Variables

(a) Perceived risk and fear

Perceived risk and fear towards HIV/AIDS is defined as professional healthcare personnel's feeling of unsafe, precarious and having fear of HIV transmission during various types of contact and medical procedures with HIV-positive patients. There are seven items in this variable and it is measured using four point Likert scale. "Never considered as risk" is scored as "1", "No risk and fear" is scored as "2", "Moderate risk and has fear" scored as "3" and "High risk and fearful" is scored as "4". Score one and two shows the professional healthcare personnel has not perceived risk and fear towards

HIV/AIDS and score three and four represents perceived risk and fear while handling patients with HIV/AIDS. The minimum total score for the variable perceived risk and fear is 7 and the maximum total score is 28. For the purpose of the analysis, the total score of 7 to 14 is implied as do not perceived risk and fear and the total score of 15 to 28 is implied as perceived risk and fear towards HIV/AIDS. The same measure has been used in USAID (2005).

(b) Value-driven stigma

Value-driven stigma is defined as ideas or viewpoints of professional healthcare personnel which are associated with shaming, blaming and being judgemental towards people living with HIV. Overall, there are 23 items in this variable. Its four point Likert scale scoring is measured as "Strongly disagree" is scored as "1", "Disagree" scored as "2", "Agree" scored as "3" and "Strongly agree" is scored as "4". Score one and two shows professional healthcare personnel does not have any value-driven stigma towards HIV and score three and four shows to have value-driven stigma towards the disease. Since there are 23 items in this variable, the minimum total score for this variable is 23 and the maximum total score is 92. For the purpose of the analysis, the total score of 23 to 46 is implied as not having any value-driven stigma and the total score of 47 to 92 is implied as having value-driven stigma towards HIV/AIDS. The same measure has been used by Harapan et al. (2013), Health Policy Project (2012) and USAID (2005).

(c) Observed discriminatory attitudes

Observed discriminatory attitudes is defined as whether the professional healthcare personnel themselves have seen and witnessed their work place colleagues whom are healthcare personnel as well, practices prejudice behaviour or being discriminative towards HIV-positive patients. This variable has seven items and it is measured using

four point Likert scale. “Never” is scored as “1”, “Rarely” is scored as “2”, “Several times” scored as “3” and “Most of the time” is scored as “4”.

Score one and two shows professional healthcare personnel have never observed discriminatory attitudes among their colleagues and score three and four represents they have observed their colleagues being discriminative towards people living with HIV. The minimum total scoring for this variable is 7 and the maximum total score is 28. For the purpose of the analysis of this study, the total score of 7 to 14 is implied as professional healthcare personnel have never observed any discriminative behaviour among their colleagues and the total scoring of 15 to 28 is implied as they have observed their colleague showing discriminatory behaviour while treating HIV-positive individuals. The same measure has been used in Feyissa, Abebe, Girma & Woldie (2012).

(d) Sociodemographic data, work characteristics and facility profile

This includes independent variables such as age, sex, ethnicity, religion, marital status, professional designation, number of years in service, previous experience with HIV/AIDS patients, department where the healthcare personnel works, healthcare personnel’s HIV/AIDS-related training in last 1 year and their awareness on the policies, guidelines or protocols related to HIV/AIDS which are available at their work place (Table 3.4).

Table 3.4: Operational definitions and measurement of independent variables

Variables	Operational definition	Measurement tool
Independent variable		
i. Sociodemographic		
• Age	≤ 40 years old / > 40years old	Questionnaire
• Gender	Male / Female	
• Ethnicity	Malay / Chinese / Indian / Others (Malay / Non Malay)	
• Religion	Muslim / Buddhist / Hindu / Others (Muslim / Non-Muslim)	
• Marital status	Married / Unmarried & others	
ii. Work characteristics		Questionnaire
• Professional designation	House officer / Medical officer (according to grade) / specialist (Non-Specialist / Specialist)	
• Number of years in service	≤ 5yrs / 6-10yrs / 11-15yrs / ≥ 16yrs (5years & below / More than 5years)	
• Experience of treating PLHIV	Yes / No	
• Type of facility	Primary healthcare facility or DHO / Tertiary hospital	
• Department where the healthcare personnel works	Categories of department in detail in prevalence table (Surgical / Non-surgical)	
• HIV/AIDS related training in last 1 year	Never attended training / Attended training	
• Number of training past 1 year	None / Once or more than once	
iii. Facility Profile	- Policies / guidelines / protocols related to HIV/AIDS - Healthcare personnel's awareness on implementations and practice of these procedures was assessed	Validated questionnaire Scale type Measurement (Yes, No and Don't know) For the purpose of analysis: - The level of awareness is presented in frequency table (prevalence study)

3.6.7 Sample size

Sample size was estimated using the formula below (Box 3.1) and the information for calculation is shown in Table 3.5.

$$n = \frac{Z^2 * P * (1-P)}{d^2}$$

n = sample size
Z = statistic level of confidence
P = expected prevalence or proportion
d = precision
N = Population Size

For small populations n will be adjusted:

$$n\,(adj) = \frac{(N*n)}{(n+N-1)}$$

Box 3.1: Formula for Sample Size Calculation
Sources: Susan, Spinks & Canhoto, (2014). Management Research Applying the principles. (1st ed., pp. 187-200). New York, NY: Routledge.

Table 3.5: Information used to calculate the Sample Size

Variable	Value
Z statistic for a level of confidence (Z)	1.96 (using 95% CI)
Expected prevalence (P)	0.59 (derived from Reis et al., 2005)
Precision (d)	0.05
Finite population size (N)	1000

Sample size was calculated on the basis of the prevalence of healthcare professional discriminatory attitudes towards people living with HIV (Reis et al., 2005). Box 3.2 shows the required sample size.

$$n = \frac{1.96^2 * 0.59 * (1-0.59)}{0.05^2}$$

$$n = 372$$

n is adjusted for small population:

$$n\,(adj) = \frac{(1000 * 372)}{372 + (1000-1)}$$

n (adj) = 272

Box 3.2: Adjusted sample size for first part of the study

Universal sampling method was used to conduct this study, where 1000 participants from four district health offices and one tertiary hospital were included in this study. However, sample size estimation is done to ensure study is not under-powered (for the association study). Based on sample size calculation (above calculation), the minimum number of participants required to answer study objective are 272 healthcare professional. Non-response rate of 20% was taken into count. Hence, the sample size was inflated to 327 professional healthcare personnel. Therefore, sample size of 1000 participants was sufficient enough for the study to have good power. This sample size calculation was also verified using the Open Epi software for cross-sectional studies and it yielded a similar sample size. Overall, 370 participants participated in the first part of the study thereby exceeding the minimum requirement for this study.

3.6.8 Sampling method

The list of public tertiary hospitals and district health offices under the ministry of health, Malaysia in Federal Territory of Kuala Lumpur was prepared. The General Hospital of Kuala Lumpur and all the four district health offices in FTKL was included in this study.

Justification: General Hospital of Kuala Lumpur (GHKL) was the hospital selected for this study in view of it is the only one speciality public tertiary hospital which offers multiple sub speciality services in the area of FTKL. The other hospitals as the Cheras Rehabilitation Center and "Institut Perubatan Respiratori" (IPR) are categorized as "major specialist institutes".

The universal sampling method was used to distribute the questionnaires to the participants, which included:

- Approximately 750 doctors from General Hospital Kuala Lumpur: Covering from House Officers (UD41) to Medical Officers (UD54, UD52, UD48, UD44) and Specialists from all departments in the hospital.
- About 250 doctors from Federal Territory of Kuala Lumpur District Health Offices (Kepong, Cheras, Titiwangsa and Lembah Pantai): Covering from Medical Officers (UD54, UD52, UD48, UD44) to Specialists (Family Medicine Specialist) from all four district health offices.

3.6.9 Data collection

Once obtaining the ethical clearance from University Malaya Medical Centre and Medical Research Ethical Committee (MREC) of Ministry of Health, the researcher had appointments with the persons in-charge at each district health office and with the person in-charge at Clinical Research Centre (CRC) GHKL. This was to acquire "site approval" or authorization from the directors of the involved healthcare premises to conduct the study.

Four District Health Offices in Federal Territory of Kuala Lumpur

Once the site approval was granted from the director of Federal Territory of Kuala Lumpur State Health Department and each district health office, the researcher acquired the list of total professional healthcare personnel working at each of the primary healthcare facilities and mother-child healthcare clinics. After estimating the number of professional healthcare personnel, the researcher set an appointment with every senior medical officer whom are in charge of the clinics. A detailed meeting was held with all the senior medical officers to gain their assistance to distribute the questionnaire to the professional healthcare personnel.

The researcher also briefed them regarding the suitability of the involving professional healthcare personnel based on the inclusion and exclusion criteria. Then, sets of questionnaire which included the participant information sheet, consent form and English questionnaire was handed to the medical officer in-charge. They distributed the questionnaires to professional healthcare personnel in their respective clinics during work hours to obtain maximum response rate from participants. The senior medical officers informed their colleagues about the research and only when the subjects agreed to participate were they required to fill up the consent form. The matter of anonymity was clearly described in the information sheet together with other information about the study.

The subjects answered the questionnaire in 20 – 25 minutes and submitted back the survey form to their senior colleague. The respective medical officer in charge then rechecked the survey form for the completeness of the answered questionnaires. This was done to assure the consistency of the data collection. The senior medical officers were given one to two weeks to complete this task and the answered questionnaires were collected by the researcher. The researcher took note from the senior medical officers of any issues which occurred during the process of distributing and collecting the questionnaires.

General Hospital Kuala Lumpur

To conduct data collection at General Hospital Kuala Lumpur, the researcher had to obtain site approval from the hospital's Clinical Research Centre (CRC). After approval from CRC, the researcher made appointments with head of every department to seek permission to conduct the study in their respective units. Only then did the researcher approached the head nurses in charge of every department. The researcher met and discussed with the matron or sister in charge of each department and gained their assistance to distribute the questionnaire to the professional healthcare personnel in each department in the hospital.

The researcher explained to them in detail regarding the survey and the process of distributing questionnaires by universal sampling method. The researcher also provided details on the pertinence and importance of including professional healthcare personnel. Each of the staff assisting in distributing the questionnaire were handed out the sets of questionnaire which includes the explanation pamphlet (patient information sheet) with more information of the study, consent form for participants and English questionnaires.

The matrons or sisters of each premises then distributed the questionnaires to professional healthcare personnel. This was conducted during working hours, especially during CME session or during departmental teaching session to obtain maximum

responses. The participants were informed to read the explanation pamphlets for in-depth detail about the research. Only subjects who agreed to participate were required to fill up the written consent. The matter of anonymity was described in the explanation pamphlet together with other information about the study.

Once the questionnaires were answered by the professional healthcare personnel, the matrons or sisters in charge collected the forms and rechecked they were completed. They were given two weeks to complete this task. The researcher then collected the questionnaires. A brief discussion was held with the staffs involved from each ward or department to acknowledge the problems that encountered during the process of distributing and collecting the questionnaires. Finally, the sisters or matrons who assisted to conduct and to distribute the questionnaires were given small incentives as token of appreciation.

The overall data collection for the first part of the study resulted in the recruitment of 395 professional healthcare personnel from both the district health offices setting and from the hospital setting. However, 25 healthcare personnel were excluded due to gross missing values.

3.7 Second Part of the Study: Among People Living with HIV

3.7.1 Location of non-governmental organizations

This study was conducted in non-governmental organizations, namely Kuala Lumpur AIDS Support Services (KLASS) Society and the PT Foundation which are positioned in the Federal Territory of Kuala Lumpur. These two non-governmental organizations were selected through a purposive sampling method.

3.7.2 Background information of the non-governmental organizations

In Malaysia, The Malaysian AIDS Council (MAC) plays a major role as the civil society stakeholder where it functions as an umbrella organization to support and

coordinate the efforts of non-governmental and other organizations working on HIV/AIDS issues. This council was established in 1992 under the Ministry of Health and initially it began with an umbrella of 18 non-governmental organizations.

The Malaysian AIDS Council's mission is to represent, mobilise and strengthen these non-governmental organizations and communities to ensure political commitment and effective response in a supportive environment at national and local levels. In scaling up its unified efforts, MAC works in partnership with government agencies, private sector, international organizations as well as with people living with HIV.

The non-governmental organizations membership in MAC ranges from community-based organizations (CBOs) and faith-based organizations (FBOs) whereby they work solely on HIV-related activities to large professional associations to national organizations. Some of the organizations under MAC are such as AIDS Action Research Group (AARG), Kuala Lumpur AIDS Support Services (KLASS) Society, PT Foundation (PT) and Tenaganita Sdn Bhd (Tenaganita). In the past, many of these NGOs were centred in Kuala Lumpur and other large cities. In recent years, in response to the epidemic, several community-based NGOs have emerged in smaller and rural areas including in East Malaysia. Most of them focus their activities in providing care and support to those who are HIV-infected and to those who are from the marginalized population as well. At the moment, there are about 40 non-governmental organizations under MAC and 20 of them are located in the Federal Territory of Kuala Lumpur.

Two non-governmental organizations were included in this study. They were the Kuala Lumpur AIDS Support Services (KLASS) Society and the PT Foundation. This is because this two organizations have a higher number of HIV-infected individuals enrolled to their body and also due to their broader scope of work which involves all five key affected populations such as the drug users, sex workers, transgenders (TG), men who have sex with men (MSM) and people living with HIV (PLHIV). Besides that,

these two organizations also have effective peer support program and weekly or monthly basis gatherings which congregates HIV-infected individuals and other high-risk behaviour clients whereby they provide educative information regarding the disease, counselling session and social support.

Kuala Lumpur AIDS Support Services Society (KLASS)

Kuala Lumpur AIDS Support Services (KLASS) Society, was established in March 2001 and joined the Malaysian AIDS Council (MAC) as one of its partner organization the subsequent year. This society was initially set up to cater to the needs of the Chinese and Tamil speaking communities, since language barrier was an issue to access HIV information for these communities in treatment centers and there was also a huge gap in the area of information, counselling and support for marginalized group of HIV-infected individuals. Today, KLASS has grown to address the needs of people of all races and religions. There are about 1000 plus HIV-infected individuals registered under KLASS but only around 400 of them are active clients whom participate in this society's support services and still enrolled to the treatment services program at healthcare facilities.

The activities in KLASS are planned in line with the objectives of the organization. One of the main objectives of KLASS is to complement existing treatment services provided by healthcare facilities by giving them the necessary support services. Currently, KLASS runs the Hospital Peer Support Programme (HPSP) at seven healthcare facility around the greater Klang Valley area. Through HPSP, KLASS peer support leaders provide peer counselling for HIV-positive individuals in the HIV treatment centers and at the same time assist newly diagnosed patients to be familiarized with the hospital set up and treatment procedures. The KLASS peer support leaders also act as communicating channel person between HIV-positive patients and KLASS or even other community-based organizations.

The other role of KLASS is to provide information and counselling on HIV/AIDS and related issues to those infected and affected by this disease. In addition, KLASS supports and facilitates temporary shelter for PLHIV. It has two shelter homes in Kuala Lumpur, one for men and the other for women and children. The intention of the home is to provide rehabilitation to its residents by catering them with survival skills in preparation for reintegration into society and eventually reunite them back with their families as well as to empower them and give encouragement to face the challenges.

PT Foundation

The second NGO involved in this study is the PT Foundation. This organization was founded in 1987. Previously it was known as Pink Triangle Foundation, in view of its main focus at that time was on the health and well being of transgenders community. In the early days, this NGO use to provide services only via telephone counselling for HIV/AIDS and sexuality related issues. Currently, it works with all key affected populations such as the drug users, sex workers, transgenders, MSM and PLHIV. Over the years, this community based, voluntary, non-profit organization have evolved and started providing HIV/AIDS education, prevention, care and support programs, sexual health and empowerment programs for vulnerable communities in Malaysia. In addition, PT Foundation expanded it services responding to the needs and concerns of various communities that are discriminated against due to their way of life or HIV/AIDS status.

The programs under PT Foundation addresses the needs of the five key affected populations in Malaysia. Some of the programs under this organization is such as the Pink Triangle Malaysia programme which focuses on the MSM community, the “Mak Nyah” program for the transgenders, sex workers program, “IKHLAS” program which caters the PWID community and the Positive Living programme which is for the HIV-positive individuals. At the moment, there are about 300 active clients from the key affected populations enrolled under the PT Foundation.

3.7.3 Study Population

3.7.3.1 Sampling Frame

The sampling frame for this study were the people living with HIV who have enrolled in non-governmental organizations peer support groups positioned in Federal Territory of Kuala Lumpur.

3.7.3.2 Selection criteria for non-governmental organizations

- Non-governmental organizations as Kuala Lumpur AIDS Support Services (KLASS) Society and the PT Foundation (to refer to Section 3.7.2)
- Located in the Federal Territory of Kuala Lumpur

Justification:

This study was conducted in only two non-governmental organizations in Kuala Lumpur, the KLASS Society and the PT Foundation. This is in view of the higher number of PLHIV clients enrolled into these two non-governmental bodies and the broad scope of their work which involves all five key affected populations such as the drug users, sex workers, transgender (TG), men who have sex with men (MSM) and people living with HIV (PLHIV). Besides that, these participants receive healthcare services from different healthcare setting. Therefore, it portrays their overall experience with attaining healthcare services from different health settings instead of just focusing on studying the experiences of these individuals from one particular hospital or healthcare setting.

Overall, there 400 HIV-infected individuals who are actively enrolled in KLASS society and another 300 are in the PT Foundation.

3.7.3.3 Selection criteria for Study Population

Inclusion Criteria

- HIV-positive people, attending infectious disease clinic and has other healthcare follow up at public healthcare sector.
- Initiated on ART treatment
- Aged 18 years and above
- Gave consent to participate in the study
- Malaysian citizen

Exclusion Criteria

- Physically unwell to participate

3.7.4 Flow chart of the second part of the study

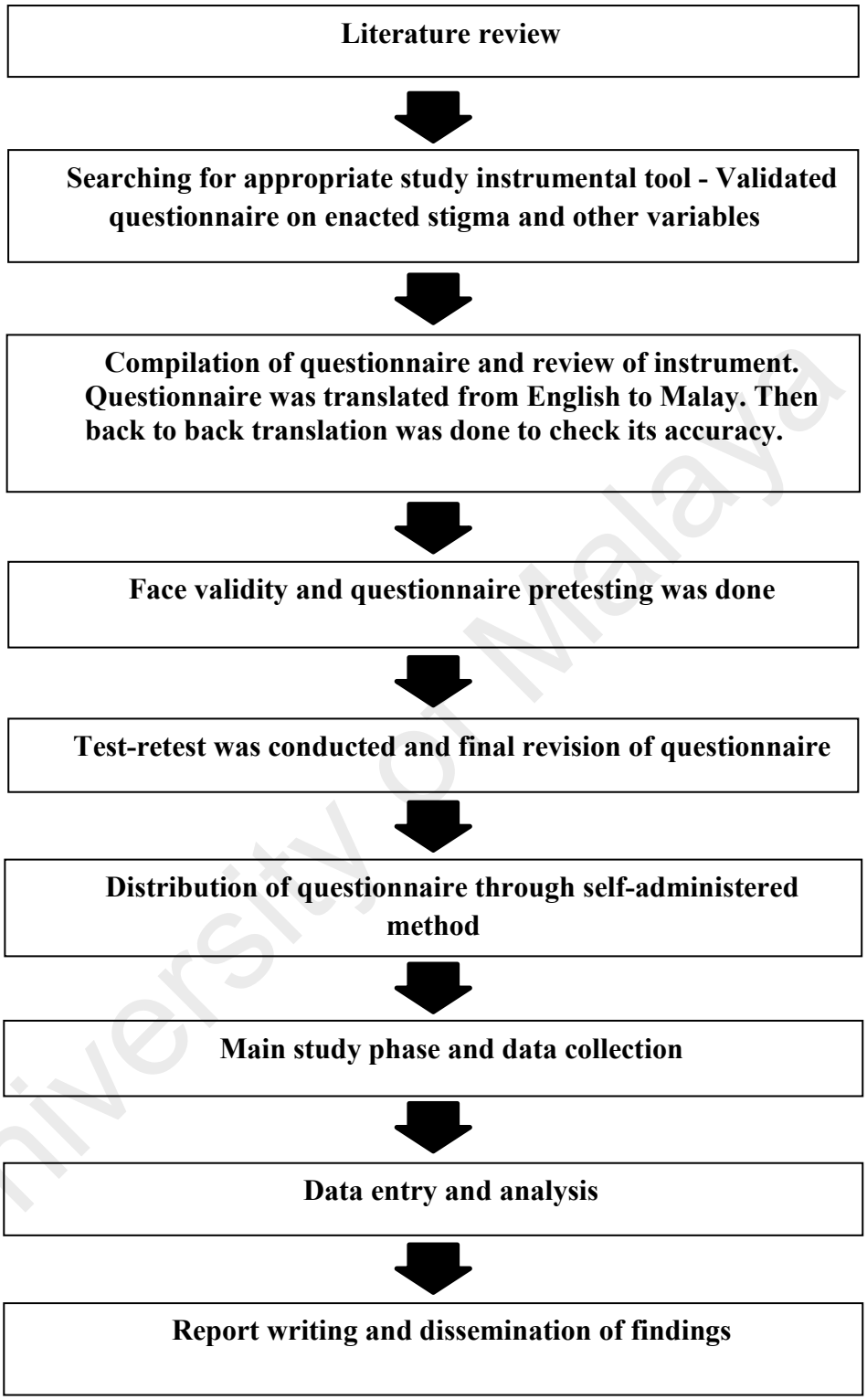


Figure 3.3: Flow chart of the second part of the study

3.7.5 Validation of Study Instrument

The questionnaire for second part of the study was developed from January to July 2016 and its creation included literature review, compilation of validated questions, back-to-back translation and several methods of evaluation (Figure 3.3).

3.7.5.1 Literature review and question compilation

A thorough literature review was done searching for appropriate validated instrumental tool on enacted stigma and other variables pertaining to second part of the study. The validated questions that used previously to assess enacted stigma, general healthcare seeking behaviour and adherence to HIV treatment were then compiled from exiting literature (Rutayuga, 2011; USAID, 2005; Steward et al., 2008; EPPEC Cross-Site Evaluation Patient Assessment, 2004; Chesney et al., 2000; Li, et al., 2010; USAID, 2010; Nebhinani, Mattoo & Wanchu, 2012; Dlamini et al., 2009). All the questions were then revised by experts in the field of HIV and public health, who then provided comments and suggestions on each question. All comments and suggestions were studied by the researcher and appropriate corrections were made. The collected questions were compiled as:

- The demographic characteristics of PLHIV, information on mode of transmission of HIV and diagnosis
- Enacted stigma among PLHIV
- General healthcare seeking behaviour
- Adherence to antiretroviral treatment

Table 3.6: Question items according to each domain

Domain (references of validated tools)	Variables
Sociodemographic factors	- Age - Gender - Ethnicity - Religion - Marital status - Education level
HIV transmission and diagnosis (EPPEC Cross-Site Evaluation Patient Assessment, 2004)	- Total year of diagnosis - Mode of transmission - Facility receiving treatment
Enacted stigma (USAID, 2005; Steward et al., 2008; USAID, 2010; Nebhinani, Mattoo & Wanchu, 2012)	- Health provider used extra precautions for non-invasive examination - Wait longer to be attended - Told to come back later - Unnecessarily referred on to another dr in the same facility or referred to another facility - Differently treated due to HIV status - Received less care - Discharged too early - Dr used derogatory language/scolded/ blamed for having HIV - Dr refused to attend you - Dr gossiped about your HIV status - Tested for HIV without informed consent - Tested for HIV before surgery or treatment - Denied treatment - Dr disclosed HIV status
General healthcare seeking behaviour (USAID, 2005)	- Health concerns/worries that required medical attention past 1 year - Seek any medical advice/treatment past 1 year - Facility which seek medical advice/treatment - Dr knows your HIV status - Quality of service at facility - Avoided/delayed seeking treatment because afraid of doctors attitudes toward PLHIV
Adherence to ART (Rutayuga, 2011; Chesney et al., 2000; Li et al., 2010; Dlamini et al., 2009)	- Missed HIV clinic appointment - Missed taking all ART medications - Missed taking at least one ART dose - The last time missed medications

3.7.5.2 Back-to-back translation

There were three steps involved in the back-to-back translation of the questionnaire. In step one, two professionals who are fluent in Malay and English translated the questions into Malay. The researcher then compared both translations and discussed with them regarding the discrepancies. After necessary amendments, the Malay version of the questionnaire was then formed. In the second step, two English speakers who are fluent in Malay translated the Malay version of the questionnaire into English. Comparisons were made between the original English version of the questionnaire and the translated version. In the final step, all of the questions were reviewed by the researcher, her supervisors and a field supervisor who are experts in the field of HIV/AIDS. Subsequently after few corrections, the finalized version of the Malay questionnaire was produced.

3.7.5.3 Face validity

For the face validity of the PLHIV questionnaire, it was presented to three experts in the field of public health and HIV/AIDS for review. All the three experts are from different establishments with long-standing experience in HIV/AIDS and public health research (Choo, 2015; Tai, 2015; Lim, 2015). The questionnaire was reviewed to determine whether it appeared to be a good translation of the construct. To do this, each expert was given the questionnaire with space provided for their remarks. These remarks were then combined, reviewed and necessary amendments were made accordingly.

3.7.5.4 Questionnaire pretesting

Questionnaire pretesting was performed to certify that the Malay version of the questionnaire was appropriate for Malaysian PLHIV community. The pretesting was conducted in KLASS society and the PT Foundation, among a small group of their

clients. The approval to conduct the questionnaire pre-test was obtained earlier from the involving non-governmental organization and ethical approval was received earlier from the University Malaya Medical Centre Ethics Committee. Using a convenience sampling, a total of 15 subjects, 13 males and two females were recruited from the non-governmental organization. An additional item, "I do not understand this question" was added to each questions to identify those questions with problem. The results showed that all subjects understood each question in the questionnaire.

3.7.5.5 Test-retest

A test-retest was conducted to determine the reliability of the questionnaire. It was conducted among PLHIV whom were enrolled in KLASS society and in the PT Foundation peer support groups. A convenient sampling of 85 people living with HIV, age 18 and above were invited to participate in the study. This test-retest was conducted in a few small batches and the duration of each test-retest was within one week. This is because the researcher could only acquire around 10 to 20 PLHIV clients per visit to peer support meetings. Hence, the researcher had to visit the non-governmental organizations multiple times from August to September 2016 to conduct this test-retest. As in the previous pretesting, all questions were in Malay.

Visit one: A total of 85 people living with HIV completed the self-administered questionnaire during the first visit to each non-governmental organization peer support meetings.

Visit two: One week after each first visit, the same client who answered the questions during the first week again completed the survey questions to determine the test-retest reliability of the questionnaire. However, during the second visits, 25 clients were absent and were excluded from the study. In all the visits to the peer support meetings for the test-retest, all questionnaire were checked for completeness at the time of completion. Any missing data were identified and clarified with PLHIV at that time.

Overall, 60 PLHIV clients participated in the test-retest which was conducted within one week. The minimal number of participant required to conduct a test-retest is at least 30 people (Bujang & Baharum, 2017). Hence the sample size of 60 people living with HIV is adequate to measure the degree of reliability, consistency and stability.

Following the test-retest, data were analyzed using SPSS version 23.0 software. The coefficient alpha (Cronbach's Alpha), test-retest reliability (correlation coefficient) and kappa were used to determine the reliability of the variable used.

3.7.5.6 Result of the validation of study instruments

Scales

A total of three scales were included in the questionnaire, and the stability reliability (also known as the test-retest reliability) was measured for each of the scales used. The results of the correlation coefficient are shown in table 3.7. All three scales demonstrated good internal consistency. The Cronbach's alpha from previous study was also more than 0.8 (USAID, 2007). The Interclass correlation coefficient (ICC) range was considered fair to good agreement (Table 3.7). Overall, from the results, PLHIV appeared to report the predictors reliably over time.

Table 3.7: Cronbach's alpha, correlation coefficient and interclass correlation coefficient (ICC) range for the scales used in test-retest study

Scales	Interclass correlation coefficient (ICC) range	Correlation coefficient (test-retest reliability)	Cronbach's alpha
Enacted stigma scale	0.65 (0.28, 0.83) to 0.93 (0.85, 0.97) *(p value < 0.001)*	0.83	0.89
General healthcare seeking behaviour	0.75 (0.48, 0.88) to 0.92 (0.84, 0.96) *(p value < 0.001)*	0.80	0.85
AIDS Clinical Trials Group (ACTG) scale	0.65 (0.28, 0.83) to 0.94 (0.87, 0.97) *(p value < 0.001)*	0.90	0.87

*The correlation coefficient is significant at the 0.01 level (2-tailed)
*An alpha of 0.70 and above is acceptable (Bujang & Baharum, 2017).

Categorical variable

Overall, there were 37 categorical variable included in the questionnaire and kappa statistic was used to measure each variable's reliability. Kappa values ranged from 0.47 to 0.9 (Table 3.8). All the variables with kappa value of more than 0.41 and above were included on the questionnaire (Sands & Murphy, 1996). In general, the PLHIV have reported the predictors reliably over time.

Table 3.8: Kappa values for each categorical variable

Variables	Measure of agreement (kappa value)	Approximate significance	Level of agreement
1. Health concern	0.595	< 0.001	Moderate agreement
2. Seeking medical care	0.714	< 0.001	Substantial agreement
3. HIV status	0.615	< 0.001	Substantial agreement
4. Quality of services	0.804	< 0.001	Substantial agreement
5. Avoid/delayed treatment	0.867	< 0.001	Almost perfect agreement
6. Travelling to seek health care	0.902	< 0.001	Almost perfect agreement
7a. Fear of disclosure of HIV status	0.846	< 0.001	Almost perfect agreement
7b. Past experiences	0.827	< 0.001	Almost perfect agreement
7c. Other reason	0.742	< 0.001	Substantial agreement
8. Need to pay for treatment	0.851	< 0.001	Almost perfect agreement
9a. Fear of disclosure of HIV status	0.865	< 0.001	Almost perfect agreement
9b. Past experiences	0.800	< 0.001	Substantial agreement
9c. Other reason	0.795	< 0.001	Substantial agreement
10. Refused to attend	0.672	< 0.001	Substantial agreement
11. Discharged too early	0.737	< 0.001	Substantial agreement
12. Long waiting hour	0.634	< 0.001	Substantial agreement
13. Referred to another doctor	0.857	< 0.001	Almost perfect agreement
14. Told to come back later	0.718	< 0.001	Substantial agreement

Table 3.8, continued

Variables	Measure of agreement (kappa value)	Approximate significance	Level of agreement
15. Denied treatment	0.783	< 0.001	Substantial agreement
16.Tested without consent	0.474	0.002	Moderate agreement
17. Tested before surgery	0.842	< 0.001	Almost perfect agreement
18. Usage of gloves	0.474	0.002	Moderate agreement
19. Disclosure of status	0.651	< 0.001	Substantial agreement
20. Gossiped about HIV status	0.710	< 0.001	Substantial agreement
21. Usage of derogatory language	0.762	< 0.001	Substantial agreement
22. Received less care	0.861	< 0.001	Almost perfect agreement
23. Treated differently	0.800	< 0.001	Substantial agreement
24. Missed appointments	0.892	< 0.001	Almost perfect agreement
25. Missed medications	0.474	0.002	Moderate agreement
26. Duration of defaulted medication	0.690	< 0.001	Substantial agreement
27. Treated with disrespect	0.81	< 0.001	Almost perfect agreement
28. Denied care	0.857	< 0.001	Almost perfect agreement
29. healthcare provider's Ignorance	0.794	< 0.001	Substantial agreement
30. Received worse care	0.811	< 0.001	Almost perfect agreement
31. Uncomfortable healthcare provider	0.811	< 0.001	Almost perfect agreement
32. Humiliated by healthcare provider	0.925	< 0.001	Almost perfect agreement
33. Other reasons	0.800	< 0.001	Substantial agreement

3.7.5.7 Final review

Following the analysis of test-retest, a final review was held that resulted in some changes to the questionnaire especially in terms of the language, instruction and order of the questions. Otherwise, all the 37 questions for the second part of the study were retained. Based on the evaluation, it was agreed that the questionnaire was compatible with people living with HIV in Malaysia.

3.7.6 Study variables and measurement

The study variables are categorized into independent and dependent variables. Table 3.9 illustrates both variables for each specific objective.

3.7.6.1 Dependent and independent variables for each objective

Table 3.9: Independent and dependent variables for each objective

Specific Objectives	Independent Variable	Dependant Variables
1. To study the prevalence of enacted stigma, general healthcare seeking behaviour and adherence to antiretroviral treatment among PLHIV at healthcare facility	Enacted stigma	i. Adherence to antiretroviral treatment ii. General healthcare seeking behaviour
2. To assess the effects of enacted stigma at healthcare setting towards PLHIV	Enacted stigma	Effects of enacted stigma towards PLHIV's: i. General healthcare seeking behaviour ii. Adherence to antiretroviral treatment

The Sociodemographic factors, HIV transmission and diagnosis (Independent variables)

- Age
- Gender
- Ethnicity
- Religion
- Marital Status
- Education level
- Total year of diagnosis
- Mode of transmission
- Facility receiving treatment

3.7.6.2 Operational definitions and scales measurement

Validated, closed-ended questionnaires were compiled and translated to Malay language for the use of the second part of the study (as mentioned in Section 3.7.5.1). These questionnaires were available in bi-language in view of the main medium of communication at local setting is Malay.

Dependent Variables

(a) General healthcare seeking behaviour

General healthcare seeking behaviour is defined as the keenness for health seeking behaviour among the HIV-infected patients either for their general health concern or for other illnesses follow up. It also explains any attempt at finding a remedy for a perceived illness or delaying in seeking healthcare aid when it is needed.

There are in total 10 items in this variable but total scoring is done using only the first 6 items which is Q1 to Q6. This first 6 items (Q1 to Q6) is scored as two response categories whereby "Yes" is scored as "1" and "No" is scored as "0". This same measure have been used by USAID (2005). There is an additional part in item number 3

(Q3a), where participants can choose to answer to more than one option. This sub item (Q3a) further explores on participants' other choices of healthcare facilities other than government settings. Only the frequency distribution of this sub item (Q3a) is presented. Reverse coding was done for item number 6 and then subsequently the total scoring of this variable was done. For the purpose of analysis, the total score of 1 to 3 is implied as poor healthcare seeking behaviour and the total score of 4 to 6 is implied as good healthcare seeking behaviour among PLHIV.

Meanwhile, item Q7 to Q10 represents the additional information on PLHIV's healthcare seeking behaviour where this four items have three response categories such as "Yes," "No" and "Not available". This additional four items are not scored and its results are presented at prevalence level only. This is because participants can choose to response to more than one answer whereby its aim is to show the multiple repercussions of PLHIV's experiences in healthcare seeking behaviour in healthcare settings. This measurement was also used in USAID (2005).

(b) Adherence to antiretroviral treatment

Adherence to antiretroviral treatment is defined as how obediently the HIV-infected individuals stick to the regularity of attending their HIV clinic's appointments or takes their antiretroviral medication as planned by their respective healthcare personnel. There are five items in this variable. Item number 1 measurement is as "Never missed appointments" is scored as "0" and "Have missed appointments" is scored as "1". For item number 2, "Never missed all the medications in the past 4 days" is scored as "0" and "Have missed all the medications in the past 4 days" is scored as "1". Meanwhile for item number 3 the measurement is as "Never missed at least one of the medication doses in the last 4 days" is scored as "0" and "Have missed at least one of the medication doses in the last 4 days" is scored as "1". Item 4 is measured as "Never skipped medications before" is scored as "0" and "Have skipped medications in the past

1 to 3 months" is scored as "1". Only this first four items were included in the total scoring of this variable. Item number 5 is a multiple answer questions, hence only its prevalence count was taken into account. For the purpose of analysis, the total score of 0 to 2 is implied as good adherence to antiretroviral treatment and the total score of 3 to 4 is implied as poor adherence to antiretroviral treatment among PLHIV. This measurement was also used by Rutayuga (2011) and Dlamini et al. (2009).

Independent Variables

(a) Enacted stigma

Enacted stigma is defined as judgement or discrimination experienced by people living with HIV. For this study setting the discrimination experienced at healthcare setting was studied. There are 14 items in this variable and it is measured with two response categories. "Yes" is scored as "1" and "No" is scored as "0". For the purpose of analysis, the total score of 1 to 7 is implied as low level of enacted stigma and the total score of 8 to 14 is implied as high level of enacted stigma among PLHIV. This same measure have been used by Nebhinani, Mattoo & Wanchu (2012) and USAID (2005; 2010).

(b) Sociodemographic data, HIV transmission and diagnosis

This includes independent variables such as age, gender, ethnicity, religion, marital status, education level, total year of diagnose as HIV-positive, possible way of transmitted with the illness and place of follow up for treatment and care (Table 3.10).

Table 3.10: Operational definitions and measurement of independent variables

Variables	Operational definition	Measurement tool
Independent / exposure variable		
1. Sociodemographic		
• Age	≤ 30 yrs. / < 30yrs.	Questionnaire
• Gender	Man / Woman / Transwoman or Transman	
• Ethnicity	Malay / Chinese / Indian / Others	
• Religion	(Malay / Non Malay)	
	Muslim / Buddhist / Hindu / Others	
• Marital status	(Muslim / non-Muslim)	
	Married/unmarried &Others	
• Education level	Primary or Secondary school / Higher education	
2. HIV transmission and diagnosis		
• Total year of diagnose as HIV	≤ 5 yrs. / 6 - 10 yrs. / 11 - 15 yrs. / < 16 yrs.	Questionnaire
• Most likely way infected with HIV	Sex with man who was HIV +ve / Sex with woman who was HIV +ve / Shared needle with HIV +ve person / Blood transfusion or other procedure / NSI or other occupational exposure / Refuse to answer	
• Facility which receiving treatment	Hospital / Primary healthcare facility	

3.7.7 Sample size

Sample size was estimated using the formula below (Box 3.3) and the information for calculation is shown in Table 3.11.

$$n = \frac{Z^2 * P * (1-P)}{d^2}$$

n = sample size
Z = statistic level of confidence
P = expected prevalence or proportion
d = precision
N = Population Size

For small populations n will be adjusted:

$$n\,(adj) = \frac{(N*n)}{(n+N-1)}$$

Box 3.3: Formula for Sample Size Calculation
Sources: Susan, Spinks & Canhoto (2014). Management Research Applying the principles. (1st ed., pp. 187-200). New York, NY: Routledge.

Table 3.11: Information used to calculate the Sample Size

Variable	Value
Z statistic for a level of confidence (Z)	1.96 (using 95% CI)
Expected prevalence (P)	0.31 (derived from USAID, 2005)
Precision (d)	0.05
Finite population size (N)	700

Sample size was calculated on the basis of the prevalence of people living with HIV experiencing enacted stigma at healthcare setting (USAID, 2005). Box 3.4 shows the required sample size.

$$n = \frac{1.96^2 * 0.31 * (1-0.31)}{0.05^2}$$

$$n = 329$$

n is adjusted for small population:

$$n\,(adj) = \frac{(700 * 329)}{329 + (700-1)}$$

n (adj) = 223

Box 3.4: Adjusted sample size for the second part of the study

Self-administered method was used to distribute the questionnaire to all the eligible study participants who met the inclusion criteria. Around 700 participants whom fulfil the inclusion criteria were included in this study. However, sample size estimation done to ensure the study is not under-powered. Based on sample size calculation (above calculation), the minimum sample required is 223 participants. Non-response rate of 20% was taken into count. Hence, the sample size was inflated to 268 individuals with HIV/AIDS. This sample size calculation was also verified using the Open Epi software for cross-sectional studies and it generated similar number of sample size. Overall, 282 participants participated in the second part of the study which exceeds the minimum requirement for this study.

3.7.8 Sampling method

The list of non-governmental organizations in Federal Territory of Kuala Lumpur was prepared (to see section 3.7.2). The Kuala Lumpur AIDS Support Services (KLASS) Society and the PT Foundation were included in this study. These two NGO were chosen through convenience sampling method after in-depth search and findings done on overall NGO's in the Federal Territory Kuala Lumpur. Besides that, these two organizations located in FTKL have the highest number of active clients (PLHIV enrolled as clients).

Justification: The Kuala Lumpur AIDS Support Services (KLASS) Society and the PT Foundation were selected to obtain different groups of key populations of HIV-positive individuals.

The self-administered method was used to distribute questionnaires to the participants in these two selected NGOs. This method was used to achieve an adequate response rate from the participants and improve the power of the study.

3.7.9 Data collection

After obtaining ethical clearance from the UMMC and MREC ethics board, the researcher had formal meetings with the selected NGO's general managers to acquire permission to conduct the study at their premises. The participants were the clients whom are actively attending their treatment adherence program support group's gatherings.

The researcher briefed the eligible participants regarding the study purpose. Then the bi-language questionnaires together with the patient information sheet (explanation pamphlet) with more information of the study and consent form was self-administered to the participants by the researcher. The participants were informed to read the explanation pamphlets for further in-depth detail about the research. Only PLHIV who agreed to participate, needed to fill up the written consent for agreement of participation. The matter of anonymity was clearly in the explanation pamphlet together with other information about the study.

All the participants managed to answer the questionnaire in 20 minutes and the researcher collected the survey immediately. To assure the consistency of the data collection, the researcher rechecked for the completeness of the answered questionnaire. The participants were given small incentives as token of appreciation.

The data collection for second part of this study resulted in the recruitment of 295 people living with HIV from both non-governmental setting. Thirteen PLHIV were excluded due to gross missing values and/ or failure to fulfil the inclusion criteria.

3.8 Data Screening Procedure for First and Second Parts of the Study

The researcher screened all the collected survey forms one by one to identify missing data. From the overall data collection, 25 participants from the first part of the study and 13 PLHIV participants from the second part of the study were excluded due to gross missing values.

Then the SPSS 23.0 was used for the data screening. Exploratory analysis was performed to assess data accuracy and other minimal missing values. Frequency tables and histogram were used to identify univariate outliers. A small percentage of missing data was present for some continuous variables. Though measures were taken during data collection to avoid this issue, yet the problem remained. Since this was primary data and the information was confidential, the researcher unable to fill in the missing values by contacting the professional healthcare personnel or the PLHIV from the non-governmental organizations. Hence, to address the missing data, the researcher conducted a missing value analysis. The expectation-maximization (EM) estimation was checked. The significance was greater than 0.05, which indicates that the missing values were random. The researcher opted to impute the missing values individually, using a single imputation approach in view of the missing values were typically small and there were few missing values on individual items. The sample mean method was used to attain the missing values as the average of the observed values.

3.9 Data Storage

A copy of data-set was stored and backed up in other separate files such as in the external hard disc and in the Google drive. The collected data and the original questionnaire are kept in a lock cabinet to ensure its confidentiality. Only the primary investigator (primary researcher) have access to the stored data. The data generated during the course of this research is stored securely and held for at least five years after the completion of this research project. The researcher will need to use the research data for thesis defence and might need to use it for publication purpose or in case of allegations of scientific misconduct. No participants were given access to the study data. Participants can always view the study findings through later publications.

The study data will be destroyed after a certain period of time (after at least five years as stated above). Participants' confidentiality will be protected throughout the process of destroying the data. Paper records will be shredded instead of carelessly tossed in the garbage. Records stored in a computer hard drive will be erased using commercial software applications designed to remove all data from the storage device. For data stored in the form of DVD or external hard disc, the storage devices will be physically destroyed. The researcher will keep records of stating what records were destroyed and when and how she did so.

3.10 Data Analysis

Data was entered and stored into SPSS (Statistical Package for Social Sciences) software version 23.0. Manual data cleaning was also performed to assume accuracy and completeness of the questionnaires. The researcher performed the data entry and analysis.

In the descriptive analysis, the frequency distribution, measures of central tendencies and measures of distribution were produced. Continuous data were checked for normality by testing for the presence of skewness and kurtosis. The skewness value

gives information about the symmetry of the distribution. Kurtosis gives information about the 'peakness' of the distribution. Kolmogorov-Smirnov statistic results were also reviewed to assess for normality. A significant result greater than 0.05 indicates normality.

Data exploration was done mainly to acquire the descriptive statistics that describe all the variables and to examine the distribution of the data graphically. Following data exploration, the tables were constructed. The continuous variable especially the outcome variables of both, first and second part of the study were not normally distributed ($p<0.05$). The independent variables, age and number of years in service were summarized using mean and standard deviation. In addition, this counts were also transformed into categorical variables for further analysis. All the categorical variables were summarized using counts and percentage (%).

In the bivariate analysis, Pearson's chi-square test was used to examine the association between independent and dependent variables. Multivariate analyses using binary logistic regression were performed to assess the effects of the independent variables on discriminatory attitudes towards HIV and practices related to HIV. Only variables with p-values of <0.25 from the bivariate association were included in the regression. The results were presented as unadjusted and adjusted odds ratios allowing assessment of the stability of the associations according to the inclusion of the independent variables.

3.10.1 First part of the study: Among professional healthcare personnel

In the present analysis, 370 subjects were included in the first part of the study. Data analyses for the first part of the study objectives are described as follows. First objective: To assess the level of awareness on facility profile, level of stigma (perceived risk, value-driven stigma, observed discriminatory attitudes), discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS. Descriptive statistics was used

to describe the distribution of the data and to find mean values of the variable assessed. Social demographic characteristics, work characteristics, facility profile, perceived risk towards HIV/AIDS, value-driven stigma, observed discriminatory attitudes, level of discriminatory attitudes and practices related to HIV/AIDS was sought. Data was presented using frequency distribution tables with dependent and independent variables as well as mean and standard deviation.

Second objective: To examine the association between professional healthcare personnel's discriminatory attitudes towards HIV/AIDS and their practices related to HIV/AIDS. The data were analyzed using descriptive analysis. Bivariate associations between the predictor variable (discriminatory attitudes) and the final outcome variable (practices related to HIV/AIDS) were determined using chi-squared tests.

Third objective: To study the associating factors of discriminatory attitudes towards HIV/AIDS using the components of stigma domains and other predictor variables (sociodemography and work characteristics of professional healthcare personnel). Initially, the data were analyzed using descriptive statistics for each group. Bivariate associations were performed using chi-square tests. Then, variables with p-values of < 0.25 from the bivariate association were included in the regression. Finally, the associated factors of discriminatory attitudes towards HIV/AIDS were determined using binary logistic regression (Enter method).

Fourth objective: To establish the associated factors of practices related to HIV/AIDS. The bivariate associations between the predictor variables and professional healthcare personnel practices related to HIV/AIDS were analyzed using chi-square tests. Subsequently, the data were analyzed using regression. Associated factors for practices related to HIV/AIDS were determined using binary logistic regression (Enter method).

3.10.2 Second part of the study: Among people living with HIV

In the present analysis, 282 subjects were included in the second part of the study. Data analyses for the second part study objectives are described as follows.

First objective: To study the prevalence of enacted stigma at health facility, general healthcare seeking behaviour and adherence to ART among PLHIV. Descriptive statistic was used to describe the distribution and the data was presented using frequency distribution tables.

Second objective: to examine the association between predictor variables (demographic characteristics and enacted stigma) and both outcome variables (general healthcare seeking behaviour and adherence to ART). Bivariate association were performed using chi-square tests and then predictors which has clinical importance and p value of < than 0.25 were included in the regression analysis. Associated factors for PLHIV general healthcare seeking behaviour and adherence to ART were determined using binary logistic regression (Enter method).

3.11 Conclusion of Chapter Three

This chapter provides a detailed explanation of the study methodology. The methodology was explained in detail for both study population, the professional healthcare personnel and people living with HIV. The first part of the study was conducted among professional healthcare personnel, using a universal sampling method. Data were collected in four district health offices and one public tertiary hospital in the Federal Territory of Kuala Lumpur. A total of 370 professional healthcare personnel participated in this study. Meanwhile, the participants for the second part of the study were PLHIV from two non-governmental organizations in Kuala Lumpur. In total, 282 PLHIV participated in the second part of the study.

CHAPTER 4: RESULT

4.1 Introduction

This chapter presents the results of the study according to the study objectives. First, the descriptive study on demographic characteristics, professional healthcare personnel's awareness on facility profile, level of stigma measures (perceived risk, value-driven stigma, observed discriminatory attitudes), followed by professional healthcare personnel's discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS are presented. This is followed with the bivariate analysis for the second objective, which presents the associations between the discriminatory attitudes and practices related to HIV/AIDS. Finally, the factors associated with dependant variables were determined using chi-square and binary logistic regression.

Section 4.3 contains the results of the second part of the study. Result of the first objective is presented with the demographic distribution of the participants. This is followed with the prevalence of enacted stigma at health facility, general healthcare seeking behaviour and adherence to antiretroviral treatment among PLHIV. Next, the bivariate and multivariate analysis which presents the factors associated with both the dependent variables are discussed.

4.2 First Part of the Study: Among Professional Healthcare Personnel

4.2.1 Description of study population and variables

4.2.1.1 Study population characteristics

This section provides a general profile and description of the respondents and the settings in which they were located during the current study. It facilitates an understanding of the results presented in subsequent sections. Table 4.1 shows the distribution of respondents by healthcare facility in Federal Territory of Kuala Lumpur (FTKL).

Table 4.1: Distribution of professional healthcare personnel by healthcare facility in FTKL region

Healthcare facility	Total number of doctors, N	Number of respondents, N	% of respondent
General Hospital Kuala Lumpur	750	180	24
Kepong District Health Office	65	50	77
Cheras District Health Office	85	55	65
Titiwangsa District Health Office	50	45	90
Lembah Pantai District Health Office	50	40	80

The professional healthcare personnel were located in five different public healthcare facilities scattered around Kuala Lumpur (Table 4.1). There were about 750 professional healthcare personnel in the General Hospital Kuala Lumpur and on average there were around 50 to 80 doctors in each district health office (in total, 250 doctors were in all four district health offices). The district health office consist of primary healthcare clinics (PHC), mother child healthcare (MCH) clinics and Community Clinic (KKOM. In total, 1000 healthcare personnel were included in this study of whom 370 participated in this research. This figure represents 37% of the eligible respondents.

4.2.1.2 Sociodemographic and work characteristics

Table 4.2 shows detailed distribution of sociodemographic characteristics of the participants. The overall mean age of the participants was 31.3 years (SD=5.3). Age of the professional healthcare personnel was categorized into four groups. A majority of the respondents were aged 21 – 30 years (53.8%), 39.5 % were aged 31 – 40 years and the rest 6.8% were aged 41 years and above. In terms of gender, there were more females than males (73.2% of females and 26.8% of males).

By ethnicity, 58.9% of the professional healthcare personnel were Malay, 13.2% were Chinese, 24.3% Indian and the rest were from 'other' category. As expected, the majority of participants were Muslims. More than half of the respondents (57%) were married. The rest were either single (41.9%) or divorced (1.1%).

Most of the professional healthcare personnel were house officers grade UD41 (28.4%) and medical officers' grade UD44 (28.6%) (Table 4.3). This corresponds well with the number of years in service, whereby majority of the respondents have five years and below of experience as professional healthcare personnel. Only 30 participants (8%) responded as working in HIV speciality clinic or department at the moment. Nevertheless, 91.6% of the doctors still admitted to experience treating HIV patients over the past one year (Table 4.3).

Table 4.3, shows that almost 84% of the respondents were working in non-surgical departments at the point of recruitment, while remaining 16% were working in surgical department. More than half of the professional healthcare personnel responded were from district health offices (51.4%) and the rest were from General Hospital Kuala Lumpur. The majority (76.8%) admitted that they have not attended any training regarding HIV/AIDS in this past one year, while 20% attended HIV-related training once and only 3.2% attended training or courses related to HIV more than once in this past year.

Table 4.2: Sociodemographic characteristics of professional healthcare personnel

Variables	Frequency, N	Percentage (%)
Age		
Mean(±SD)	31.3 (±5.3)	
21-30 years	199	53.8
31-40 years	146	39.5
41-50 years	21	5.7
51 years and above	4	1.1
Sex		
Male	99	26.8
Female	271	73.2
Ethnicity		
Malay	218	58.9
Chinese	49	13.2
Indian	90	24.3
Others	13	3.5
Religion		
Muslim	222	60
Buddhist	35	9.5
Hindu	75	20.3
Christian	22	5.9
Others	16	4.3
Marital Status		
Married	211	57
Divorced	4	1.1
Single/Never married	155	41.9

Table 4.3: Work characteristics of professional healthcare personnel

Variables	Frequency, N	Percentage (%)
Professional designation		
Consultant	1	0.3
Specialist	15	4.1
Medical Officer UD54	35	9.5
Medical Officer UD52	14	3.8
Medical Officer UD48	94	25.4
Medical Officer UD44	106	28.6
House Officer UD41	105	28.4
Number of years in service		
Mean(±SD)	5.69 (±4.67)	
5 years and below	210	56.8
6 - 10 years	115	31.1
11 - 15 years	33	8.9
16 years and above	12	3.2
Experience of treating PLHIV		
Yes	339	91.6
No / Don't know	31	8.4
Currently working in HIV speciality clinic		
Yes	30	8.1
No	340	91.9
Department where healthcare professional work		
General Medicine	99	26.8
Paediatric	21	5.7
Surgery	50	13.5
PHC / OPD	155	41.9
PHC / MCH	35	9.5
Other departments	10	2.7
HIV related training in last 1 year		
Yes	86	23.2
No	284	76.8
Number of HIV training attended past 1 year		
None	284	76.8
Once	74	20
More than once	12	3.2

4.2.1.3 Prevalence study

Objective 1: To assess the level of awareness of facility profile, perceived risk and fear, value-driven stigma, observed discriminatory attitudes, discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

i. Level of awareness of facility profile

Facility profile refers to the information on institutional factors that can help to reduce HIV-related stigma and discrimination and also to support healthcare professional to offer safe and welcoming services to patients living with HIV and key populations affected by HIV. The level of awareness of facility profile are highlighted in Table 4.4.

More than half of the respondents agreed that their health facility has policy/strategies/protocols to protect HIV-positive patients from discrimination (65.4%). Only a part of the healthcare professional were unaware of these guidelines (25.9%) and the remaining 8.6% disagreed to the statement. Similar findings were noted in the case of enforcement of this policy/strategies/protocols to protect HIV-positive patients. Most of the healthcare professional are aware that no specific incentive or allowance provided for caring and treating PLHIV (61.6%) but a part of them, 33% are still uninformed.

Availability of Policies / Guidelines / Protocols

The majority of the professional healthcare personnel are well-versed regarding the availability of policies/guidelines/protocols related to HIV/AIDS in their respective health facilities. More than 90% are aware of guidelines and protocols regarding HIV testing procedure, issues pertaining to confidentiality of HIV related information, standard precautions practices and National Clinical Tuberculosis (TB) guidelines. Other than that, 89.5% of the respondents are well-informed on the subject of blood safety, 89% on informed consent and another 88% on HIV counselling and testing. In

general, respondents do agree on acknowledging most of the protocols and guidelines in health facility however, only 50.3% of the doctors are certain on the subject of anti-discrimination practices and less than half of this practitioners are aware of National HIV Policy (47%).

Training on Implementations of Policies / Guidelines / Protocols

In term of trainings pertaining to HIV-related guidelines and protocols, 81.1% of healthcare personnel claimed courses on standard precautions practices are given to healthcare staffs. While many reported that more trainings are given on blood safety protocols (79.7%), occupational post-exposure prophylaxis (64.3%), HIV testing procedure (70.5%), HIV counselling and testing (67.6%), confidentiality of HIV related information (74.1%), informed consent (73.2%) and National Clinical Tuberculosis (TB) guidelines (74.9%), just over 30% of these doctors noted that trainings on National HIV Policy are received by healthcare staff. Besides that, 53.3% of the respondents are unaware regarding training on the subject of discrimination related to HIV/AIDS.

Practice of Policies / Guidelines / Protocols at Health Facility

Table 4.4 describes the distribution of professional healthcare awareness of the practices of this policies/guidelines/protocols at their respective health facilities. As expected, majority of the respondents stated that most of the listed protocols and guidelines are followed at their healthcare centers, which as well includes practices on anti-discrimination against PLHIV (66.2%).

In conclusion, Table 4.4 highlighted that almost half of the participants are still less informed regarding availability, training and practices of protocols and guidelines of National HIV Policy as well as anti-discrimination against people living with HIV.

Table 4.4: Level of awareness on facility profile

Facility Profile	Yes, N (%)	No, N (%)	Don't know, N (%)
Q1. My health facility has policy / strategies / protocols to protect HIV-positive patients from discrimination.	242 (65.4)	32 (8.6)	96 (25.9)
Q2. Policies/strategies/protocols to protect HIV-positive patients are enforced.	210 (56.8)	43 (11.6)	117 (31.6)
Q3. Do healthcare workers receive special allowance because they provide care and treatment to HIV-positive patients than healthcare workers that do not care or treat HIV-positive patients?	20 (5.4)	228 (61.6)	122 (33)
Q4. Are the following policies/guidelines/protocols readily available in your health facility?			
Confidentiality	339 (92)	7 (2)	24 (7)
National clinical tuberculosis (TB) guidelines	338 (91.4)	9 (2.4)	23 (6.2)
Standard precautions	338 (91.4)	6 (1.6)	26 (7)
HIV testing procedure	335 (91)	8 (2)	27 (7)
Blood safety	331 (89.5)	11 (3)	28 (7.6)
Informed consent	328 (89)	11 (3)	31 (8)
HIV counselling and testing	327 (88)	11 (3)	32 (9)
Post-exposure prophylaxis (occupational)	284 (76.8)	28 (7.6)	58 (15.7)
Treatment of opportunistic infections	283 (76.5)	28 (7.6)	59 (15.9)
National clinical HIV guidelines	267 (72.2)	14 (3.8)	89 (24.1)
Anti-discrimination against PLHIV	186 (50.3)	37 (10)	147 (39.7)
National HIV Policy	174 (47)	35 (10)	161 (44)

Table 4.4, continued.

Facility Profile	Yes, N (%)	No, N (%)	Don't know, N (%)
Q5. Do staff at your health facility receive training on implementing these policies / guidelines / protocols?			
Standard precautions	300 (81.1)	10 (2.7)	60 (16.2)
Blood safety	295 (79.7)	16 (4.3)	59 (15.9)
National clinical tuberculosis (TB) guidelines	277 (74.9)	24 (6.5)	69 (18.6)
Confidentiality	274 (74.1)	24 (6.5)	72 (19.5)
Informed consent	271 (73.2)	28 (7.6)	71 (19.2)
HIV testing procedure	261 (70.5)	26 (7)	83 (22.4)
HIV counselling and testing	250 (67.6)	33 (8.9)	87 (23.5)
Post-exposure prophylaxis (occupational)	238 (64.3)	41 (11.1)	91 (24.6)
Treatment of opportunistic infections	212 (57.3)	41 (11.1)	117 (31.6)
National clinical HIV guidelines	211 (57)	37 (10)	122 (33)
Anti-discrimination against people living with HIV	173 (46.8)	55 (14.9)	142 (38.4)
National HIV Policy	136 (36.8)	62 (16.8)	172 (46.5)
Q6. Are the policies/guidelines/protocols followed at your health facility?			
Confidentiality	335 (90.5)	3 (0.8)	32 (8.6)
Blood safety	329 (88.9)	5 (1.4)	36 (9.7)
Standard precautions	329 (88.9)	5 (1.4)	36 (9.7)
Informed consent	330 (89.2)	7 (1.9)	33 (8.9)
HIV counselling and testing	318 (85.9)	3 (0.8)	49 (13.2)
HIV testing procedure	318 (85.9)	3 (0.8)	49 (13.2)
National clinical tuberculosis (TB) guidelines	317 (85.7)	7 (1.9)	46 (12.4)
Post-exposure prophylaxis (occupational)	283 (76.5)	15 (4.1)	72 (19.5)
Treatment of opportunistic infections	273 (73.8)	20 (5.4)	77 (20.8)

Table 4.4, continued.

Facility Profile	Yes, N (%)	No, N (%)	Don't know, N (%)
National clinical HIV guidelines	263 (71.1)	7 (1.9)	100 (27)
Anti-discrimination against people living with HIV	230 (66.2)	28 (7.6)	112 (30.3)
National HIV Policy	194 (52.4)	19 (5.1)	157 (42.4)

* Table 4.4 "Yes" column is arranged in ascending order to display the level of awareness of facility profile among the participants.

ii. Level of perceived risk and fear

Table 4.5 illustrates the understanding of professional healthcare personnel level of perceived risk and fear of HIV infection while performing their duties at healthcare facilities. The majority of the healthcare personnel (84.9%), said that they perceived higher risk and fear while conducting surgery on or suturing a person living with HIV. This followed by 83.8% who perceived risk while dressing the wounds of a PLHIV, 81.6% during putting intravenous drip in someone who is showing signs of AIDS and 78.4% of the healthcare personnel claimed of perceived risk and fear to give injection to a person with HIV. Furthermore nearly 36% of the doctors still consider touching the saliva of PLHIV and caring for a person with HIV or AIDS as risk. Meanwhile, 81.1% admitted of not perceiving risk or fear to touch the sweat of an HIV patient.

Table 4.5: Level of perceived risk and fear

Perceived risk and fear	Perceived risk, N (%)	Do not perceived risk, N (%)
Q6. Conducting surgery on or suturing a person with HIV or AIDS?	314 (84.9)	56 (15.1)
Q5. Dressing the wounds of a person with HIV or AIDS?	310 (83.8)	60 (16.2)
Q7. Putting an intravenous drip in someone who is showing signs of AIDS?	302 (81.6)	68 (18.4)
Q3. Giving an injection to a person with HIV or AIDS?	290 (78.4)	80 (21.6)
Q4. Caring for a person with HIV or AIDS?	135 (36.5)	235 (63.5)
Q2. Touching the saliva of a person with HIV or AIDS	134 (36.2)	236 (63.7)
Q1. Touching the sweat of a person with HIV or AIDS	70 (18.9)	314 (81.1)

* Table 4.5 frequency (N) and percentage (%) arranged in ascending order

iii. Level of value-driven stigma

An important cause of HIV stigma and discrimination in healthcare settings is the value-driven stigma or beliefs and opinions of health facility staffs towards people living with HIV. Table 4.6 describes the distribution of the factors of value-driven stigma among professional healthcare personnel in healthcare facility at Federal Territory of Kuala Lumpur.

Most of the participants showed higher value-driven stigma towards factors related to antenatal care and prevention of mother-to-child transmission. 88.4% agreed that a pregnant woman living with HIV should undergo antiretroviral therapy, even if it's not her choice to do so. More than 78% of this professional healthcare personnel considered that pregnant women who refuses HIV testing and women living with HIV and who do not follow infant feeding recommendations for preventing transmission of HIV are irresponsible. Besides that, 62% of the practitioners believes pregnant HIV patient should disclose her status to her family members and 59% stated that women living with HIV should not get pregnant if they already have children. Almost one in three doctors (32.7%) thinks that it is appropriate to sterilize a woman living with HIV, even if this is not her choice.

Surprisingly, 76% of the respondents believe that the most frequent mode of contracting HIV among healthcare providers is through work-related exposure and 58.9% think most HIV-positive healthcare providers get infected at work. The majority of the doctors showed no value-driven stigma towards the key population members such as men who have sex with men (MSM), female sex workers (FSM), people who inject drugs (PWID), women who have sex with women and transgenders. Nevertheless, 74.3% of the respondents still believe that female prostitutes spread HIV and 72.7% says promiscuous men spread HIV.

Table 4.6: Level of value-driven stigma

Value-driven stigma	Have value-driven stigma, N (%)	No value-driven stigma, N (%)
Q22. A pregnant woman living with HIV should undergo antiretroviral therapy, even if this is not her choice, for the health of the baby	327 (88.4)	43 (11.6)
Q18. Pregnant women who refuse HIV testing are irresponsible	291 (78.6)	79 (21.4)
Q20. Women living with HIV who do not follow infant feeding recommendations for preventing transmission of HIV to their infants are irresponsible	289 (78.1)	81 (21.9)
Q2. The most frequent mode of contracting HIV among healthcare providers is through work-related exposure	281 (76)	89 (24)
Q8. Female prostitutes spread HIV	275 (74.3)	95 (25.7)
Q7. Promiscuous men spread HIV in our community	269 (72.7)	101 (27.3)
Q17. If a pregnant woman is HIV positive, her family has a right to know	229 (61.9)	141 (38.1)
Q21. Women living with HIV should not get pregnant if they already have children	218 (59)	152 (41)
Q3. Most HIV-positive healthcare providers get infected at work	218 (58.9)	152 (41.1)
Q9. I would feel ashamed if I was infected with HIV	207 (56)	163 (44)

Table 4.6, continued.

Value-driven stigma	Have value-driven stigma, N (%)	No value-driven stigma, N (%)
Q23. It can be appropriate to sterilize a woman living with HIV, even if this is not her choice	121 (32.7)	249 (67.3)
Q10. I would feel ashamed if someone in my family was infected with HIV	110 (29.7)	260 (70.3)
Q5. HIV is punishment for bad behaviour	83 (22.4)	287 (77.6)
Q11. I would prefer not to provide services to — People who inject illegal drugs	48 (13)	322 (87.1)
Q12. I would prefer not to provide services to—Men who have sex with men	39 (10.5)	331 (89.5)
Q13. I would prefer not to provide services to—Sex workers	36 (9.7)	334 (90.3)
Q14. I would prefer not to provide services to—Transgender people	36 (9.7)	334 (90.3)
Q15. I would prefer not to provide services to—Women who have sex with women	33 (8.9)	337 (91.1)
Q1. I avoid touching the clothing and belongings of clients known or suspected to have HIV for fear of becoming HIV-infected	29 (7.8)	341 (92.2)
Q6. People with HIV should be ashamed of themselves	24 (6.5)	346 (93.5)
Q19. Women living with HIV are unable to be good mothers	24 (6.5)	346 (93.5)
Q4. HIV is a punishment from God	23 (6.2)	347 (93.7)
Q16. I would prefer not to provide services to—Migrants	22 (6)	348 (94)

* Table 4.6 frequency (N) and percentage (%) arranged in ascending order

iv. Level of observed discriminatory attitudes

Table 4.7 shows whether the respondents have observed their colleagues performing discriminatory behaviours in their health facility in the past 12 months, rather than they themselves being engaged in such behaviour. One in three of the professional healthcare personnel stated that they observed additional precautions were taken to sterilise the instruments used on HIV-positive patients (65.4%) and latex gloves was used for performing non-invasive examinations on patients suspected of having HIV (63.5%).

62.1% of the doctors have observed their colleagues gossiping about a patient's HIV status and more than half (58.1%) claimed that healthcare staffs have required some patients to be tested unnecessarily for HIV before scheduling surgery. The participants also have observed PLHIV receiving less care and attention in healthcare facilities than other patients (47%). Other discriminatory attitudes observed by healthcare personnel at healthcare facility were testing of a patient for HIV without his or her consent (27.3%) and senior healthcare providers dispensing HIV patients to junior healthcare providers care (27.6%).

Table 4.7: Level of observed discriminatory attitudes

Observed discriminatory attitudes	Observed discriminatory attitudes, N (%)	Never observed discriminatory attitudes, N (%)
Q2. Extra precautions being taken in the sterilization of instruments used on HIV-positive patients	242 (65.4)	128 (34.6)
Q4. Using latex gloves for performing non-invasive exams on patients suspected of having HIV	235(63.5)	135 (36.5)
Q7. healthcare providers gossiping about a patient's HIV status	230 (62.1)	140 (37.8)
Q3. Requiring some patients to be tested for HIV before scheduling surgery	215 (58.1)	155 (41.9)
Q1. Receiving less care/attention than other patients	174 (47)	196 (53)
Q5. Because a patients is HIV-positive, a senior healthcare provider assigned the patient to junior healthcare providers	102 (27.6)	268 (72.4)
Q6. Testing a patient for HIV without his/her consent	101 (27.3)	269 (72.7)

* Table 4.7 frequency (N) and percentage (%) arranged in ascending order

v. Level of discriminatory attitudes

Table 4.8 demonstrates the level of discriminatory attitudes of healthcare professional towards people living with HIV. Overall, majority of the practitioners portrayed discriminative behaviour in certain conditions. More than half of the professional healthcare personnel (53%) claimed not being comfortable performing surgical or invasive procedures on patients whose HIV status is unknown. In addition, 42% agreed that medical students who are HIV-positive should not have the right to complete their degree.

Almost all of the healthcare personnel (95.7%) disagreed to the statement that they do not have responsibility to treat people living with HIV, 95.7% disagreed that PLHIV should be forced to resign from their job and 95.4% claimed children with HIV and AIDS should not be allowed to attend public schools.

Only a small percentage of healthcare personnel agreed that they do not want persons at high-risk for HIV/AIDS as their patients (6.2%) and would request their authority to remove from the responsibility of caring PLHIV (5.1%). One in five of the respondents (22.7%) still indicated that they prefer to refer PLHIV to other physicians and 18.6% agreed that if given a choice, they would not work with HIV/AIDS patients.

Table 4.8: Level of discriminatory attitudes

Discriminatory attitudes	Has discriminatory attitudes, N (%)	No discriminatory attitudes, N (%)
Q15. I am not comfortable performing surgical or invasive procedures on patients whose HIV status is unknown	196 (53)	174 (47)
Q10. Medical students who are HIV-positive should not have the right to complete their degree	155 (42)	215 (58)
Q2. I prefer to refer persons with HIV/AIDS to other physicians/care providers	84 (22.7)	286 (77.3)
Q5. If I had a choice, I would not work with HIV/AIDS patients	69 (18.6)	301 (81.4)
Q11. Government should spend less money on HIV and AIDS, and more on other, more common diseases	53 (14.3)	317 (85.7)
Q12. Our country does not need any laws to protect PLHIV from discrimination	41 (11.1)	329 (88.9)
Q14. I am not comfortable assisting or being assisted by a colleague who is HIV infected	34 (9.2)	336 (90.8)
Q1. Those who have HIV/AIDS should not be allowed to mix freely with other people	25 (6.7)	345 (93.3)
Q3. I do not want persons at high risk for HIV and AIDS as my patients	23 (6.2)	347 (93.8)
Q9. I would request my authority to remove me from the responsibility of caring PLHIV	19 (5.1)	351 (94.9)
Q6. People who have HIV and AIDS should not be allowed to work	19 (5.1)	351 (94.9)
Q4. Children with HIV/AIDS should not be allowed to attend public schools	17 (4.6)	353 (95.4)
Q7. Those who have HIV and AIDS should be forced to resign from their job	16 (4.3)	354 (95.7)
Q8. Needs of people with HIV should not be given priority	16 (4.3)	354 (95.7)
Q13. I do not have a responsibility to treat people with HIV/AIDS	16 (4.3)	354 (95.7)

* Table 4.8 frequency (N) and percentage (%) arranged in ascending order

vi. Level of practices related to HIV/AIDS

Table 4.9 shows the level of healthcare personnel practices related to HIV/AIDS. More than half the respondents (53.5%) admitted to still using protective wear such as gowns, mask and gloves for non-invasive physical examination on non-bleeding HIV-positive patients. Most (43.2%) also agreed that while treating patients with HIV/AIDS, they only administer medications for symptomatic conditions but do not touch or physically examine these individuals.

Otherwise, majority of the professional healthcare personnel has good practices related to HIV/AIDS. Many agreed that they maintain the confidentiality of the PLHIV (85.4%). In addition, almost all of the respondents (92%) stated that they will never delay treatment, surgery or provide slower service for HIV-positive individuals.

Table 4.9: Level of practice related to HIV/AIDS

Practice related to HIV/AIDS	Poor practice, N (%)	Good practice, N (%)
Q2. Use protective wear (e.g. gloves, gowns, mask, etc.) to do non-intrusive physical exams on non-bleeding HIV-positive patients even if the patient does not have open sores	198 (53.5)	172 (46.5)
Q1. Administer medications for symptomatic conditions but do not touch or physically examine patients with HIV/AIDS	160 (43.2)	210 (56.8)
Q4. Do not maintain the confidentiality of HIV+ individuals	54 (14.6)	316 (85.4)
Q5. Keep HIV-positive patients under observation without a treatment plan for a few days	46 (12.4)	324 (87.6)
Q6. Prescribe 'non-serious' medicines (e.g. vitamins) to HIV/AIDS patients with opportunistic infections instead of 'real' medicines	33 (9)	337 (91)
Q3. Delay treatment or provide slower service for HIV+ individuals	30 (8)	340 (92)
Q7. Postpone treatment or surgery for HIV-positive patients as long as possible	30 (8)	340 (92)

* Table 4.9 frequency (N) and percentage (%) arranged in ascending order

vii. Prevalence of stigma measures, professional healthcare personnel discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

The overall findings show high prevalence of stigmatization among professional healthcare personnel in public healthcare setting at Federal Territory of Kuala Lumpur. The majority of the healthcare personnel have agreed that they still perceive risk to treat and care HIV-positive individuals (83.5%) and more than half of them admitted that have observed their colleagues being discriminative towards PLHIV while treating or attending to them (62.7%). Value-driven stigma, which is mostly driven and influenced by a person's religious observance, cultural customs or the general societal norms subsequently lead to acts such as shaming and being judgemental towards PLHIV and this behaviour is still appeared to be eminent among healthcare personnel in urban Malaysian setting. 73% of the participants from the first part of the study show this ostracizing behaviour. Moreover, one in two professional healthcare personnel agreed that they have discriminatory attitudes towards PLHIV (51.6%) and this eventually precedes to their poor practices while attending to a HIV-infected individual (53.8%).

Table 4.10: Prevalence of stigma measures, discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

Variables	N (%)
Perceived risk and fear	
Perceived risk	309 (83.5)
No perceived risk	61 (16.5)
Value-driven stigma	
Has value-driven stigma	270 (73)
No value-driven stigma	100 (27)
Observed discriminatory attitudes	
Has observed discriminatory attitudes	232 (62.7)
Never observed discriminatory attitudes	138 (37.3)
Discriminatory attitudes towards HIV/AIDS	
Has discriminatory attitudes	191 (51.6)
No discriminatory attitudes	179 (48.4)
Practices related to HIV/AIDS	
Poor practice	199 (53.8)
Good practice	171 (46.2)

4.2.2 Association between healthcare personnel discriminatory attitudes and practices related to HIV/AIDS

Objective 2: To examine the association between discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

The analysis in table 4.11 revealed that professional healthcare personnel discriminatory attitudes towards HIV/AIDS is associated with their practices related related to HIV/AIDS ($\chi 2$ (1) = 4.6, p = 0.03).

Table 4.11: Association between discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

Variable	Poor practice N (%)	Good practice N (%)	Crude OR	95% CI	p value
Discriminatory attitudes					
Has discriminatory attitudes	113 (30.5)	78 (21.1)	1.57	1.04-2.36	0.03
No discriminatory attitudes	86 (23.2)	93 (25.1)	1.0		

4.2.3 Bivariate analyses of discriminatory attitudes towards HIV/AIDS

Objective 3: To determine factors associated with discriminatory attitudes towards HIV/AIDS

Tables 4.12-4.14 provide the significance values and proportions of discriminatory attitudes towards HIV/AIDS according to sociodemographic characteristics, professional healthcare personnel work characteristics and stigma measures components. There is a significant association between discriminatory attitudes and ethnicity. The proportion of Malay healthcare professional showing discriminatory attitudes is higher than the proportion of other ethnic group healthcare personnel ($\chi 2$ (1) = 4.01, p = 0.04). By way of religion, the Muslims were more prevalent with discriminatory attitudes compared to the non-Muslims. The analysis also revealed that the proportion of professional healthcare personnel who have previous experience of treating HIV-positive individuals has higher discriminative attitudes than those who have no experience ($\chi 2$ (1) = 5.1, p = 0.02).

Table 4.12: Bivariate analyses between sociodemographic characteristics and discriminatory attitudes towards HIV/AIDS

Variable	Total N (%)	Has discriminatory attitudes N (%)	No discriminatory attitudes N (%)	Crude OR	95% CI	p value
Age						
≤40 years old	345 (93)	180 (48.6)	165 (44.6)	1.39	0.61-3.14	0.43
>40 years old	25 (7)	11 (3.0)	14 (3.8)	1.0		
Sex						
Male	99 (27)	49 (13)	50 (14)	1.12	0.71-1.78	0.62
Female	271 (73)	142 (38)	129 (35)	1.0		
Ethnicity						
Malay	218 (59)	122 (33)	96 (26)	1.53	1.01-2.32	0.04
Non-Malay	152 (41)	69 (19)	83 (22)	1.0		
Religion						
Muslim	222 (60)	124 (33.5)	98 (26.5)	1.53	1.01-2.32	0.04
Non-Muslim	148 (40)	67 (18)	81 (22)	1.0		
Marital status						
Married	211 (57)	113 (30.5)	98 (26.5)	1.20	0.79-1.81	0.39
Unmarried/ Others	159 (43)	78 (21)	81 (22)	1.0		

In table 4.14, two components of stigma measures were significantly associated with healthcare personnel discriminatory attitudes towards HIV/AIDS. There is evidence of significant association between doctors perceived risk and fear while treating or caring PLHIV and discriminatory attitudes towards HIV/AIDS ($\chi 2$ (1) = 7.08, p = 0.009). Furthermore, the proportion of doctors with higher value-driven stigma showed to have discriminative attitudes towards PLHIV than those who have no value-driven stigma ($\chi 2$ (1) = 77.7, p < 0.001).

Table 4.13: Bivariate analyses between work characteristics and discriminatory attitudes towards HIV/AIDS

Variable	Total N (%)	Has discriminatory attitudes N (%)	No discriminatory attitudes N (%)	Crude OR	95% CI	p value
Professional designation						
Non-specialists (HO&MO)	354 (95.6)	186 (50.2)	168 (45.4)	2.44	0.83-7.16	0.11
Specialists	16 (4.4)	5 (1.4)	11 (3)	1.0		
Experience treating PLHIV						
Yes	339 (91.6)	170 (46)	169 (45.6)	2.46	1.10-5.50	0.02
No	31 (8.4)	9 (2.4)	22 (6)	1.0		
Years of experience						
5 years and below	210 (57)	110 (30)	100 (27)	1.07	0.71-1.62	0.74
More than 5 years	160 (43)	81 (22)	79 (21)	1.0		
Type of facility						
Tertiary hospital	180 (48.6)	90 (24.3)	90 (24.3)	0.88	0.59-1.33	0.54
Primary healthcare/DHO	190 (51.4)	101 (27.3)	89 (24.1)	1.0		
Department the doctor works						
Non-surgical departments	310 (83.8)	162 (43.8)	148 (40)	1.17	0.67-2.03	0.58
Surgical department	60 (16.2)	29 (7.8)	31 (8.4)	1.0		
HIV related training past 1 year						
Never attended training	284 (76.8)	149 (40.3)	135 (36.5)	1.16	0.71-1.87	0.56
Attended at least once past 1year	86 (23.2)	42 (11.4)	44 (11.8)	1.0		
Number of training past 1 year						
None	289 (78.1)	153 (41.4)	136 (36.7)	1.27	0.78-2.09	0.34
Once or more	81 (21.9)	38 (10.3)	43 (11.6)	1.0		

Table 4.14: Bivariate analyses between stigma measures and discriminatory attitudes towards HIV/AIDS

Variable	Total N (%)	Has discriminatory attitudes N (%)	No discriminatory attitudes N (%)	Crude OR	95% CI	p value
Perceived risk & fear						
Perceived risk & fear	309 (83.5)	169 (45.7)	140 (37.8)	2.14	1.21-3.78	0.009
No perceived risk & fear	61 (16.5)	22 (6)	39 (10.5)	1.0		
Value – driven stigma						
Has value-driven stigma	270 (73)	177 (47.8)	93 (25.1)	11.69	6.30-21.69	<0.001
No value-driven stigma	100 (27)	14 (3.8)	86 (23.2)	1.0		
Observed discriminatory attitudes						
Observed discriminatory attitudes	232 (62.7)	116 (31.4)	116 (31.4)	0.84	0.55-1.28	0.42
Never observed discriminatory attitudes	138 (37.3)	75 (20.3)	63 (17)	1.0		

4.2.4 Multivariate logistic regression analyses of discriminatory attitudes towards HIV/AIDS

Table 4.15 shows the variables that are correlated with discriminatory attitudes towards HIV/AIDS among the sampled professional healthcare personnel in public health facilities. The strongest factor was value-driven stigma, one of the component of the stigma measures. This is followed by the healthcare personnel's perceived risk and fear towards HIV/AIDS. Even though this variable is not significantly related to

discriminatory attitudes towards HIV/AIDS but it still appeared to be a risk factor towards professional healthcare personnel's discriminatory attitudes towards HIV/AIDS.

Based on the research objective, there is an association between the components of the sociodemographic factor, work characteristics and stigma measures. However, the associating factors is only within the stigma measure component. The alternative hypothesis for the research objective was that every component was associated with discriminatory attitudes towards HIV/AIDS. However, the analysis showed that only value-driven stigma is associated with discriminatory attitudes towards HIV/AIDS. Therefore, the hypothesis is partially supported.

Table 4.15: Multivariate logistic regression of factors associated to discriminatory attitudes towards HIV/AIDS

Variable	Coefficient	SE	OR [a]	95% CI	p value
Ethnicity					
Malay	- 0.18	1.13	0.83	0.09-7.64	0.87
Non- Malay			1.0	(ref)	
Religion					
Muslim	0.10	1.14	1.11	0.12-10.29	0.93
Non-Muslim			1.0	(ref)	
Professional designation					
Non-specialists (HO&MO)	-0.39	0.63	0.68	0.20-2.31	0.53
Specialists			1.0	(ref)	
Experience of treating PLHIV					
Yes	0.44	0.44	1.55	0.65-3.68	0.32
No			1.0	(ref)	
Perceived risk & fear					
Perceived risk & fear	0.51	0.33	1.67	0.87-3.17	0.12
No perceived risk & fear			1.0	(ref)	
Value – driven stigma					
Has value-driven stigma	2.36	0.32	10.56	5.64-19.79	< 0.001
No value-driven stigma			1.0	(ref)	

OR[a]: Adjusted Odds Ratio

The sample size included in the logistic regression is 370. Variables with p-value of < 0.25 from the bivariate association were entered in the regression. The Hosmer-Lemeshow goodness-of-fit chi-squared test = 88.31 (df = 6), $p < 0.001$, and the classification table = 71.4%.

4.2.5 Bivariate analyses of practices related to HIV/AIDS

Objective 4: To determine factors associated with practices related to HIV/AIDS

Tables 4.16-4.18 provide the significance values and proportions of practices related to HIV/AIDS according to sociodemographic characteristics, professional healthcare personnel work characteristics and stigma measures components. There is a significant association between professional healthcare personnel's practices and their age. The proportion of professional healthcare personnel who age 40 years and below showing poor way of practices while handling HIV/AIDS patients is higher than the proportion of older healthcare personnel whom more than 40 years ($\chi 2$ (1) = 5.17, p = 0.03). The proportion of Malay doctors involved in poor practices while caring for PLHIV is higher than the proportion of non-Malays ($\chi 2$ (1) = 5.20, p = 0.02). The Muslims were more prevalent with discriminatory attitudes compared to the non-Muslims. The analysis also revealed that the married professional healthcare personnel tend to show more good practices when handling HIV/AIDS patients compared to those whom are unmarried, single or divorced ($\chi 2$ (1) = 8.07, p = 0.005).

In terms of work characteristic of professional healthcare personnel, there are three variables which found to be significantly associated with practices related to HIV/AIDS (Table 4.17). The proportion of healthcare care personnel who have worked for five years and less involved in performing poor practices while treating HIV/AIDS patients is higher than those who have served longer in this profession ($\chi 2$ (1) = 17.82, p <0.001). The type of facility where the healthcare provider works also showed to have significant association with their practices related to HIV/AIDS. Doctors whom were practising at tertiary hospital setting tend to have more poor practices while caring or treating PLHIV compared to those who were practising at primary healthcare setting or even district health office ($\chi 2$ (1) = 12.86, p <0.001). In addition, doctors who were based at non-surgical departments tend to have more prejudiced practices compared to those who

were working at surgical based departments. No significant association for HIV-related training was observed in this study.

Table 4.16: Bivariate analyses between sociodemographic characteristics and practices related to HIV/AIDS

Variable	Total N (%)	Poor practice N (%)	Good practice N (%)	Crude OR	95% CI	p value
Age						
≤40 years old	345 (93.2)	191 (51.6)	154 (41.6)	2.64	1.11-6.27	0.02
>40 years old	25 (6.8)	8 (2.2)	17 (4.6)	1.0		
Gender						
Male	99 (27)	53 (14)	46 (13)	0.99	0.62-1.57	0.95
Female	271 (73)	146 (39)	125 (34)	1.0		
Ethnicity						
Malay	218 (58.9)	128 (35)	90 (24)	1.62	1.10-2.46	0.02
Non-Malay	152 (41.1)	71 (19)	81 (22)	1.0		
Religion						
Muslim	222 (60)	130 (35)	92 (25)	1.62	1.10-2.46	0.02
Non-Muslim	148 (40)	69 (19)	79 (21)	1.0		
Marital status						
Married	211 (57)	100 (27)	111 (30)	0.55	0.36-0.83	0.005
Unmarried / Others	159 (43)	99 (26.8)	60 (16.2)	1.0		

Table 4.17: Bivariate analyses between work characteristics and practices related to HIV/AIDS

Variable	Total N (%)	Poor practices N (%)	Good practices N (%)	Crude OR	95% CI	p value
Professional designation						
Non-specialists (HO&MO)	354 (95.6)	193 (52.2)	161 (43.5)	1.99	0.71-5.62	0.19
Specialists	16 (4.4)	6 (1.6)	10 (2.7)	1.0		
Experience treating PLHIV						
Yes	339 (91.6)	183 (49.5)	156 (42.2)	1.10	0.53-2.30	0.80
No	31 (8.4)	16 (4.3)	15 (4)	1.0		
Years of experience						
5 years and below	210 (57)	133 (36)	77 (20.8)	2.46	1.61-3.75	<0.001
More than 5 years	160 (43)	66 (17.8)	94 (25.4)	1.0		
Type of facility						
Tertiary hospital	180 (48.6)	114 (30.8)	66 (17.8)	2.13	1.41-3.24	<0.001
Primary healthcare/DHO	190 (51.4)	85 (23)	105 (28.4)	1.0		
Department the doctor works						
Non-surgical departments	310 (83.8)	154 (41.6)	156 (42.2)	3.04	1.63-5.68	<0.001
Surgical department	60 (16.2)	15 (4)	45 (12.2)	1.0		
HIV related training past 1 year						
Never attended training	284 (76.8)	156 (42.2)	128 (34.6)	1.22	0.75-1.98	0.42
Attended at least once past 1year	86 (23.2)	43 (11.6)	43 (11.6)	1.0		
Number of training past 1 year						
None	289 (78.1)	160 (43.2)	129 (34.9)	1.34	0.82-2.19	0.25
Once or more	81 (21.9)	39 (10.5)	42 (11.4)	1.0		

All components of stigma measures were significantly associated with healthcare personnel practices related to HIV/AIDS (Table 4.18). The professional healthcare personnel whom perceived risk and fear tend to show more poor practices related to HIV/AIDS ($\chi2$ (1) = 15.06, p < 0.001). Besides that, study participants who have value-driven stigma, which is a behaviour to shame or blame PLHIV prone to have more prejudiced way of practises while treating and caring HIV-infected individuals ($\chi2$ (1) = 9.01, p = 0.003). Those professional healthcare personnel who observed their colleagues being discriminative towards HIV/AIDS patients also have poor practices while handling PLHIV ($\chi2$ (1) = 25.07, p < 0.001).

Table 4.18: Bivariate analyses between stigma measures and practices related to HIV/AIDS

Variable	Total N (%)	Poor practice N (%)	Good practice N (%)	Crude OR	95% CI	p value
Perceived risk & fear						
Perceived risk & fear	309 (83.5)	180 (48.6)	129 (34.9)	3.08	1.72-5.55	<0.001
No perceived risk & fear	61 (16.5)	19 (5.1)	42 (11.4)	1.0		
Value – driven stigma						
Has value-driven stigma	270 (73)	158 (42.7)	112 (30.3)	2.03	1.27-3.24	0.003
No value-driven stigma	100 (27)	41 (11.1)	59 (15.9)	1.0		
Observed discriminatory attitudes						
Observed discriminatory attitudes	232 (62.7)	148 (40)	84 (22.7)	3.01	1.94-4.65	<0.001
Never observed discriminatory attitudes	138 (37.3)	51 (13.8)	87 (23.5)	1.0		

4.2.6 Multivariate logistic regression analyses of practices related to HIV/AIDS

Table 4.19-4.20 shows the variables that are correlated with practices related to HIV/AIDS among the sampled professional healthcare personnel in public health facilities. In Step 1 of this multivariable analysis, variables with p-value of less than 0.25 such as age, ethnicity, religion, marital status, professional designation, years of work experience, types of facilities, department where the healthcare personnel works, number of training in the past year, perceived risk, value-driven stigma and observed discriminatory attitudes from the bivariate association were included (Table 4.19). Then in the next step, age, ethnicity, religion, marital status, professional designation, types of facilities, number of training in the past year and years of work experience were removed in view of p-value being greater than 0.05. The variable department where the healthcare personnel works showed almost significant (p= 0.06) value in step 1 multivariable analysis. Since this variable has clinical importance, it is included in the step 2 multivariable analysis. Besides that, all other variables with a significance level of less than 0.05 in step 1 multivariable regression analysis were included in step 2 multivariate logistic regression analysis (Table 4.20). From the findings, all three components of the stigma measures and the variable department where the healthcare personnel works revealed to be the strongest factors.

Professional healthcare personnel from the non-surgical based departments were three time likely to have poor practical methods while caring or treating HIV-infected individuals than those who were in surgical based department (OR = 3.01, 95% CI = 1.56-5.81). Besides that, those doctors whom perceived risk and fear towards HIV/AIDS were two times likely to perform poor practices while handling HIV-infected patients compared to those whom do not perceived risk and fear. Furthermore, healthcare personnel who were motivated by value-driven stigma also were two times likely to carry out poor and prejudiced practices than those whom denies to have it (OR

= 2.0, 95% CI = 1.20-3.33). This is followed by the variable observed discriminatory attitudes, whereby the professional healthcare personnel who have observed their colleagues being discriminative towards HIV-infected individuals tend to be twice as likely to have poor practices related to HIV/AIDS compared to those who have never observed such behaviour (OR = 2.73, 95% CI = 1.73-4.31).

Based on the research objective, there is an association between the components of the sociodemographic factors, work characteristics and stigma measures. However, the associated factors are only within the work characteristics and stigma measure components. The alternative hypothesis for the research objective was that every component was associated with practices related to HIV/AIDS. However, the analysis showed that only four factors, namely the department where the healthcare personnel works, perceived risk and fear, value-driven stigma and observed discriminatory attitudes are associated with practices related to HIV/AIDS. Therefore, the hypothesis is partially supported.

Table 4.19: Multivariate logistic regression of factors associated to practices related to HIV/AIDS (Step 1)

Variable	Coefficient	SE	OR [a]	95% CI	p value
Age					
≤ 40 years old	- 0.52	0.49	0.59	0.23-1.57	0.30
> 40 years old			1.0	(ref)	
Ethnicity					
Malay	- 0.3	1.06	0.74	0.09-5.92	0.78
Non- Malay			1.0	(ref)	
Religion					
Muslim	- 0.05	1.07	0.95	0.12-7.69	0.96
Non-Muslim			1.0	(ref)	
Marital status					
Married	0.35	0.26	1.42	0.85-2.39	0.18
Unmarried/others			1.0	(ref)	
Professional designation					
Non-specialists (HO&MO)	0.01	0.64	1.01	0.28-3.57	0.98
Specialists			1.0	(ref)	
Years of experience					
5 years and below	- 0.43	0.28	0.65	0.38-1.12	0.12
More than 5 years			1.0	(ref)	
Type of facility					
Primary healthcare/DHO	- 0.20	0.30	0.82	0.46-1.47	0.51
Tertiary hospital			1.0	(ref)	
Department the doctor works					
Non-surgical based department	0.71	0.38	2.04	0.96-4.33	0.06
Surgical based department			1.0	(ref)	
Number of training past 1 year					
None	- 0.12	0.29	0.89	0.50-1.57	0.68
Once or more than once			1.0	(ref)	

Table 4.19, continued

Variable	Coefficient	SE	OR [a]	95% CI	p value
Perceived risk and fear					
Perceived risk	1.01	0.32	2.76	1.46-5.20	0.002
Not perceived risk			1.0	(ref)	
Value – driven stigma					
Has value-driven stigma	0.63	0.28	1.87	1.09-3.22	0.02
No value-driven stigma			1.0	(ref)	
Observed discriminatory attitudes					
Observed discriminatory attitudes	0.95	0.24	2.58	1.61-4.14	< 0.001
Never observed discriminatory attitudes			1.0	(ref)	

OR[a]: Adjusted Odds Ratio

The sample size included in the logistic regression is 370. Variables with p-value of < 0.25 (as mentioned in step 1 description above) from the bivariate association were entered in the regression. The Hosmer-Lemeshow goodness-of-fit chi-squared test = 70.32 (df = 12), $p < 0.001$, and the classification table = 67.6%.

Table 4.20: Multivariate logistic regression of factors associated to practices related to HIV/AIDS (Step 2)

Variable	Coefficient	SE	OR [a]	95% CI	p value
Department the doctor works					
Non-surgical based department	1.10	0.34	3.01	1.56-5.81	0.001
Surgical based department			1.0	(ref)	
Perceived risk & fear					
Perceived risk	0.96	0.32	2.61	1.40-4.85	0.002
Not perceived risk			1.0	(ref)	
Value – driven stigma					
Has value-driven stigma	0.69	0.26	2.0	1.20-3.33	0.008
No value-driven stigma			1.0	(ref)	
Observed discriminatory attitudes					
Observed discriminatory attitudes	1.0	0.23	2.73	1.73-4.31	< 0.001
Never observed discriminatory attitudes			1.0	(ref)	

OR[a]: Adjusted Odds Ratio

The sample size included in the logistic regression is 370. Variables with p-value of < 0.05 (as mentioned in step 2 description above) and which has clinical importance from the multivariable regression were included in the 2nd model. The Hosmer-Lemeshow goodness-of-fit chi-squared test = 55.32 (df = 4), $p < 0.001$, and the classification table = 64.9%.

4.3 Second Part of the Study: Among People Living with HIV

4.3.1 Description of study population and variables

4.3.1.1 Study population characteristics

This section provides a general profile and description of the respondents and the settings in which they were located. Table 4.21 shows the distribution of respondents by non-governmental organizations in Federal Territory of Kuala Lumpur.

Table 4.21: Distribution of PLHIV by NGO's in FTKL region

Non-governmental organization	Total number of PLHIV, N	Number of respondents, N	% of respondent
Kuala Lumpur AIDS Support Services (KLASS)	400	202	50.5
PT Foundation	300	80	26.67

The HIV-infected individuals involved in this study were from two non-governmental organizations located at Kuala Lumpur (Table 4.21). There were 400 people living with HIV in the first organization, the Kuala Lumpur AIDS Support (KLASS) Services and 300 more were from the second organization. In total, 700 people living with HIV were included in this study of whom 282 participated in this research. This figure represents 40.3% of the eligible respondents.

4.3.1.2 Sociodemographic characteristics, HIV transmission and diagnosis

Table 4.22 displays the distribution of sociodemographic characteristics of people living with HIV/AIDS. The mean age of PLHIV was 36.7 years (SD= 10.1). The peak age group was PLHIV from 21 to 30 years (31.9%). This is followed by those ages 31 to 40 years (29.8%). Meanwhile, there were more male participants (83.7%) than female (11%), and the remaining 5.3% of the participants were transwomen. No transman participated in this study.

The participants were predominantly Malay (65.2%), followed by Chinese (19.9%), Indians (9.6%) and others (5.3%). Other races includes indigenous ethnic groups born in Sabah and Sarawak. Most of them were single (65.2%), 22.8% were married and 12% were either divorced, widowed or cohabiting. The majority of the participants reported having received secondary school education (40.8%) only. Few PLHIV stated that they have postgraduate degree. Twelve participants (4.3%) have Master's degree and another 1.4% of have a Doctor of Philosophy (Ph.D) degree.

Table 4.23 describes the duration of respondents have been diagnosed with HIV and gives information on possible mode of transmission to the illness. Many respondents were newly diagnosed. More than half of the PLHIV stated that they were diagnosed five years ago or less (64.9%). This is followed by 21.6% who were diagnosed as HIV-positive for the past six to ten years, 8.2% at 11 to 15 years and 5.3% were living with the disease for more than 16 years. Mode of HIV transmission was mainly through homosexual transmission (48.6%), followed by heterosexual (27%), injecting drugs (11.7%) and others (5.3%). Forty participants (14.2%) refused to answer this question. The majority received treatment at primary healthcare facility (54.3%) and the remaining 45.7% at a hospital.

Table 4.22: Sociodemographic characteristics of PLHIV

Variables	Frequency, N	Percentage (%)
Age Mean ((±SD)	36.7 (±10.1)	
20 years and below	5	1.8
21-30 years	90	31.9
31-40 years	84	29.8
41-50 years	77	27.3
51 years and above	26	9.2
Gender		
Man	236	83.7
Woman	31	11.0
Transwoman	15	5.3
Transman	-	-
Marital Status		
Married	64	22.8
Cohabiting	5	1.8
Divorced	23	8.2
Widowed	6	2.1
Never married / Single	184	65.2
Ethnicity		
Malay	184	65.2
Chinese	56	19.9
Indian	27	9.6
Others	15	5.3
Religion		
Muslim	194	68.8
Buddhist	44	15.6
Hindu	22	7.8
Christian	19	6.7
Others	3	1.1
Education level		
Primary school	8	2.8
Secondary school	115	40.8
A-Level / Diploma	77	27.3
Degree	66	23.4
Masters	12	4.3
Others	4	1.4

Table 4.23: HIV transmission and diagnosis

Variables	Frequency, N	Percentage (%)
Total year of diagnose as HIV		
5 years and less	183	64.9
6 - 10 years	61	21.6
11 - 15 years	23	8.2
16 years and above	15	5.3
Most likely way became infected with HIV	137	48.6
Sex with man who was HIV +ve	76	27
Sex with woman who was HIV +ve	33	11.7
Shared needle with HIV +ve person	9	3.2
Blood transfusion/ other procedure	6	2.1
NSI/ other occupational exposure	40	14.2
Refuse to answer		
Facility which receiving treatment		
Hospital facility	129	45.7
Primary healthcare facility	153	54.3

4.3.1.3 Prevalence study

Objective 1: To study the prevalence of enacted stigma, general healthcare seeking behaviour and adherence to antiretroviral treatment among people living with HIV

i. Prevalence of enacted stigma among people living with HIV

Enacted stigma related characteristics refer to the incident of people living with HIV experiencing at least one or more episodes of stigma at healthcare facility in the last one year. The enacted stigma related characteristics are illustrated in Table 4.24. 81.9% of the people living with HIV admitted that they experienced stigmatization when the healthcare personnel used latex gloves or took extra precautions for performing non-invasive examination. Many HIV-positive individuals also claimed they had to wait longer to be attended by their respective healthcare personnel when visiting a health facility (65.1%) and half of the respondents (50%) were told to come back later.

Forty percentage of the participants stated they were treated differently by healthcare staff because of their HIV status, which includes incidents as unnecessary referral to another doctor or referral to another facility. Almost 38% of PLHIV admitted they received less care and attention than other patients. One in three participants stated they were discharged too early from hospital without receiving proper care or treatment (29.4%). Others experienced scolding or blame for having HIV by healthcare personnel (29.1%). Less than 20% of the PLHIV claimed that healthcare providers gossiped about their HIV status. Few respondents experienced incidents such as testing for HIV without informed consent (14.2%) and the health provider disclosed their HIV status to family without consent (10.6%).

Table 4.24: Prevalence of enacted stigma among PLHIV

Enacted stigma	Yes, N (%)	No, N (%)
In the past 12 months, have you had any of the following happen to you at a healthcare facility because of your HIV status?		
Q9. Health provider used latex gloves for performing non-invasive examination on you or took extra precautions	231 (81.9)	51 (18.1)
Q3. You were told to wait longer to be attended	175 (62.1)	107 (37.9)
Q5. You were told to come back later	141 (50)	141 (50)
Q4. You were being unnecessarily referred on to another provider in the same facility or referred to another facility	120 (42.6)	162 (57.4)
Q14. In the past 12 months, was there any other way in which you were treated differently because of your HIV status?	118 (41.8)	164 (58.2)
Q13. You received less care/attention than other patients	106 (37.6)	176 (62.4)
Q2. You were discharged too early without proper care or treatment given	83 (29.4)	199 (70.6)
Q12. Health provider used derogatory language or scolded or blamed you for having HIV	82 (29.1)	200 (70.9)
Q1. Health provider refused to attend you	65 (23)	217 (65)
Q11. Health provider gossiped about your HIV status	55 (19.5)	227 (80.5)
Q7. You were tested for HIV without your informed consent	40 (14.2)	242 (85.8)
Q8. You were required to be tested for HIV before care was given or surgery scheduled	39 (13.8)	243 (86.2)
Q6. You were being denied treatment: drugs, surgery or relevant tests / investigations	31 (11)	251 (89)
Q10. Health provider disclosed your HIV status to your family without your consent	30 (10.6)	252 (89.4)

* Table 4.24 frequency (N) and percentage (%) arranged in ascending order

ii. Description of general healthcare seeking behaviour among people living with HIV

Table 4.25 shows the findings on the prevalence of general healthcare seeking behaviour among HIV-positive individuals. The majority of the PLHIV admitted that they did not hesitate to seek medical advice or treatment when they had any health concerns in the past year (82.6%). Government healthcare facility was one of the most common places HIV-positive individuals go to seek medical advice or treatment (96.8%). Some PLHIV also seek treatment and care at private healthcare facilities (28.4%) and a number of them stated they have seek treatment at NGO health facility (6%), pharmacy/drug store (13.5%) and even visited traditional practitioners (4.6%) for their healthcare related matters. When asked about disclosure status, 40% of the participants stated they did not disclose their HIV status to the healthcare provider from whom they last sought medical advice or treatment. More than half of the participants agreed that good quality of services were provided to them during their last visit to a healthcare facility (55.7%). Many PLHIV avoid or delay seeking treatment because they are afraid of service providers' attitudes toward them (48.6%).

When asked about their additional experiences in healthcare seeking behaviour and its repercussion, many admitted to still having fear due to previous bad encounters at health facilities (Table 4.26). 55.3% of the HIV patients travelled to a clinic or hospital further away instead of going to nearby facility because of fear that clinic/hospital medical staff or others will find out about their HIV status (41.8%). Moreover, almost one in three respondents (34.8%) admitted that they have paid for HIV treatment before even when it was available for free, in view of fear to disclose their HIV-positive status to their healthcare provider. A small part of the PLHIV also claimed that they chose to travel far away for treatment (6.7%) or follow-up at private healthcare facility on their

own cost (5.3%) in view of previous poor experiences with the clinic/hospital medical staff.

Table 4.25: Description of general healthcare seeking behaviour among PLHIV

General healthcare seeking behaviour	Yes N (%)	No N (%)
Q1. In the past 12 months, have you had any health concerns/worries that required medical attention?	217 (77)	65 (23)
Q2. In the past 12 months, when you had these health concerns/worries, did you seek medical advice or treatment?	233 (82.6)	49 (17.4)
Q3. Did you seek medical advice/treatment at government health facility in the past 12 months?	273 (96.8)	9 (3.2)
a. Other than government health facilities, did you seek medical treatment anywhere else? *(Participant can choose more than one answer)*		
Private health facility	80 (28.4)	202 (71.6)
NGO health facility	17 (6)	265 (94)
Pharmacy/drug Store	38 (13.5)	244 (86.5)
Traditional practitioner	13 (4.6)	269 (95.4)
Others	1 (0.4)	281 (99.6)
Q4. Did the service provider at last visit place know your HIV status?	169 (59.9)	113 (40.1)
Q5. Quality of services provided during last visit to that facility?		
Good service	157 (55.7)	125 (44.3)
Q6. Have you ever avoided or delayed seeking healthcare treatment because you were afraid of service providers' attitudes toward you as a person with HIV?	137 (48.6)	145 (51.4)

Table 4.26: Additional information on general healthcare seeking behaviour among PLHIV

Additional information on general healthcare seeking behaviour	Yes N (%)	No N (%)	Not available N (%)
Q7. Have you ever travelled to a clinic or hospital that is far away, instead of going to a nearby clinic / hospital, because of your HIV status?	156 (55.3)	126 (44.7)	0 (0)
Q8. If answered "**Yes**" to Q7, why did you choose to go to a clinic / hospital that is farther away? *(Participant can choose more than one answer)*			
a. I fear that clinic/hospital medical staff or others will find out that I am HIV positive	118 (41.8)	39 (13.8)	125 (44.3)
b. My previous experiences with the clinic / hospital medical staff were unsatisfactory	30 (10.6)	138 (48.9)	125 (44.3)
c. Others	19 (6.7)	137 (48.6)	126 (44.7)
Q9. Have you ever paid for treatment when it was available for free, because of your HIV status?	98 (34.8)	184 (65.2)	0 (0)
Q10. If answered "**Yes**" to Q9, why did you choose to pay rather than seek free treatment? *(Participant can choose more than one answer)*			
a. I fear that clinic / hospital medical staff or others will find out that I am HIV positive	67 (23.8)	36 (12.8)	179 (63.5)
b. My previous experiences with the clinic / hospital medical staff were unsatisfactory	15 (5.3)	89 (31.6)	178 (63.1)
c. Others	22 (7.8)	83 (29.4)	177 (62.8)

iii. Description of adherence to antiretroviral treatment among people living with HIV

The distribution of adherence to HIV treatment is displayed in Table 4.27. 57.1% of the participants stick to their scheduled HIV clinic appointments. The majority stated they have good adherence to their antiretroviral treatment, where 80.1% of the participants claimed they have not missed any of their medications doses in the past four days. 42.6% of the PLHIV admitted that they have skipped medications in the past one to three months.

The most common reason for missing HIV clinic appointments or medications were other reasons (21.3%). Participants stated its mainly due to travelling outstation or they simply forgot to take medications on that particular day. Following that, a small percentage of the PLHIV claimed that they missed appointments or medication doses due to substandard care at healthcare facility by healthcare provider. 8.2% said they were treated with disrespect or abused in healthcare setting, 6.7% received less or worse care, felt humiliated when the doctor or other healthcare staffs used extra precautions while handling or treating them (6.7%) and another 5.7% stated that the doctors or the healthcare staffs ignored them.

Table 4.27: Description of adherence to antiretroviral treatment among PLHIV

Adherence to antiretroviral treatment	Frequency, N (%)
Q1. During this past year, have you missed your HIV clinic appointments?	
a. Never missed appointments	161 (57.1)
b. Have missed appointments before (one to three time)	121 (42.9)
Q2. During this past 4 days, have you missed taking all your HIV treatment doses?	
a. Never missed all the medications in the past 4 days	226 (80.1)
b. Have missed all the medications in the past 4 days	56 (19.9)
Q3. During this past 4 days, have you missed taking at least one of your HIV medication doses?	
a. Never missed at least one of the medication doses in the last 4 days	227 (80.5)
b. Have missed at least one of the medication doses in the last 4 days	55 (19.5)
Q4. When was the last time you missed any of your medications?	
a. Never skipped medications before	162 (57.4)
b. Have skipped medications in the past 1 to 3 months	120 (42.6)
Q5. If you have missed your appointments in Q1 and medications in Q2, Q3 and Q4, what were the reasons? *(Participant can choose more than one answer)*	
a. Treated with disrespect or abused in healthcare setting	23 (8.2)
b. Denied care that you should have received	7 (2.5)
c. Doctors or the healthcare staffs ignored you	16 (5.7)
d. You received less or worse care	19 (6.7)
e. You realized the doctor or other healthcare staff were uncomfortable with you	10 (3.5)
f. You feel humiliated when the doctor or other healthcare staff use more precautions when treating you	19 (6.7)
g. Other reason	60 (21.3)

4.3.2 Bivariate analyses of general healthcare seeking behaviour among people living with HIV

Objective 2: Effect of enacted stigma on general healthcare seeking behaviour among people living with HIV

Tables 4.28-4.29 provide the significance values and proportions of general healthcare seeking behaviour among PLHIV according to sociodemographic characteristics of the participants and enacted stigma. No variables in the sociodemographic characteristics were significantly associated with general healthcare seeking behaviour. Other than religion and education level, all other variables showed a p-value greater than 0.25. Only enacted stigma at healthcare facility is related to general healthcare seeking behaviour. The proportion of those who experienced low level of stigma is higher than the proportion of participants who experienced a high level of stigma ($p < 0.005$).

Table 4.28: Bivariate analyses between sociodemographic characteristics and general healthcare seeking behaviour among PLHIV

Variable	Total N (%)	Poor healthcare seeking behaviour N (%)	Good healthcare seeking behaviour N (%)	Crude OR	95% CI	p value
Age						
≤30 years old	95 (33.7)	27 (9.6)	68 (24.1)	1.09	0.63-1.89	0.76
>30 years old	187 (66.3)	50 (17.7)	137 (48.6)			
Gender						
Man	236 (83.6)	63 (22.3)	173 (61.3)	0.92	0.56-1.50	0.73
Woman	31 (11.1)	10 (3.6)	21 (7.5)			
Transman / Transwoman	15 (5.3)	4 (1.4)	11 (3.9)			
Ethnicity						
Malay	184 (65.2)	48 (17)	136 (48.2)	0.84	0.49-1.45	0.53
Non- Malay	98 (34.8)	29 (10.3)	69 (24.5)			
Religion						
Muslim	194 (68.8)	48 (17)	146 (51.8)	0.67	0.38-1.16	0.15
Non-Muslim	88 (31.2)	29 (10.3)	59 (20.9)			
Marital status						
Married	64 (22.7)	17 (6)	47 (16.7)	0.95	0.51-1.79	0.88
Unmarried / others	218 (77.3)	60 (21.3)	158 (56)			
Education level						
Primary / Secondary school	123 (43.6)	28 (9.9)	95 (33.7)	0.66	0.38-1.14	0.13
Higher education	159 (56.4)	49 (17.4)	110 (39)			

Table 4.29: Bivariate analyses between enacted stigma and general healthcare seeking behaviour among PLHIV

Variable	Total N (%)	Poor healthcare seeking behaviour N (%)	Good healthcare seeking behaviour N (%)	Crude OR	95% CI	p value
Enacted stigma						
High stigma level	95 (33.7)	36 (12.8)	59 (20.9)	1.0		
Low stigma level	187 (66.3)	41 (14.5)	146 (51.8)	2.17	1.27-3.73	0.005

4.3.3 Multivariate logistic regression analyses of general healthcare seeking behaviour among people living with HIV

Table 4.30 shows the variables that are correlated with general healthcare seeking behaviour among PLHIV in non-governmental organizations. The strongest factor was enacted stigma at healthcare facilities. Participants who have low level of stigma were two times more likely to have general healthcare seeking behaviour compared to those who have experienced higher stigmatization in healthcare settings (OR = 2.15, 95% CI = 1.24-3.71). This is followed by the participant's education level and religion. Even though this variables is not significantly related to general healthcare seeking behaviour, it still appeared to be a risk factor towards general healthcare seeking behaviour among people living with HIV.

Based on the research objective, there is an association between the components of the sociodemographic factor and enacted stigma. However, the associated factors are only within the enacted stigma component. The alternative hypothesis for the research objective was that every component was associated with general healthcare seeking behaviour. However, the analysis showed that only enacted stigma is associated with

general healthcare seeking behaviour among PLHIV. Therefore, the hypothesis is partially supported.

Table 4.30: Multivariate logistic regression of factors associated with general healthcare seeking behaviour among PLHIV

Variable	Coefficient	SE	OR [a] (95% CI)	p value
Religion				
Muslim	0.31	0.29	1.36 (0.77-2.39)	0.29
Non-Muslim			(ref)	
Education level				
1° / 2° school	0.41	0.28	1.50 (0.87-2.60)	0.15
Higher education			(ref)	
Enacted stigma				
High stigma level			(ref)	
Low stigma level	0.76	0.28	2.15 (1.24-3.71)	0.006

OR[a]: Adjusted Odds Ratio

The sample size included in the logistic regression is 282. Variables with p-value of < 0.25 from the bivariate association were entered in the regression. The Hosmer-Lemeshow goodness-of-fit chi-squared test = 11.4 (df = 3), p = 0.01, and the classification table = 72.7%.

4.3.4 Bivariate analyses of adherence to antiretroviral treatment among people living with HIV

Objective 2: Effect of enacted stigma on adherence to antiretroviral treatment among people living with HIV

Tables 4.31-4.32 provide the significance values and proportions of adherence to antiretroviral treatment among PLHIV according to sociodemographic characteristics of the participants and enacted stigma. No variables in the sociodemographic characteristics were significantly associated with adherence to antiretroviral treatment. Variables such as age, ethnicity, religion and marital status showed p-value of less than

0.25. Only enacted stigma at healthcare facility is related to adherence to antiretroviral treatment. The proportion of those experienced low level of stigma at healthcare facilities is higher than the proportion of participants who experienced high level of stigma ($\chi 2$ (1) = 33.7, $p < 0.001$).

Table 4.31: Bivariate analyses between sociodemographic characteristics and adherence to antiretroviral treatment among PLHIV

Variable	Total N (%)	Poor Adherence N (%)	Good adherence N (%)	Crude OR	95% CI	p value
Age						
≤30 years old	95 (33.7)	28 (9.9)	67 (23.8)	1.60	0.94-2.72	0.08
>30 years old	187 (66.3)	75 (26.6)	112 (39.7)			
Gender						
Man	236 (83.6)	87 (30.9)	149 (52.8)	0.91	0.58-1.44	0.69
Woman	31 (11.1)	8 (2.8)	23 (8.2)			
Transman / Transwoman	15 (5.3)	8 (2.8)	7 (2.5)			
Ethnicity						
Malay	184 (65.2)	62 (22)	122 (43.3)	1.42	0.86-2.34	0.18
Non- Malay	98 (34.8)	41 (14.5)	57 (20.2)			
Religion						
Muslim	194 (68.8)	66 (23.4)	128 (45.4)	1.41	0.84-2.36	0.20
Non-Muslim	88 (31.2)	37 (13.1)	51 (18.1)			
Marital status						
Married	64 (22.7)	29 (10.3)	35 (12.4)	1.61	0.92-2.84	0.09
Unmarried / others	218 (77.3)	74 (26.2)	144 (51.1)			
Education level						
Primary / Secondary school	123 (43.6)	49 (17.4)	74 (26.2)	1.30	0.79-2.10	0.31
Higher education	159 (56.4)	54 (19.1)	105 (37.2)			

Table 4.32: Bivariate analyses between enacted stigma and adherence to antiretroviral treatment among PLHIV

Variable	Total N (%)	Poor adherence N (%)	Good adherence N (%)	Crude OR	95% CI	p value
Enacted stigma						
High stigma level	95 (33.7)	57 (20.2)	38 (13.5)	1.0		
Low stigma level	187 (66.3)	46 (16.3)	141 (50)	4.60	2.71-7.80	<0.001

4.3.5 Multivariate logistic regression analyses of adherence to antiretroviral treatment among people living with HIV

Table 4.33 shows the variables that are correlated with adherence to antiretroviral treatment among PLHIV. The strongest factor was enacted stigma at healthcare facilities. Participants who have a low level of enacted stigma were four times more likely to adhere to antiretroviral treatment compared to those who have experienced higher stigmatization in healthcare settings (OR = 4.40, 95% CI = 2.57-7.50). Other four variables, age, ethnicity, religion and marital status are not significantly related to adherence to antiretroviral treatment but its still appeared to be a risk factor towards adherence of treatment among people living with HIV.

Based on the research objective, there is an association between the components of the sociodemographic factor and enacted stigma. However, the associated factors are only within the enacted stigma component. The alternative hypothesis for the research objective was that every component was associated with adherence to antiretroviral treatment. However, the analysis showed that only one factor, enacted stigma is associated with adherence to antiretroviral treatment among PLHIV. Therefore, the hypothesis is partially supported.

Table 4.33: Multivariate logistic regression of factors associated with adherence to antiretroviral treatment among PLHIV

Variable	Coefficient	SE	OR [a] (95% CI)	p value
Age				
≤ 30 years old	0.33	0.30	1.39 (0.77-2.52)	0.28
> 30 years old			(ref)	
Ethnicity				
Malay	0.22	0.72	1.25 (0.31-5.08)	0.75
Non- Malay			(ref)	
Religion				
Muslim	0.05	0.73	1.05 (0.25-4.42)	0.95
Non-Muslim			(ref)	
Marital status				
Married			(ref)	
Unmarried / others	0.3	0.33	1.35 (0.71-2.58)	0.37
Enacted stigma				
High stigma level			(ref)	
Low stigma level	1.48	0.27	4.40 (2.57-7.50)	< 0.001

OR[a]: Adjusted Odds Ratio

The sample size included in the logistic regression is 282. Variables with p-value of < 0.25 from the bivariate association were entered in the regression. The Hosmer-Lemeshow goodness-of-fit chi-squared test = 37.3 (df = 5), p < 0.001, and the classification table = 68.8%.

4.4 Conclusion of Chapter Four

In the first part of the study, 51.6% of the professional healthcare personnel have discriminatory attitudes towards HIV/AIDS and 53.8% have poor practices when it comes to handling or treating HIV-infected individuals. Professional healthcare personnel's work characteristic such as the department where the healthcare personnel works and all the three components of stigma measures such as perceived risk, value-driven stigma and observed discriminatory attitudes were associated with healthcare personnel's practices related to HIV/AIDS. Only 8% of the participants reported to be working in HIV speciality clinic or department at the moment. Nevertheless, 91.6% of them admitted to having previous experience of treating HIV patients this past year. Other than that, the majority (76.8%) admitted that they have not attended any form of training pertaining to HIV this past year.

Meanwhile, the second part of the study findings showed that most of the PLHIV were from the category of productive age group (61.7%), from 21 to 40 years. Besides that, almost all of the participants (96.8%) stated they seek medical advice or treatment at government healthcare facility. 55.7% agreed that they were provided good quality services. Finally, enacted stigma was one of the strongest factors associated with PLHIV general healthcare seeking behaviour and their adherence to antiretroviral treatment.

CHAPTER 5: DISCUSSION

5.1 Introduction

The results from both parts of this study yielded several interesting findings about the research questions. To review briefly, the main research questions addressed were: 1) What are the factors related to discriminatory attitudes among professional healthcare personnel?; 2) What factors influence the practices related to HIV/AIDS among professional healthcare personnel?; 3) What are the effects of enacted stigma in healthcare settings towards people living with HIV?

The findings from both parts of this study must be understood and applied in the appropriate context. Because of the cross-sectional nature of this both quantitative study, the findings are a snapshot of the social characteristics of this study population, the professional healthcare personnel attached to government tertiary hospital or primary healthcare settings and the people living with HIV are clients of non-governmental HIV/AIDS organization in the Federal Territory of Kuala Lumpur. In this section, the core findings from both parts of the study are discussed separately. This is to reflect each important element of the study precisely. Once answering each of the research questions, the data gets connected and integrated to understand in-depth the subject of stigma and discrimination, especially in healthcare settings.

The findings of this research were compared with previous studies presented in the literature review. Following this, the researchers offers recommendations for future research while detailing the implications of the study findings as well comments on the strengths and limitations of the study.

5.2 First Part of the Study: Among Professional Healthcare Personnel

5.2.1 Description of study population and variables

5.2.1.1 Sociodemographic and work characteristics

The analysis showed that more than half of the professional healthcare personnel were between the age of 21 to 30 years. This is consistent with the result whereby the majority of the healthcare personnel stated that they have been in service for five years or lesser than that. Similar findings were noted by Feyissa et al. in 2012 where most of the respondents were younger doctors. In terms of gender, there were more female participants than males. Only 8% of the healthcare personnel were working in HIV speciality clinic or department during the time of data collection. Almost all participants admitted having previous experience of treating HIV patients this past year. This finding is consistent with a review by Mehrabi et al. (2016). Furthermore, the majority of the professional healthcare personnel (76.8%) admitted that they have not attended any form of training regarding HIV/AIDS in the past year, while the rest attended one or more than one training or course related to HIV the past year. The Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM) also reported similar results concerning the lack of training in the field of HIV/AIDS among healthcare providers (NCHSR, 2012).

5.2.1.2 Prevalence study

Objective 1: To assess the level of awareness on facility profile, perceived risk and fear, value-driven stigma, observed discriminatory attitudes, discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

i. Awareness of facility profile

Most of the professional healthcare personnel are well-informed regarding the availability of policies / guidelines / protocols related to HIV/AIDS in their respective

health facilities. Mainly, guidelines / protocols on HIV testing, issues pertaining to confidentiality of HIV-related information, standard precautions practices and National Clinical Tuberculosis (TB) guidelines were the common guidelines / protocols available at healthcare facilities. However, only half of the doctors were aware of anti-discrimination practices and less than half were aware of National HIV Policy. Similar findings were noted in Feyissa et al. (2012), where the good level of HIV knowledge were presented but participants admitted they rarely received information and updates regarding policies/protocols/guidelines pertaining to stigma.

Study by Reis et al. (2005) indicated that healthcare providers who reported working in facilities that did not always practice standard precautions against HIV transmission were more likely to favour restrictive policies towards PLHIV. Research findings also have shown that HIV-related protocols were available only to those healthcare providers who had taken the respective trainings, and the copies of these protocols will not be availed to other staffs or healthcare providers unless they find them with their own effort (Feyissa et al., 2012; Reis et al., 2005). This creates a gap in healthcare practices among healthcare personnel. According to Feyissa et al. (2012), the lower perception towards HIV/AIDS protocols will indirectly lead to the unethical treatment of people living with HIV and value-driven stigma among professional healthcare personnel as well as cause a lack of feeling of safety to seek healthcare among the PLHIV. Hence, availing these protocols is expected to contribute directly to the reduction of stigma and discrimination towards PLHIV and improve the attitudes and practices of healthcare provider.

This participants also claimed that adequate training on implementations of policies / guidelines / protocols were given to the other healthcare staffs particularly training on standard precautions, blood safety protocols, occupational post-exposure prophylaxis, HIV testing procedure and HIV counselling and testing. Gulifeiy & Rahmah (2008)

stated similar results in a local study conducted among healthcare providers. Nevertheless, many were still unaware regarding training on the subject of discrimination related to HIV/AIDS. This findings is consistent with Feyissa et al. (2012), who found that no training on stigma and discrimination against HIV/AIDS had been provided to healthcare providers and anti-discrimination policy is non-existent in the healthcare institutions. However, the issue of stigma and discrimination was incorporated into the comprehensive HIV training.

ii. Perceived risk and fear

Even though research has shown that the majority of healthcare workers understand how HIV is transmitted, they still revealed fears of the disease and those who were more fearful were more likely to hold stigmatizing views (Chan et al., 2009; Hossain & Kippax, 2011; Pisal et al., 2007; Vance & Denham, 2008). The majority of the doctors who participated in this study showed they perceived high-risk and fear while performing invasive procedures to a HIV-positive patient especially during conducting surgery or suturing a person living with HIV and while dressing open wounds of a PLHIV. Similar results were presented by Chan et al. (2009) and Hossain & Kippax (2011).

This study also found that healthcare providers' still fear administering injection or acquire intravenous access to a HIV-positive patient. One in three of the participants has fear and perceived risk to care for a PLHIV. Similar findings were noted in Harapan et al. (2013), Amoran (2011) and Katz et al. (2013). Cianelli et al. (2011) stated that perceived risk and fear of work-related HIV transmission was described as a possible explanation for healthcare providers to refuse care to patients living with HIV. Synonymous findings were observed by Olalekan, Akintunde, and Olatunji, that fear of

occupational infection encouraged some healthcare personnel to refuse care to HIV-infected individuals (2014).

iii. Value-driven stigma

Previous research found that shame, blame and moral judgement are key underlying causes of HIV-related stigma (Nyblade et al., 2013; Ngozi et al., 2009). Many associate HIV with "unacceptable" or "deviant" behaviours as sex outside of marriage, sex with multiple partners and injecting drug use, leading to assumptions about the "moral" character of PLHIV. This in turn leads to shaming and blaming of those infected with HIV.

The descriptive analysis of value-driven stigma showed that professional healthcare personnel still have stigmatizing behaviour towards PLHIV, especially towards factors related to antenatal care and prevention of mother-to-child transmission among HIV-positive women. Harapan et al. (2013), Katz et al. (2013) and Bharat, Aggleton & Tyrer (2001) illustrated the same issues in their research. In addition, Lopez et al. (2017) found more stigmatizing result regarding this subject, whereby 82.1% of the healthcare personnel participated agreed that the family of a woman living with HIV has a right to know about her status and they should be informed even if it is not permitted by the patient.

Gender discrimination especially towards HIV-positive women has been a long and ongoing subject among not only the general community members but also among the healthcare providers. Studies from high income countries which has adequate and good healthcare facilities have highlighted on the subject pertaining to gender discrimination. A study conducted in Canada examined perceptions of inter-sectional stigma among women living with HIV. This research which was conducted among HIV-positive black women revealed significant associations between gender discrimination and HIV-

related stigma (Logie et al., 2013; Rice et al., 2018). Other than discrimination during antenatal care, recent research has highlighted the gender discrimination among sexual minority women such as lesbian and transgenders in comparison with their heterosexual counterparts (Logie et al., 2017).

Similar results have been found in Asian studies in which HIV-infected Indian women reported that their healthcare providers have questioned their morality during their visit to healthcare facilities (Mawar et al., 2005; Mawar & Paranjape, 2002). As a consequence, many women were afraid to disclose their HIV status, which resulted in the use of disclosure avoidance strategies, such as hiding one's medications and lying about the reason for clinic visits. These behaviours have in turn been shown to cause delay in accessing or suboptimal use of healthcare facilities (Kremer & Sonnenberg-Schwan, 2003; Rosenfield and Yanda, 2002; Thomas et al., 2005).

Besides insensitive treatment by healthcare professionals in maternity wards, researchers have found that shaming and blaming of HIV-positive women led them to face additional societal challenges related to inheritance issues and even access to education for their children (Thomas, Nyamathi, and Swaminathan, 2009; Nyamathi, Thomas, Greengold and Swaminathan, 2009). These issues results in anxiety and hesitation about disclosing status and even seeking proper treatment in healthcare settings.

Furthermore, the healthcare personnel stated more concern on beliefs related to work-related exposure. Many believe that the most frequent mode of contracting HIV among healthcare providers is through work-related exposure. Similar results were noted in other studies as well (Churcher, 2013; Treloar & Hopwood, 2004). Nevertheless, the majority denied to show value-driven stigma towards the key population members such as men who have sex with men (MSM), female sex workers (FSM) and people who inject drugs (PWID). These findings were dissimilar to previous

studies which showed professional healthcare personnel judgemental views on the HIV key population (Stewart and O'Reilly, 2017; Zhang et al., 2016). Healthcare personnel from this study believed that most of the PLHIV have multiple sexual partners (66.4%) and engaged in irresponsible behaviours (69.1%). Similar belief was found among those who preferred not to provide services to key populations. Respondents who preferred not to provide services to persons with a history of injecting illegal drugs (67.1%) believed that this group engaged in immoral behaviour. This reason was also cited by 70.8% of respondents who preferred not to provide services to men who have sex with men.

iv. Observed discriminatory attitudes

This study explored whether respondents have observed acts of discrimination committed by their colleagues in healthcare settings. More than half of the professional healthcare personnel stated that noticed their colleagues taking extra precautions while treating or handling HIV-infected individuals. Some of the measures taken included additional sterilization of the instruments used on HIV-positive patients, latex gloves used for performing non-invasive examinations and other protective measures such as mask and apron used while performing general physical examinations on patients suspected or having HIV.

According to Treloar &Hopwood (2004), some healthcare personnel make decisions about infection control procedures according to their judgement about patients' infectious risk and not the risk inherent in the procedure. This reflects the professional healthcare personnel knowledge and awareness of the disease. Even though research has shown that the majority of healthcare workers understand HIV and how it is transmitted, they still fear the disease and those who were more fearful were more likely to hold

stigmatizing views and have prejudiced practice (Chan et al., 2009; Hossain & Kippax, 2011; Pisal et al., 2007; Vance & Denham, 2008).

Moreover, one in four healthcare personnel stated that they have witnessed their senior colleagues assigning HIV patients to junior healthcare providers. Feyissa et al. (2012) stated that conflicts between healthcare providers and PLHIV arises when healthcare providers unnecessarily refer patients to other doctors or even other facilities. On the other hand, key informants from health centers noted that healthcare providers only refer PLHIV when its needed to be referred for second opinion or when there are shortages of drugs and reagents or even for further management in better equipped hospitals.

Other discriminatory attitudes observed by participants were gossiping about a patient's HIV status, requiring patients to be tested for HIV before scheduling surgery, receiving less care and attention in healthcare facilities than other patients and patient was tested for HIV without his or her consent. This finding is consistent were Rintamaki et al. (2007) and Welch & Bunin (2010).

v. Discriminatory attitudes towards HIV/AIDS

Stigma becomes discrimination when thoughts, beliefs or attitudes evolve into direct action (Giddens, Duneier, Appelbaum & Carr, 2009). Previous research illustrates that stigmatising factors as perceived risk, value-driven stigma and observed discriminatory attitudes of healthcare provider were transformed into discriminatory attitudes and behaviours (Feyissa et al., 2012; Rintamaki et al., 2007; Dodds, 2006).

One in three professional healthcare personnel stated they were not comfortable performing surgical or invasive procedures on patients whose HIV status is unknown and then some agreed that they do not want persons at high-risk for HIV/AIDS as their patients and would request their authority to remove from the responsibility of caring them. 17% of the doctors indicated that they prefer to refer PLHIV to other physicians,

a number of them agreed government should spend less money on HIV/AIDS, and more on other common diseases. In addition, some of the participants also highlighted that the country does not need any laws to protect people living with HIV from discrimination. The review by Bharat et al. (2001), and many other studies were consistent with this result and indicated high levels of discriminatory attitudes among healthcare personnel which consist of act as denial of healthcare, unfair barriers to provision of health services and providing substandard quality of care towards people living HIV/AIDS (Katz et al., 2013; Harapan et al., 2013; Ahsan Ullah 2011; Bharat et al., 2001; Amoran 2011; Ngozi et al., 2009; Chien & Andrewin, 2008; Sayles et al., 2007; Reis et al., 2005; Devroey et al., 2003).

These findings were contradictory to Mahendra et al. (2007) who found that doctors when compared to other staff members, are less likely to discriminate based on HIV status. Another study found that nurses were tend to provide differential care based on HIV status, while doctors were more likely to violate privacy by disclosing status and testing without consent (Andrewin & Chien, 2008).

Nonetheless, discrimination involves exhibiting negative behaviour towards members of a social group or providing unfair treatment towards someone based on their particular characteristics. In this case, it is the discrimination towards HIV-infected individuals or the key population members, whereby it limits them from opportunities that are available especially services at healthcare facilities. In addition, previous studies have found that healthcare providers negative views and discriminatory attitudes tend to mirror those of the general public as well (Hossain & Kippax, 2011; Ahsan Ullah, 2011).

vi. Practices related to HIV/AIDS

Professional healthcare personnel's practices at work especially when it is related to HIV/AIDS is greatly influenced by their perception on stigma and their discriminatory

attitudes towards HIV/AIDS. Practices related to HIV/AIDS is the behaviour or the action carried out by the healthcare personnel based on their very attitudes pertaining to this matter (Frazer et al., 2011; Welch & Bunin, 2010).

More than half the doctors admitted to use protective wear such as gowns, mask and gloves for non-invasive physical examination on non-bleeding HIV-positive patients. Similar practices were observed in Rintamaki et al. (2007), Stringer et al. (2016) and Harapan et al. (2013). Some healthcare personnel admitted to administering medication to PLHIV for symptomatic conditions but did not touch or physically examine these patients.

Many previous studies have shown similar prejudiced practices among healthcare providers. healthcare providers have been reported showing invidious practices including breach of confidentiality where the doctor disclose the patient's HIV status to the family and to staff who were not directly involved in treating the patient, performing unnecessary infection control measures as burning linen used by PLHIV, using gloves only in HIV patients, avoiding going near the patient and testing an individual suspected to have HIV without consent and counselling (Chien & Andrewin, 2008; Mahendra et al., 2007; Stutterheim et al., 2014; Feyissa et al., 2012). Despite this, many healthcare practitioners still deny performing unfavourable practices while treating or caring HIV-infected individuals. In a study conducted in Nigeria, less than 10% of the healthcare providers admitted to refusing care, hospital admission for PLHIV or even delaying treatment of HIV patients but majority of this study respondents reported witnessing other health professionals refuse care (67%) and admission (43%) for PLHIV (Reis et al., 2005). A study conducted in Thailand by Chan (2009) supports this finding, whereby he found that healthcare providers are in denial regarding the way of practices especially towards HIV/AIDS patients and they do not always recognize their behaviours or actions as discriminatory.

vii. Prevalence of stigma measures, discriminatory attitudes towards HIV/AIDS and practices related to HIV/AIDS

Across cultures, HIV stigma and discrimination have repeatedly shown to inflict hardship and suffering on people living with HIV, as well as to interfere with their decisions to seek healthcare assistance (Krishna, Bhatti, Chandra and Juvva, 2005). To date, perceived risk and fear still remain as one of the important stigmatising factors among professional healthcare personnel (Hossain & Kippax, 2011). Rintamaki et al. (2007) and Welch & Bunin (2010) found that the prevalence of perceived risk is still high among doctors despite their awareness and knowledge regarding mode of transmission and biology of the virus and disease. This result is contrast to a local study by Gulifeiy & Rahmah (2008) which showed more than half of the healthcare personnel who participated did not perceived risk towards PLHIV.

Stigma driven by values and beliefs are also noted to be high among the participants. Almost three in four professional healthcare practitioners reported to have attitudes of shaming, blaming and being judgemental towards HIV-positive individuals. A recent study in the Philippines by Lopez et al. (2017) noted similar findings.

The overall findings of this study showed that more than half of the healthcare practitioners portrayed discriminatory attitudes and prejudice practices towards HIV/AIDS. Many disagreed that they were discriminative towards PLHIV but agreed that they have observed their colleagues practising such behaviours. These findings are similar to previous studies which showed stigma and discrimination is still ongoing at healthcare facilities towards PLHIV (Salih et al., 2017; Stringer et al., 2016; Harapan et al., 2013; Amoran 2011; Katz et al., 2013; Reis et al., 2005).

5.2.2 The association between discriminatory attitudes and practices related to HIV/AIDS

The analysis between practices related to HIV/AIDS and discriminatory attitudes towards HIV/AIDS showed a significant relationship. This result is consistent with the findings from Stahlman et al. (2017), Chew & Cheong (2013), Nyblade et al. (2009), Wu et al. (2008) and Li et al. (2007) which stated that professional healthcare personnel's daily practice at the workplace is mostly influenced by their perception on stigma and their discriminatory attitudes towards HIV/AIDS. These studies showed that healthcare providers who refused to work with HIV patients delayed treatment or provided slower service to HIV-positive individuals. Some healthcare personnel believed that discrimination laws to protect PLHIV are unnecessary and these individuals chose to prescribe 'non-serious' medicines like vitamins to HIV patients, instead of the actual needed treatment.

5.2.3 The factors associated with discriminatory attitudes towards HIV/AIDS

The bivariate analysis of discriminatory attitudes towards HIV/AIDS showed significant relationships between certain sociodemographic characteristics, work characteristics and stigma measures factors. The sociodemographic factors associated with discriminatory attitudes are ethnicity and religion. Only healthcare personnel's previous experience of treating HIV-positive individuals was found to be significantly associated with discriminatory attitudes towards HIV/AIDS from the work characteristics component. In terms of stigma measure components, the factors associated with professional healthcare personnel discriminatory attitudes towards HIV/AIDS were value-driven stigma and perceived risk and fear.

These results were confirmed using multiple logistic regression, which found only one variable associated with discriminatory attitudes towards HIV/AIDS. Value-driven

stigma was a strong determinant of discriminatory attitudes towards HIV/AIDS among professional healthcare personnel. This result concurs with previous studies showing that high levels of shaming, blaming and judgemental behaviour among professional healthcare personnel endorses coercive behaviour towards PLHIV (Ekstrand et al., 2012; Harapan et al., 2013; Katz et al., 2013; Bharat et al., 2001; Ngozi et al., 2009).

Multiple researchers have shown that pre-existing societal prejudices and inequalities often increases the stigmatization towards HIV/AIDS whereby it disproportionately affects those who are already socially marginalized. This sort of values and belief derived stigmatization has been identified not only in the developed countries but also in the developing nations all around the globe (Dieleman et al., 2007; Niang et al., 2003; Chan, Rungpueng and Reidpath, 2009; Chan, Stoove, and Reidpath, 2008; Chan et al., 2009; Chan et al., 2007). The presence of such behaviour and attitudes at healthcare facilities worsens the situation for the PLHIV where it causes major barriers to effective and sustainable prevention, care, treatment and support efforts for this community (Parker et al., 2002; Health Policy Initiative, 2010). This socially shared ignorance, fear, misinformation and denial among the general community and the healthcare personnel eventually tends to create an ongoing hidden epidemic of HIV/AIDS and hinders the path of eliminating the illness for good.

5.2.4 The factors associated with practices related with HIV/AIDS

The bivariate analysis of practices related to HIV/AIDS showed significant relationships between certain sociodemographic characteristics, work characteristics and stigma measure factors. The sociodemographic characteristics associated with practices related to HIV/AIDS were age, ethnicity, religion and marital status. From the work characteristics component, professional healthcare personnel's years of work experience, the type of health facility the healthcare personnel were working during the time of

research and the department where they worked at that moment were significantly associated with practices related to HIV/AIDS. In terms of stigma measure components, perceived risk and fear, value-driven stigma and observed discriminatory attitudes were associated with professional healthcare personnel practices related to HIV/AIDS.

These results were confirmed using multiple logistic regression, which found department where the healthcare personnel works, perceived risk, value-driven stigma and observed discriminatory attitudes were associated with practices related to HIV/AIDS. Departments where the healthcare personnel works and observed discriminatory attitudes were stronger determinants of practices among professional healthcare personnel. This is followed by perceived risk and value-driven stigma.

Almost half of the doctors from the non-surgical department admitted to having poor practices related to HIV/AIDS, and another half showed good practices while treating PLHIV. Moreover, limited professional healthcare personnel from the surgical based departments participated in this research compared to the healthcare personnel from non-surgical departments. This is because when distributing the survey, many healthcare providers from the surgical based departments were not interested in participating in research related to stigma and discrimination on HIV/AIDS. Their refusal to participate could suggest a possible pre-existing prejudiced behaviour towards PLHIV.

Nevertheless, the evidence from across studies suggests that professional healthcare personnel from non-surgical based departments or primary healthcare settings tend to have more poor practices while handling marginalized community members whom are at high-risk for HIV or the HIV-infected patients themselves (Dong et al., 2018; Chien & Andrewin, 2008; Feyissa, Abebe, Girma & Woldie, 2012; Bennett, Weyant, Wallisch and Green, 1995). One explanation could be that the doctors at primary healthcare settings were not expose enough to treat or handle PLHIV. This is because not all of the

healthcare personnel at primary care level are in charge of infectious disease clinics. Feyissa, Abebe, Girma and Woldie (2012) noted that professional healthcare personnel who have more exposure with HIV-infected patients tend to show less stigma and more positive practices towards these individuals. Another possible explanation is the lack of standard precautions awareness and knowledge regarding HIV/AIDS among the participants. Those participants who have good practices are probably better informed of standard medical protection procedures and have easier access to institutional supports in health settings (Gulifeiy & Rahmah, 2008; Deacon, 2006; Essomba et al., 2014).

The multivariate analysis has evidenced that observed discriminatory attitudes is another strong factor associated with poor practices related to HIV/AIDS among the professional healthcare personnel. This shows that the healthcare personnel's observation on discriminative behaviour towards PLHIV by other colleagues or by their seniors does affect and influence the way they treat HIV-infected patients. Katz et al. (2013), Bharat et al. (2001) and Ngozi et al. (2009) support this fact.

One probable reason that poor and prejudiced practices are ongoing is because these healthcare personnel may not have received updated information and teachings on HIV/AIDS. The perturbing issue is that, in time, the other healthcare personnel or newly appointed junior ones might comprehend this discriminative behaviour as a norm and carry forward similar discriminative practices towards PLHIV (Chien & Andrewin, 2008; Hossain & Kippax, 2010). This emphasizes the importance of providing continuous and updated training on HIV/AIDS to the professional healthcare personnel. Looking at the current situation, it is crucial to focus on the training especially on the subjects of stigma and discrimination related to HIV/AIDS, whereby it will be aimed to improve the current condition of poor practices among the professional healthcare personnel.

Perceived risk and fear as well as value-driven stigma are the other factors causing poor and prejudiced practices among the professional healthcare personnel. Particularly perceived risk and fear is still high among this study participants. Previous studies have shown that despite having good knowledge about the disease, the healthcare personnel are still hesitant when it comes to handling or treating PLHIV (Famoroti et al., 2013; Herek et al., 2002; Harapan et al., 2013). Furthermore, in 2011 Cianelli et al. stated that perceived risk and fear of work-related HIV transmission was described as a possible explanation for refusing care to PLHIV among the professional healthcare personnel. Similar findings were observed by Olalekan, Akintunde, and Olatunji (2014) that fear of occupational infection encouraged some healthcare personnel to refuse care to PLHIV.

Many previous researchers have found an association between value-driven stigma and poor practice related to HIV/AIDS among professional healthcare personnel (Katz et al., 2013; Bharat et al., 2001; Ngozi et al., 2009). In addition, cultural aspect and overall societal behaviour play a huge role in driving one's value-driven stigmatisation behaviour (Bharat et al., 2001; Li et al., 2007; Ford et al., 2004; Kinsler et al., 2007; Wolfe et al., 2008; White & Carr, 2005; Mills, 2006; Ekstrand et al., 2008). In this case, the influence of religion, customs and culture plays a strong determinant even among healthcare personnel and eventually disregards the essential matter as their medical practice ethics, human rights and basic need for healthcare especially for those in need of it (Famoroti et al., 2013).

Discrimination in rendering the services to patients with HIV/AIDS is one of the critical outcomes of stigma that influences the practices of the professional healthcare personnel involved. Other than negatively affecting treatment of PLHIV, it also acts as a major barrier for HIV-infected individuals to receive general healthcare services. As such, understanding stigma's precise nature and effects on behaviour is a vital step in

the development of interventions to facilitate health among people living with the disease.

5.3 Second Part of the Study: Among People Living with HIV

5.3.1 Description of study population and variables

5.3.1.1 Sociodemographic characteristics, HIV transmission and diagnosis

The analysis showed that the most productive age is affected by HIV infection. Approximately 62% of the reported HIV/AIDS cases in Malaysia occurred in the age group of between 20–39 years, whom are the younger and potentially most prolific segment of the nation's population. This finding is consistent with the results from the latest Global AIDS Response Progress Report (2016) which showed that around 62 percentages of the HIV-positive patients in Malaysia are between the age group of 20-39 years. Similar results were also noted in Thailand and Taiwan (Fregonese et al., 2012; Hung et al., 2006). Meanwhile, Fielding et al. (2008) and Hulgan et al. (2007) showed evidence of even younger age group of newly diagnosed HIV-positive individuals, particularly adolescents.

The findings from this study also show that the majority of the patients are male, which reflects the fact that HIV-infected patients in Malaysia are predominantly male (GARPR, 2016). This is in agreement with other studies in Malaysia and Hong Kong (Lee et al., 2011; Vicknasingam, Narayanan & Navaratnam, 2009). It also revealed a higher male to female ratio of 8:1, which is more or less similar to the HIV population in Malaysia with the ratio of 4:1 (GARPR, 2016). Nevertheless, the decreasing disparity between male female ratios especially due to the rise in sexual transmission cases is an important point to ponder for necessary actions to be taken (GARPR, 2016). The majority of HIV-infected clients from the non-governmental settings were Malay, followed by Chinese, Indian and other ethnic groups. This is similar with the picture of

general HIV population in Malaysia, where the Malays predominate other ethnic groups (UNGASS, 2012).

More than half of the PLHIV participants in this study were single (65.2%). There is much difference in percentage between single participants and married participants. This is dissimilar to a study in South Africa (Shisana et al., 2004) and in India, where there were more married patients than single ones (Vallabhaneni, Chandy, Heylen & Ekstrand, 2012). Since HIV/AIDS is a chronic syndrome, previous studies have shown that the inclusion of partners, families or friends are an important source of support for the HIV-positive person and at the same time, it correlates with a reduction in stress, hopelessness and depression among the infected individuals (Shanthi, Damodharan & Priya, 2007).

Socioeconomic status assessed by income, education or occupation, is linked to a wide range of health problems, including HIV/AIDS. Studies have proven that lower socioeconomic status is associated with higher mortality. In this study, the majority of the HIV-infected individuals stated to have secondary education (40.8%), followed by Diploma or A-level (27.3%). The rest of them work as professional and non-manual workers. These findings are similar to studies in India and Africa (Rougemont, Stoll, Elia & Ngang, 2009; Vallabhaneni et al., 2012). There is also evidence reporting lower education levels among PLHIV and it relationship to poor healthcare seeking behaviour and poor adherence to antiretroviral treatment among the HIV-positive individuals (Jarrin et al., 2007; Lima et al., 2006).

More than half of the participants were diagnosed five years ago or less (64.9%). The higher number of PLHIV diagnosed in less than five years ago actually explains the boost in case detection among the key population members. This is mostly due to aid by non-governmental organizations who have strong peer support leaders who work on encouraging and supporting the key population group members to come forward for

testing and treatment. In addition, the Ministry of Health works hand in hand with the respective non-governmental organizations to advocate on safe sex, importance of testing and early detection of the of the illness as well as increasing the awareness of other preventive strategies among the key population groups.

Approximately 49% of the PLHIV claimed that possible way of them transmitted with the disease was through sex with man who was HIV-positive and another 27% claimed through sex with woman who was HIV-positive. 11.7% of the participants contracted the illness through needle sharing method with HIV-positive person. This shows the increase in the number of sexual transmission routes compared to the previous decade where the transmission was mostly due to shared needle or injection equipment with HIV-positive person (GARPR, 2016; NSPEA, 2016).

Most of the PLHIV enrolled in non-governmental settings at the Federal Territory of Kuala Lumpur stated as having HIV clinic follow up at primary healthcare facilities (54.3%). This is because of the initiative taken by Ministry of Health Malaysia to increase the availability and accessibility of the HIV care and treatments by decentralizing the care from tertiary hospital facilities to health clinics at district health offices level (GARPR, 2016). This expansion of HIV clinics to primary healthcare facilities with trained healthcare personnel is implemented not only in the Federal Territory of Kuala Lumpur but also in other states in Peninsular Malaysia.

5.3.1.2 Prevalence of enacted stigma at healthcare facility

The findings from this study revealed that the prevalence of enacted stigma is still high in local healthcare settings. The ongoing stigmatizing beliefs associated with HIV infection, as people living with HIV are morally wrong or unsafe to be associated with and the perpetual societal prejudiced standpoints are some of the main reason for this condition (Parker & Aggleton, 2003).

Enacted stigma in healthcare settings can be manifested as refusal of treatment to PLHIV, failure to protect the confidentiality of HIV-positive individual status or even when display bias and prejudiced practices while treating the patients (Lim et al., 2019; Stringer et al., 2016; Batey et al., 2016). Some studies have shown that PLHIV have described particularly affected by the stigma and discrimination they experience as patients, given the expectations that healthcare providers have expert medical knowledge and adhere to the value of beneficence (Sayles et al., 2007). In these circumstances, HIV-infected individuals have reported negative emotional reactions such as offence and humiliation (Zukoski & Thorburn, 2009) and depressive symptoms (Davtyan et al., 2016). In addition, PLHIV who experience stigma in healthcare settings may also anticipate stigma in the same setting and consequently have a lower trust on healthcare providers (Holmes, 2002). Ultimately, this leads to mistrust and interferes with the doctor-patient relationship and may increase counter-productive health behaviours such as poor healthcare seeking behaviour and non-adherence to antiretroviral treatment (Lim et al., 2019; Gaston & Alleyne-Green, 2013; Flickinger et al., 2013; Alonzo & Reynolds, 1995; Chesney & Smith, 1999; Fortenberry et al., 2002).

In this study, many participants stated they were treated differently by healthcare staff because of their HIV status. This includes incidents as unnecessary referral to another doctor or referral to another facility, (42.6%), receiving less care and attention than other patients (38%), longer waiting duration during visit at healthcare facility (65.1%), were told to come back later (50%) and 82% of the PLHIV whom participated stated that their professional healthcare personnel took unnecessary extra precautions to do non-intrusive examinations on them. These findings reflect that almost all the participants encountered challenges while receiving health and medical services. Most of the PLHIV mentioned such problems as discriminatory behaviours offered by physicians or their unwillingness in giving services to them. Previous studies have also

resulted similar findings on enacted stigma at healthcare facilities among PLHIV (Saki et al., 2015; Churcher, 2013; Olalekan et al., 2014). In addition, one in three PLHIV admitted to have experienced insult and humiliation by health professionals (29.1%) and another portion stated that have faced health provider's ignorance in giving services. This is also in agreement with Saki et al. (2015).

5.3.2 The factors associated with general healthcare seeking behaviour

Objective 2: Effect of enacted stigma on general healthcare seeking behaviour

The bivariate analysis of general healthcare seeking behaviour showed a relationship between religion, education level and enacted stigma. Religion and education level were not significantly associated with general healthcare seeking behaviour but these two variables showed p-value greater than 0.25 and were included into the further analysis.

These results were confirmed using multiple logistic regression, which found only one variable associated with general healthcare seeking behaviour. Enacted stigma is a strong determinant of general healthcare seeking behaviour whereby, PLHIV who have a low level of stigma were more likely to have healthcare seeking behaviour compared to those who have experienced a higher stigmatization in healthcare settings.

Previous studies have found that high level of experienced stigmatization especially in healthcare settings among people living with HIV effects their ability to come forward and seek healthcare for other illnesses and clinical symptoms other than HIV/AIDS (Parker et al., 2002; Hossain & Kippax, 2011; UNAIDS, 2009; Saki et al., 2015; NCHSR, 2012; Sayles et al., 2009; Bharat et al., 2001; Kinsler et al., 2007; Kay et al., 2017).

Nevertheless, some researches have demonstrated that HIV-positive individuals sometimes do report positive experiences in healthcare settings. For example, a study conducted among men who have sex with men (MSM) in the UK described a high level

of competent in seeking treatment (Dodds, 2006). However, the same study highlighted the marked difference in treatment between gay men and immigrants with HIV with immigrants reporting less positive treatment experiences. This suggests that healthcare experiences of people with HIV will differ depending on a range of personal and situational variables, but the encounters will not always be negative.

5.3.3 The factors associated with adherence to antiretroviral treatment

Objective 2: Effect of enacted stigma on adherence to antiretroviral treatment

The bivariate analysis of adherence to antiretroviral treatment showed relationships between age, ethnicity, religion, marital status and enacted stigma. Other than enacted stigma, age, ethnicity, religion and marital status showed a p-value of less than 0.25. These results were confirmed using multiple logistic regression, which found enacted stigma is the only determinant of adherence to antiretroviral treatment among people living with HIV. This analysis concluded that PLHIV who have a low level of enacted stigma at healthcare facility were more likely to adhere to antiretroviral treatment compared to those who have experienced a higher stigmatization in healthcare settings.

Researchers have shown evidence that discriminative behaviour and prejudiced practices in healthcare settings have been affecting the health outcomes of PLHIV. Enacted stigma, particularly among the key population members is even more prevalent. A study conducted by UNESCO in 2012 at five provinces in Thailand noted that hospitals and primary healthcare facilities were lacking in scope and quality of services for key population as MSM and TG communities. Inadequately trained healthcare providers showed poor respond and support towards gender and sexuality issues, specifically towards MSM and TG patients and this resulted in decreased motivation among the PLHIV to participate in HIV prevention and treatment services (UNESCO, 2012). This study findings also noted that stigmatizing behaviours from healthcare

providers and practices such as ‘gossiping’ about previous clients in front of other patients, were reported as negative experiences and in turn it created mistrust and unwillingness to return to health facilities to get HIV treatment among the MSM and TG persons (UNESCO, 2012).

Nonetheless, different studies have found that key population or high-risk behaviour individuals tend to have sub optimal adherence towards antiretroviral treatment. Holstad, DiIorio, and McCarty (2011) found that women who engaged in high-risk behaviours were more likely to have poor adherence to antiretroviral treatment. Meanwhile Eaton et al. (2015) and Lim et al. (2019) found that MSM living with HIV showed that stigma from their healthcare professionals led to them to miss their HIV clinic appointments or have longer gaps in their HIV care appointments.

Preceding studies have noted that anticipated stigma was associated with poor adherence to ART among PLHIV (Turan et al., 2017). A systematic review by Sweeney & Vanable (2016) also supports this framework, where it was mentioned that internalized and anticipated stigma consistently predicts PLHIV adherence to ART and enacted stigma does not. But this study findings have shown contrasting results. It highlight not only the importance to acknowledge the ongoing discrimination at healthcare facilities, but also proves the impact of enacted stigma towards the health outcome of PLHIV. Hence, there is a need for profound understanding on the complexities of stigma to overall improve the care and the well-being of the affected individuals.

5.4 The Relationship Between First and Second Part Study

This section discusses the link between both parts of the study, the first part of the study which was conducted among professional healthcare personnel from public

healthcare facilities and the the second part of the study, which was conducted among people living with HIV from the non-governmental organizations.

Literature has shown evidence that stigma and discrimination are two different aspects (Deacon, 2006; Brown et al., 2003; Collymore, 2002). In addition, multiple previous studies have found that stigma measures are directly linked to discriminatory attitudes and poor practices among healthcare providers. From this research aspect, the relationship between the first and second part of the study is elaborated in Figure 5.1.

The first part of the analysis identified that the main factors associated with discriminatory attitudes and practices among professional healthcare personnel were value-driven stigma, department where the healthcare personnel works, perceived risk and observed discriminatory attitudes. It also found that the discriminatory attitudes of professional healthcare personnel is associated with their practices related to HIV/AIDS, whereby it shows that the discriminatory attitudes eventually leads the healthcare provider to perform poor practices while treating PLHIV. Meanwhile in the second part of the study, enacted stigma was the strongest factor associated with PLHIV's general healthcare seeking behaviour and adherence to antiretroviral treatment. Figure 5.1 shows how the discrimination and poor practices at healthcare facilities by healthcare providers affects the general PLHIV population seeking or already receiving treatment at these centers.

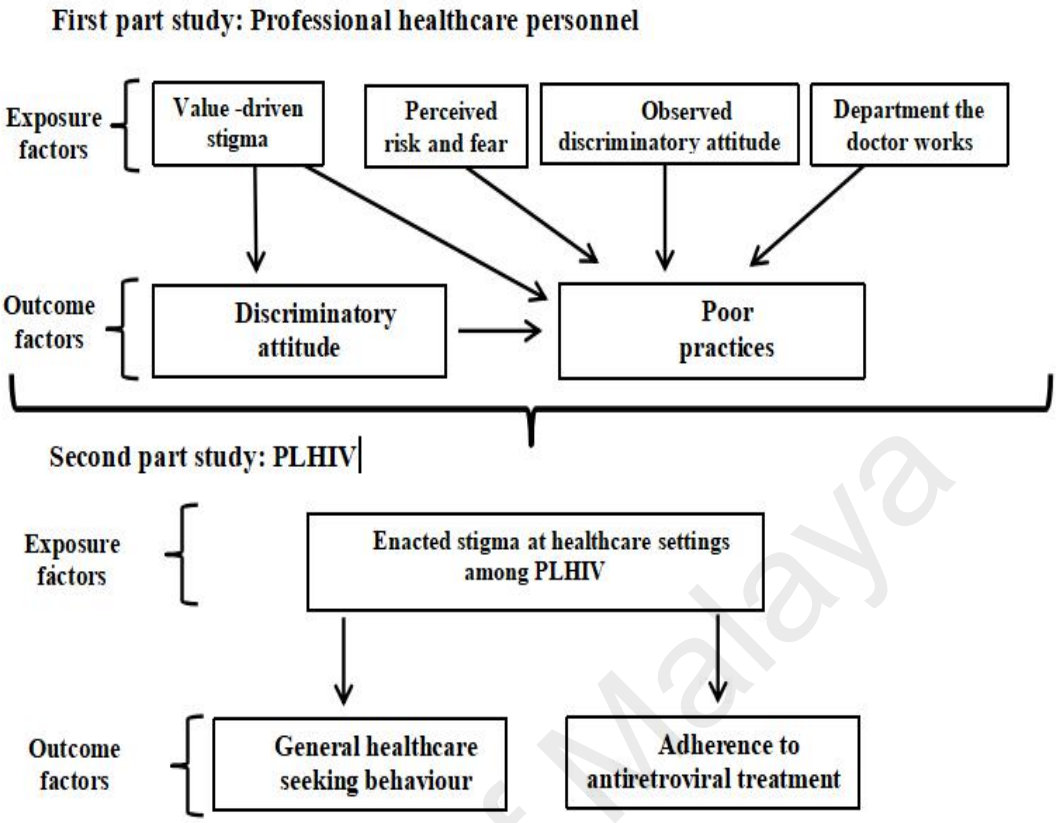


Figure 5.1: A framework on relationship between stigma, discriminatory attitudes, poor practices and other themes

The ongoing pattern of discriminatory attitudes and poor practices in healthcare settings eventually gives impact to the patients, and it leads them to experience stigmatization at the place of them seeking treatment. Subsequently, enacted stigma at healthcare facilities effects their general healthcare seeking behaviour and adherence to antiretroviral treatment. The results from this study have shown that PLHIV who have a low level of stigma were more likely to have good general healthcare seeking behaviour and better adherence to antiretroviral treatment compared to those who have experienced a higher stigmatization. The important point to ponder from these findings is that the impact of low experienced stigma has proven to improve the health outcome among the participants. In addition, the PLHIV participants for the second part of the study were recruited from non-governmental organizations. Hence, it is more likely for

the participants to have more awareness regarding their personal rights and they may even be vocal about it. They may also be more empowered due to good support system provided by the involving non-governmental organizations, than those HIV-infected individuals whom are not enrolled in any HIV based organizations. Nevertheless, the results still shows that to date the incidence of experienced stigma is still present at local public healthcare facilities. But, due to the study limitations, one must be careful when generalizing these findings.

According to previous research among PLHIV, the ways in which people who experienced stigma or discrimination respond are diverse (NCHSR, 2012). For people living with HIV in particular, experiencing discrimination or stigma in a healthcare setting may be considerably harder than experiencing it in other settings (Carvalho & Galvão, 2008; Sumari-de Boer et al., 2012). This is because of the trust required to disclose and open up regarding personal health issues leaves the HIV-positive person vulnerable, and the prejudiced behaviour, comments or actions by healthcare providers may be hard for them to digest. Due to many reasons, including self-stigma and ineffective health complaints procedure at healthcare facilities, most PLHIV may not follow-up on a negative experience faced at health facility. Although HIV based non-governmental organizations are encouraging reporting of these incidents, it is more common for people to make individual shifts such as choosing to go to different hospital or healthcare facility, and some patient will simply choose to default overall treatment for a long-term (NCHSR, 2012; Sumari-de Boer et al., 2012).

Looking at the findings, many things still need to be improved in the Malaysian healthcare system, starting from the root cause of this issue which is the pre-existing stigma among healthcare professional. Since the Malaysian Ministry of Health has adopted the National Strategic Plan to End AIDS by 2030, it is crucial to focus on achieving the vision of this planning which is “zero new infections, zero discrimination

towards HIV/AIDS and zero AIDS-related deaths". Hence, the challenges of fighting stigma and discrimination for good need to be highlighted to succeed and realize these commitments.

5.5 Limitation and Strength of the Study

Limitations of This Study is Discussed in This Section.

This study setting was based on urban healthcare facilities and non-governmental organizations in the Federal Territory Kuala Lumpur. The hospitals or district health offices at sub urban and rural areas were not included in this study. This limitation the generalizability of the findings. It would have been more generalizable if the data collection involves the healthcare personnel and PLHIV from other region of the country too (northern and southern states of the country). Besides that, information bias may be considered as not all professional healthcare personnel participating in this study were equally or directly exposed to caring of HIV/AIDS patients.

Ideally this study sample must be studied within the "doctor – patient" population at the same setting. Since it was complicated for the researcher to conduct it in that manner in view of the difficulty to acquire enough sample size of patient that sees the same doctor during every visit and more, since the researcher was only studying and assessing the characteristics of the social behaviour of this sampling frame, hence it was assumed that the results can be extrapolated to the general sample population.

The second part of the study on enacted or "experienced" stigma among PLHIV assesses the stigma occurring in healthcare settings by professional healthcare personnel. Other factors that cause enacted stigma as the influence of family members or other community members are not included. The effect of enacted stigma and discrimination by other societal members should be explored in-depth in future studies.

Furthermore, there is a possibility for partiality in this findings if healthcare personnel have a history of high-risk behaviour and infectious disease. This is because it may represent lower stigmatization and discrimination among the healthcare providers due to a good understanding regarding discrimination on infectious disease. Besides that, the second part study participants (PLHIV) were recruited from non-governmental organizations, hence they may have adequate, updated knowledge and awareness regarding HIV/AIDS stigma. This may represent a low level of enacted stigma at the healthcare facility because the participants would be either more empowered regarding stigma related issues or developed tolerance towards discrimination. Finally, the causal-effect relationship will not be established as this is the nature of a cross-sectional study.

Strength of This Study is Discussed in This Section.

The first part of the study focused on doctors. The findings set a benchmark for the discriminatory attitudes and practices related to HIV/IDS among professional healthcare personnel population in view of minimal studies has been conducted among practising doctors pertaining to both issues. Previous study was conducted decades ago in a smaller healthcare setting which only involves healthcare worker at a district hospital in sub urban region (Hasnah, 2006). Besides, current studies on this topic focused on certain group of health service providers as nurses or medical students only (Gulifeiy & Rahmah, 2008; Mehrabi et al., 2016; Koh, 2014).

Furthermore, the first part of the study has specific inclusion and exclusion criteria. The assessment for discriminatory attitudes and practice related to HIV/AIDS was done among all the doctors in different field of speciality, among the tertiary hospital based doctors and among primary healthcare facility healthcare providers.

Meanwhile, the second part of the participants were not focused from one particular health facility only. Since they were recruited from non-governmental organizations,

they came from different healthcare back grounds with different follow up at various healthcare facilities as General Hospital Kuala Lumpur, Hospital Sungai Buloh, Cheras, Titiwangsa, Lembah Pantai and Kepong primary healthcare facilities. Hence, this aided a better response rate from the PLHIV and also gave a more diverse response from the participants.

5.6 Conclusion of Chapter Five

The findings in this chapter have enhanced our understanding of stigma and discrimination in healthcare settings. Much of the findings have highlighted that discrimination is still present in Malaysian healthcare settings and how it has affected the people living with HIV. The implications of these findings can be used by PLHIV, healthcare providers and government agencies to construct preventive measures for future improvement. However, it is essential to take note that this study is with limitations, and due to this one must be careful when generalizing its findings.

CHAPTER 6: CONCLUSION

6.1 Research Statement

Stigmatization and discrimination towards HIV/AIDS especially from professional healthcare personnel directly involved with the care of HIV-positive people does causes challenges during the course of treatment and continuation of supportive care for these individuals. The literature proposed that stigma is indeed an ongoing vicious cycle which will eventually influence the attitudes and practices of the involved healthcare provider.

6.2 Summary

The findings of this study have serious implications for public health policy. Persistent discriminatory attitudes and poor practices among the professional healthcare personnel influence the decision-making process of the PLHIV and hinder them from accessing voluntary counselling testing (VCT), care, support and treatment services. Moreover, when a HIV-positive person experiences discrimination even in healthcare settings by healthcare providers whom were the one expected by PLHIV to comprehend the illness better, and give adequate moral support to get them into testing and treatment, it increases the misery among the PLHIV which eventually leads to a number of other issues as continuing high-risk behaviour and transmitting HIV to others, low adherence to HIV treatment and poor compliance or motivation to seek appropriate treatment for other healthcare issues.

This first part of the study revealed various levels of stigma and discrimination among healthcare professional in tertiary hospital and primary healthcare facility in the Federal Territory of Kuala Lumpur. For example, although maintaining the confidentiality of a patient's HIV status is extremely important, some healthcare providers reported hearing rumors regarding other patient's status among their

colleagues. In addition, more than half of the surveyed participants belief that pregnant HIV-positive woman's status should be made known to others, especially to her family members. The healthcare personnel from the first part of the study also revealed to have high perceived risk and fear while handling or treating PLHIV. For example, a high number of health providers admitted to perceived risk to dress the wounds or even administer injection to HIV-positive patients. At the same time, although professional healthcare personnel generally do not think that HIV-positive people should be ashamed of themselves, more than half of them said they would be ashamed of themselves if they were HIV-positive. This perception poses a possible barrier to overcome the concentrated epidemic in Malaysia.

Although most healthcare personnel did not receive any training on HIV/AIDS at their work, but majority participants stated to have sufficient knowledge on policies, guidelines and protocols pertaining to HIV/AIDS. Nevertheless, more than half of the participants were not aware of stigma reduction and on the subject of anti-discrimination practices. The other important issue noted from this study is that pre-existing stigma is still strongly present among the healthcare providers, and most of the time it is either triggered due to perceived risk towards this illness or due to poor beliefs and values on PLHIV. Looking at the overall results of the first part of the study, further training on HIV/AIDS for healthcare providers will be a crucial move to benefit both healthcare providers and the HIV-positive patients.

Meanwhile in the second part of the study, another form of stigma and its effect towards HIV-positive individual's general healthcare seeking behaviour and their adherence to antiretroviral treatment were revealed. Almost one-third of the PLHIV agreed that they received less care or attention than the other patients. Half of them stated that they were being unnecessarily referred to another provider in the same facility or referred to another facility. Based on literature, some of the possible reasons

for such act carried out by health care providers were to prevent HIV transmission among other patients and staff, high level of stigma from other patients and at times, the possibility of offering better medical assistance to HIV-positive patients in another hospital. Nevertheless, research evidence have also mentioned that this can still be perceived as healthcare providers practising defensive mechanism when questioned regarding stigmatization behaviour since it is related to their work ethics. In summary, the findings of the second part of the study show that stigma is still lingering in our local healthcare facilities. Hence, further improvements needs to be done at for better cause of everyone.

6.3 Recommendation

The findings from this study have important implications for public health. Looking at the prevalence and association, there are several suggestions for improvement. The recommendations emphasize the intervention programs in several stages.

At the individual level, the interventions can be focused on professional healthcare personnel. Foremost, healthcare providers must be made aware of what stigma is and its negative consequences for PLHIV. They should and must have complete information about HIV transmission, as well as the effectiveness of standard precaution practice in preventing transmission. This highlights importance of training and workshops. Appropriate, adequate and updated training programs pertaining to HIV/AIDS and standard precaution practice must be provided for continuous exposure to healthcare personnel and there should be constant monitoring in improving their current behaviour and practices related to HIV/AIDS. Other than that, continuous training and workshops can be used to enable the participants to better understand PLHIV and consequently minimize the negative opinions associating immoral or irresponsible behaviours toward this population. Courses on soft skills and building knowledge as skills necessary to

change stigmatizing behavior is required among the healthcare personnel. Furthermore, stigma reduction program as in-person training with key populations as MSM, transgenders and injecting drug users should be conducted for better experience and practice among healthcare personnel. Subsequently, this will be able to produce more efficient healthcare service for this marginalized group of individuals.

Secondly, the focus is on people living with HIV. The second part of the study can be set as a reference for estimating the actual enacted stigma by PLHIV in our healthcare setting. The 2018 NSPEA findings shows that 83% of the PLHIV in Malaysia are aware of their status. Unfortunately, only 54% of them are on antiretroviral treatment. This shows a huge gap in the treatment and care program. At the moment, focus should be on empowering and educating PLHIV on importance of coming forward to get tested and further proceeds to treatment. This study provides important data on the effects of enacted stigma to HIV-positive individual's general healthcare seeking behaviour and adherence to antiretroviral treatment. Hence, the findings are hoped to improve the current situation and reduce the hurdles of the PLHIV to use HIV prevention, treatment, care and support programs in Malaysia.

At the community level, the findings of this study will be a foundation for further research. There is a need to broaden this study to cover up not only the tertiary hospitals and district health offices at urban setting but also at the hospitals and district health offices in other states especially the northern and east-coast states of Malaysia. Besides that, challenges faced by healthcare professional at private healthcare settings while caring for such patients and the prevalence of discrimination plus stigmatization towards HIV/AIDS patients at private healthcare setting should be studied.

At the policy level, it is projected that the findings of this study especially on the identification of factors associated with stigma will be useful in setting further relevant policies regarding HIV/AIDS. It could influence the future policy-makers by providing

greater prominence to the public health benefits of reducing HIV/AIDS stigma and discrimination, where it can be done through policy making with national governments by promoting inclusion of effective strategies in national HIV/AIDS plans or by augmenting the current available strategies. National programs such as implementing HIV/AIDS and sex education to all levels of society must be considered. HIV/AIDS education should be integrated in the orientation, training and continued education of not only of the school going children and adolescents, but also to the general community especially for those in the work force as human resource development sectors, for employees and employers in all government and private offices. For those in the Ministry of Health, it is vital to ensure that all levels of health care providers are trained on the topic stigma and discrimination. Such interventions could promote more awareness and action among other stakeholders.

6.4 Conclusion

Stigma reduction interventions are urgently needed to target misconceptions, promote a better environment, and increase more positive interactions between doctors and PLHIV. Such programs need to be designed and implemented in collaboration with PLHIV advocates as the non-governmental organization as well as other networks. This should be done by using a culture based and gender-sensitive approach. In order to be both effective and sustainable, these interventions should ideally make use of the role of professional healthcare personnel and be integrated into existing training structures in hospital, clinics and in the curriculum of nursing and medical schools. In a nutshell, as a service provider it is necessary for professional healthcare personnel to perceive their responsibility and obligations to set an example for the rest of the public to fight against discrimination against HIV/AIDS. The application of this study can be used to provide better quality of care and life for the HIV-positive individuals.

REFERENCES

Ahsan Ullah, A. K. M. (2011). HIV/AIDS-related stigma and discrimination: A study of healthcare providers in Bangladesh. *Journal of the International Association of Physicians in AIDS Care, 10*(2), 97-104.

Amoran, O.E. (2011). HIV related stigmatizing attitudes and practice among healthcare workers in Northern Nigeria. *Journal of Infectious Diseases and Immunity, 3*(13), 226-232.

Andrewin, A., Chien, L.Y. (2008). Stigmatization of patients with HIV/AIDS among doctors and nurses in Belize. Review on AIDS Patient Care and Sexually Transmitted Diseases. *AIDS Patient Care and STDs, 22*(11), 897-906.

Avert HIV and AIDS: Epidemic of HIV and AIDS in Asia. (2016). Retrieved from: http://www.avert.org/hiv-and-aids-asia.htm.

Amato, L., Davoli, M., Perucci, C. A., Ferri, M., Faggiano, F., Mattick, R. P. (2005). An overview of systematic reviews of the effectiveness of opiate maintenance therapies: Available evidence to inform clinical practice and research. *Journal of Substance Abuse Treatment, 28*(4), 321 – 329.

Avert, (2018). HIV, AIDS and Men who have sex with men. Retrieved from: https://www.avert.org/professionals/hiv-social-issues/key-affected-populations/men-sex-men.

AIDS Vaccine Advocacy Coalition (AVAC) (2017). HIV cure research: An introductory fact sheet. Retrieved from: https://www.avac.org/sites/default/files/resource-files/cure_factsheet_nov2017.pdf.

Baral, S., Beyrer, C., Muessig, K., Poteat, T., Wirtz, A. L., Decker, M. R., Sherman, S.G., Kerrigan, D. (2012). Burden of HIV among female sex workers in low income and middle income countries: a systematic review and meta-analysis. *The Lancet Infectious Diseases, 12*(7), 538-549.

Bond, V., Chase, E., Aggleton, P. (2002). Stigma, HIV/AIDS and prevention of mother to child transmission in Zambia. *Evaluation Program Planning, 25*(4), 347-356.

Batey, D.S., Whitfield, S., Mulla, M., et al. (2016). Adaptation and implementation of an intervention to reduce HIV-related stigma among healthcare workers in the United States: Piloting of the FRESH workshop. *AIDS Patient Care and STDs, 30*(11), 519-527.

Bennett, M.E., Weyant, R.J., Wallisch, J.M., Green, G. (1995). Dentists' attitudes toward the treatment of HIV-positive patients. *The Journal of the American Dental Association. 126*(4), 509–514.

Bennett, G., Mansell, I. (2004). Universal precautions: A survey of community nurses' experience and practice. *Journal of Clinical Nursing, 13*(4), 413-421.

Bharat, S., Aggleton, P., Tyrer, P. (2001). India: HIV and AIDS related discrimination, stigmatization and denial. Joint United Nations Program on HIV/AIDS (UNAIDS) best practice collection .

Brown, L., Macintyre, K., Trujillo, L. (2003). Interventions to reduce HIV/AIDS stigma: what have we learned. *AIDS Education Prevention, 15*(1), 49-69.

Bujang, M.A., Baharum, N. (2017). A simplified guide to determination of sample size requirements for estimating the value of Intraclass Correlation Coefficient: A Review. *The Journal of the School of Dental Sciences, USM, 12*(1), 1-11.

Brady, M., Smit, P. J., Carter M., et al., (2012). HIV-related stigma within communities of gay men: A literature review. *AIDS Care, 24*(3-4), 405–412.

Barre-Sinoussi, F., Chermann, J., Rey, F., Nugeyre, M., Chamaret, S., Gruest, J., Montagnier, L. (1983). Isolation of a T-lymphotropic retrovirus from a patient at risk for acquired immune deficiency syndrome (AIDS). *Science, 220*(4599), 868-871.

Carvalho, C.M.L., Galvão, M.T.G. (2008). How infected women in Fotaleza-CE cope with HIDS. *Revista da Escola de Enfermagem da USP, 42*(1):90-77.

Cohan, D., Lutnick, A., Davidson, P., Cloniger, C., Herlyn, A., Breyer, J., Cobaugh, C., Wilson, D., Klausner, J. (2006). Sex worker health: San Francisco style. *Sexually Transmitted Infections, 82*(5), 418-422.

Chew, B. H. & Cheong, T. (2013). Assessing HIV/ AIDS knowledge and stigmatizing attitudes among medical students in University Putra Malaysia. *Medical Journal of Malaysia, 6*(1), 24-29.

Choi, P., Kavasery, R., Desai, M. M., Govindasamy, S., Kamarulzaman, A., & Altice, F. L. (2010). Prevalence and correlates of community re-entry challenges faced by HIV-infected male prisoners in Malaysia. *International Journal STD & AIDS, 2*(6), 416-423.

Churcher, S. (2013). Stigma related to HIV and AIDS as a barrier to accessing healthcare in Thailand: A review of recent literature. *WHO South-East Asia Journal of Public Health, 2*(1), 12-22.

Collymore Y. (2002). Rooting out AIDS-related stigma and discrimination. Washington, DC: Population Reference Bureau. Retrieved from: http://www.prb.org/Articles/2002/RootingOutAIDSRelatedStigmaandDiscrimination.

Correlation sample size calculator. (2016). Accessible at: http://www.sample-size.net/correlation-sample-size/.

Chesney, M. A., (2000). Factors affecting adherence to antiretroviral therapy. *Clinical Infectious Diseases, 30*(2), 171-176.

Chidrawi, H. C., Greeff, M., Temane, Q. M., Doak, C. M. (2016). HIV stigma experiences and stigmatization before and after an intervention. *Health SA Gesondheid, 21*(1), 195-205.

Chan, K. Y. (2009). 'Othering' tactics and treatments of patients with HIV/AIDS: A study of the construct of professional ethics by Thai nurses and nursing trainees. *Critical Public Health, 19*(2), 181-191.

Catz, S. L., Kelly, J. A., Bogart, L. M., Benotsch, E. G., Mcauliffe, T. (2000). Patterns, correlates, and barriers to medication adherence among persons prescribed new treatments for HIV disease. *Health Psychology, 19*(2), 124–133.

Collins, E., Cain, R., Bereket, T., Chen, Y.Y., Cleverly, S., George, C., et al (2007). Living and Serving II: 10 Years Later - The Involvement of people living with HIV in the Community AIDS Movement in Ontario. Toronto: The Ontario HIV Treatment Network.

Connery, H. S. (2015). Medication-assisted treatment of opioid use disorder: Review of the evidence and future directions. *Harvard Review of Psychiatry, 23*(2), 63-75.

Conner, K. O., Rosen, D. (2008). You're nothing but a junkie: Multiple experiences of stigma in an aging methadone maintenance population. *Journal of Social Work Practice in the Addictions, 8*(2), 244-264.

Centers for Disease Control and Prevention (CDC), (2015). HIV Transmission. Retrieved from: (https://www.cdc.gov/hiv/basics/transmission.html).

Calin, T., Green, J., Hetherton, J., Brook, G. (2007). Disclosure of HIV among black African men and women attending a London HIV clinic. *AIDS Care, 19*(3), 385-391.

Chandra, P. S, Deepthivarma, S., Manjula, V. (2003). Disclosure of HIV infection in south India: patterns, reasons and reactions. *AIDS Care, 15*(2), 207-215.

Chan, K.Y., Reidpath, D.D., (2007). Stigmatization of patients with AIDS: Understanding the interrelationships between Thai nurses' attitudes toward HIV/AIDS, drug use, and commercial sex. *AIDS Patient Care and STDs, 21*(10), 763-775.

Chambers, L. A., Rueda, S., Baker, D. N., Wilson, M. G., Deutsch, R., Raeifar, E., Rourke, S. B. (2015). Stigma, HIV and health: A qualitative synthesis. *BMC Public Health, 15*(1), 848-865.

Cianelli, R., Ferrer, L., Norr, K. F., McCreary, L., Irarrazabal, L., Bernales, M., Miner, S. (2011). Stigma related to HIV among community health workers in Chile. *Stigma Research and Action, 1*(1), 3-10.

Chan, K.Y., Rungpueng, A., Reidpath, D.D,. (2009). AIDS and the stigma of sexual promiscuity: Thai nurses' risk perceptions of occupational exposure to HIV. *Culture Health & Sexuality, 11*(4), 353–368.

Chan, K.Y., Stoove, M.A., Reidpath, D.D,. (2008). Stigma, social reciprocity and exclusion of HIV/AIDS patients with illicit drug histories: a study of Thai nurses' attitudes. *Harm Reduction Journal, 5*, 28.

Chan, K.Y., Yang, Y., Li, Z.R., Stoove, M.A., Reidpath, D.D., (2009). Interrelationships between HIV/AIDS and risk behaviour prejudice among medical students in Southern China. *Current HIV Research, 7*(6), 601–611.

Chan, K.Y., Yang, Y., Zhang, K.L., Reidpath, D.D., (2007). Disentangling the stigma of HIV/AIDS from the stigmas of drugs use, commercial sex and commercial blood donation: A factorial survey of medical students in China. *BMC Public Health, 7,* 280.

Chesney, M. A., Ickovics, J. R., Chambers, D. B., Gifford, A. L., Neidig, J., Zwickl, B., and Wu, A. W. (2000). Self-reported adherence to antiretroviral medications among participants in HIV clinical trials: the AACTG adherence instruments. Patient Care Committee & Adherence Working Group of the Outcomes Committee of the Adult AIDS Clinical Trials Group (AACTG). *AIDS Care, 12*(3), 255-266.

Danziger R. (1994). Discrimination against people with HIV and AIDS in Poland. *BMJ, 308*(6937), 1145-1147.

Deacon, H. (2006). Towards a Sustainable Theory of Health-Related Stigma: Lessons from the HIV/AIDS Literature. *Journal of Community & Applied Social Psychology, 16(6),* 418-425.

Devroey, D., Van Casteren, V., Sasse, A., Wallyn, S. (2003). Non-consented HIV testing by Belgian general practitioners. *AIDS, 17*(4), 641-642.

Dietz, E., Clum, G.A., Chung, S.E. et al. (2010). Adherence to scheduled appointments among HIV-infected female youth in five US cities. *Journal of Adolescent Health, 46*(3), 278–283.

Davtyan, M., Olshansky, E.F., Brown, B., Lakon C. (2017). A Grounded Theory Study of HIV-related stigma in U.S.-based healthcare settings. *Journal of the Association of Nurses in AIDS Care, 28*(6), 907-922.

Dieleman, M., Biemba, G., Mphuka, S., et al. (2007). 'We are also dying like any other people, we are also people': perceptions of the impact of HIV/AIDS on health workers in two districts in Zambia. *Health Policy Plan, 22*(3), 139–148.

Dodds, C. (2006). HIV-related stigma in England: experiences of gay men and heterosexual African migrants living with HIV. *Journal of Community and Applied Social Psychology, 16*(6), 472-480.

Davtyan, M., Farmer, S., Brown, B., et al. (2016). Women of colour reflect on HIV related stigma through Photo Voice. *Journal of the Association of Nurses in AIDS Care, 27*(4), 404–418.

Dlamini, P.S., Wantland, D., Makoae, L.N., et al. (2009). HIV stigma and missed medications in HIV-positive people in five African countries. *AIDS Patient Care and STDs, 23*(5), 377–387.

Dong, X,M., Yang, J, W., Peng, L., et al., (2018). HIV-related stigma and discrimination amongst healthcare providers in Guangzhou, China. *BMC Public Health, 18*, 738.

Duff A. (2013). Bidirectional interactions between HIV/AIDS and Indian culture. *HIV/AIDS and Indian culture.* Retrieved from: www.isca.ox.ac.uk/fileadmin/ISCA/JASO/2014/Duff.pdf.

Essomba, E.N., Kollo, M.K., Ngambi1, L., Assomba, K., Etang, Y., Mapoure, L.L. (2014). Stigma and discrimination associated with HIV/AIDS in healthcare settings: A comparative study in two hospitals of different categories in Douala-Cameroon. *Journal of Medical and Biomedical Sciences*, 3(1).

European Centre For Disease Prevention and Control (ECDC) Special Report (2017). The status of the HIV response in the European Union/European Economic Area, 2016. Dublin Declaration Report. Retrieved from: (http://ecdc.europa.eu/en/publications/Publications/Status-of-HIVresponse-in-EU EEA.pdf).

Earnshaw, V. A., Bogart, L. M., Dovidio, J. F., Williams, D. R. (2013). Stigma and racial/ethnic HIV disparities: Moving toward resilience. *American Psychologist, 68*(4), 225-236.

Elford, J., Ibrahim, F., Bukutu, C., Anderson, J. (2008). HIV-related discrimination reported by people living with HIV in London, UK. *AIDS Behavior, 12*(2), 255-264.

Earnshaw, V., Smith, L., Copenhaver, M. (2013). Drug addiction stigma in the context of methadone maintenance therapy: An investigation into understudied sources of stigma. *International Journal of Mental Health & Addiction, 11*(1), 110-122.

Etesam, F., Assarian, F., Hosseini, H., Ghoreishi, F. S. (2014). Stigma and its determinants among male drug dependents receiving methadone maintenance treatment. *Archives of Iranian Medicine Journal, 17*(2), 108-114.

Eide, M., Myhre, M., Lindbaek, M., Sundby, J., Arimi, P., Thior, I. (2006). Social consequences of HIV-positive women's participation in prevention of mother-to-child transmission programmes. *Patient Education Counselling, 60*(2), 146-151.

Earnshaw, V.A., Chaudoir, S.R. (2009). From conceptualizing to measuring HIV stigma: A review of HIV stigma mechanism measures. *AIDS Behaviour, 13*, 1160-1177.

Eaton, L. A., Driffin, D. D., Kegler, C., Smith, H., Conway-Washington, C., White, D., Cherry, C. (2015). The role of stigma and medical mistrust in the routine healthcare engagement of Black men who have sex with men. *American Journal of Public Health, 105*(2), 75-82.

Ekstrand, M. L., Bharat, S., Ramakrishna, J., Heylen, E. (2012). Blame, symbolic stigma and HIV misconceptions are associated with support for coercive measures in urban India. *AIDS Behaviour, 16*(3), 700-710.

Ekstrand, M. L., Ramakrishna, J., Bharat, S., Heylen, E. (2013). Prevalence and drivers of HIV stigma among health providers in urban India: implications for interventions *Journal of the International AIDS Society, 16*(3), 18717.

Ekstrand, M. L., Steward, W. T., Panicker, S. T., Osmand, T., Heylen, E., Singh, G. (2008). Barriers to long-term maintenance of HAART adherence and viral suppression in India. In: XVII International AIDS conference, Mexico City, 361.

Eide, M., Myhre, M., Lindbaek, M., Sundby, J., Arimi, P., Thior, I. (2006). Social consequences of HIV-positive women's participation in prevention of mother to child transmission programmes. *Patient Education Counselling, 60*(2), 146-151.

Earnshaw, V. A,, Smith, L. R., Chaudoir, S. R., et al. (2013). HIV stigma mechanisms and well-being among PLWH: a test of the HIV stigma framework. *AIDS Behaviour, 17*, 1785-1795.

Famoroti, O. T., Fernandes, L., Chima, C.S. (2013). Stigmatization of people living with HIV by healthcare workers at a tertiary hospital in KwaZulu-Natal, South Africa: a cross-sectional descriptive study. *BMC Medical Ethics, 14*(1), 6.

Feyissa, G. T., Abebe, L., Girma, E., Woldie, M. (2012). Stigma and discrimination against people living with HIV by healthcare providers, South-West Ethiopia. *BMC Public Health, 12,* 522.

Feyissa, G. T., Abebe, L., Girma, E., Woldie, M. (2012). Validation of an HIV-related stigma scale among healthcare providers in a resource-poor Ethiopian setting. *Journal of Multidisciplinary Healthcare, 5*, 97-113.

Flickinger, T. E., Saha, S., Moore, R. D., Beach, M. C., (2013). Higher quality communication and relationships are associated with improved patient engagement in HIV care. J*ournal of Acquired Immune Deficiency Syndrome, 63*(3), 362-366.

Fielding, K. L., Charalambous, S., Stenson, A. L., Pemba, L. F., Martin, D. J., Wood, R., Grant. A. D. (2008). Risk factors for poor virological outcome at 12 months in a workplace-based antiretroviral therapy programme in South Africa: a cohort study. *BMC Infectious Disease 8*, 93.

Fregonese, F., Collins, I. J., Jourdain, G., Lecoeur, S., Cressey, T. R., Ngo-Giang-Houng, N., Lallemant, M. (2012). Predictors of 5-year mortality in HIV-infected adults starting highly active antiretroviral therapy in Thailand. *Journal of Acquired Immune Deficiency Syndrome, 60*(1), 91-98.

Frazer, K., Glacken, M., Coughlan, B., Staines, A., Daly, L. (2011). Hepatitis C Virus in primary care: Survey of nurses' attitudes to caring. *Journal of Advanced Nursing*, *67*(3), 598-608.

Ford, K., Wirawan, D. N., Sumantera, G. M., Sawitri, A. A., Stahre, M. (2004). Voluntary HIV testing, disclosure, and stigma among injection drug users in Bali, Indonesia. *AIDS Education Prevention, 16*, 487-498.

Fife, B. L., Wright, E. R. (2000). The dimensionality of stigma: A comparison of its impact on the self of persons with HIV/AIDS and Cancer. *Journal of Health and Social Behaviour, 41*(1), 50-67.

Global AIDS Response Progress Report (GARPR) Malaysia (2016): Reporting period January 2015-December 2015. HIV/STI section, Disease Control Division, Ministry of Health Malaysia.

Global HIV/AIDS statistics (2017). Retrieved from: https://www.aids.gov/hiv-aids-basics/hiv-aids-101/global-statistics/.

Goffman, E. (1963). Stigma: Notes on the management of spoiled identity. Englewood Cliffs, N.J: Prentice-Hall.

Gulifeiya, A., Rahmah, M. A. (2008). Nurses' awareness and attitudes towards HIV/AIDS and universal precautions: A cross-sectional study in UKMMC. *Journal of Community Health, 14*(2), 36-45.

Genberg, B. L., Hlavka, Z., Konda, K. A., Maman, S., Chariyalertsak, S., Chingono, A., Celentano, D. D. (2009). A comparison of HIV/AIDS-related stigma in four countries: Negative attitudes and perceived acts of discrimination towards people living with HIV. *Social Science & Medicine, 68*(12), 2279-2287.

Grossman C. I. and Stangl, A. L., (2013). Global action to reduce HIV stigma and discrimination. *Journal of the International AIDS Society, 16*(3), 18881.

Gupta, A., Sane, S. S., Gurbani, A., Bollinger, R. C., Mehendale, S. M., & Godbole, S. V. (2010). Stigmatizing attitudes and low levels of knowledge but high willingness to participate in HIV management: A community- based survey of pharmacies in Pune, India. *BMC Public Health, 10*, 517.

Gray, A. J. (2002). Stigma in psychiatry. *Journal of the Royal Society of Medicine, 95*(2), 72–76.

Global Commission on HIV and the Law, Risks, Rights and Health (July, 2012). Retrieved from: http://hivlawcommission.org/resources/report/FinalReport-Risks,Rights&Health-EN.pdf.

Gonzalez, A., Solomon, S. E., Zvolensky, M. J., Miller, C. T. (2009). The interaction of mindful-based attention and awareness and disengagement coping with HIV/AIDS related stigma in regard to concurrent anxiety and depressive symptoms among adults with HIV/AIDS. *Journal of Health Psychology,14*(3), 403-413.

Goh, P. P., Sivasampu, S., Arunah, C., Tahrani, P. K., Kamilah, D., Faizah, A., Fatihah, M. (2012). Overview on Hospitals And Specialists Services in Malaysia. Report of National healthcare establishments and workforce statistics 2010. Ministry of Health Malaysia.

Giddens, A., Duneier, M., Appelbaum, R. P., Carr, D. (2009). Introduction to Sociology. 7th ed., New York, W. W. Norton & Company, Inc.

Gaston, G. B., Alleyne-Green, B. (2013). The impact of African Americans' beliefs about HIV medical care on treatment adherence: A systematic review and recommendations for interventions. *AIDS Behaviour, 17*(1), 31-40.

Ganczak M. (2007). Stigma and discrimination for HIV/AIDS in the health sector: A Polish perspective. *Interamerican Journal of Psychology, 41*(1), 57-66.

Harapan H., Said, A.K., Samsul, A., Muhammad, Z., Fanny, N., Riza, P.P., Sarah, N., Yani, M. (2013). Discriminatory attitudes toward people living with HIV among healthcare workers in Aceh, Indonesia: A vista from a very low HIV caseload region. *Clinical Epidemiology and Global Health, 3*(1), 29-36.

Hasnah, B, Hatta. (2006). Knowledge, attitudes and practice of prevention towards HIV/AIDS among health personnel in Tapah hospital, Perak, 1996. *Journal of Community Health, 12*(1), 1675.

Hart T. A., Willis A. C., Simpson S. H., Julien R. E., Hoe D., Leahy B., Adam B. D. (2016). Gay Poz sex: a sexual health promotion intervention for HIV-positive gay and bisexual men. *Cognitive and Behavioral Practice, 23*(4), 517-529.

Herrmann, S., McKinnon, E., Hyland, N. B., Lalanne, C., Mallal, S., Nolan, D., Duracinsky, M. (2013). HIV-related stigma and physical symptoms have a persistent influence on health-related quality of life in Australians with HIV infection. *Health and Quality of Life Outcomes, 11*(1), 56.

Health Policy Project. (2012). Measuring HIV Stigma and Discrimination among Health Facility Staff: Field-tested questionnaire. Washington, DC: Futures Group.

Health Policy Initiative, Task Order 1 (2010). Measuring the degree of HIV-related stigma and discrimination in health facilities and providers: working report. Washington, DC: Futures Group.

Holmes, J.G. (2002). Interpersonal expectations as the building blocks of social cognition: An interdependence theory perspective. *Personal Relationships, 9*(1), 1-26.

Holstad M. M., DiIorio C., McCarty F. (2011). Adherence, sexual risk, and viral load in HIV-infected women prescribed antiretroviral therapy. *AIDS Patient Care and STDs, 25*(7), 431-438.

Herek, G. M., Capitanio, J. P., Widaman, K. F. (2002). HIV-related stigma and knowledge in the United States: Prevalence and trends, 1991-1999. *American Journal of Public Health, 92*(3), 371–377.

Hossain, M. B., Kippax, S. (2010). HIV-related Discriminatory attitudes of healthcare Workers in Bangladesh. *Journal of Health Population and Nutrition, 28*(2), 199–207.

Hossain, M.B., Kippax, S. (2011). Stigmatized attitudes toward people living with HIV in Bangladesh: healthcare workers' perspectives. *Asia Pacific Journal of Public Health, 23*(2), 171–182.

Hung, Hsiao, C. F., Chen, M. Y., Hsieh, S. M., Chang, S. Y., Sheng, W. H., Chang, S. C. (2006). Improved survival of persons with human immunodeficiency virus type 1 infection in the era of highly active antiretroviral therapy in Taiwan. *Japanese Journal of Infectious Disease, 59*(4), 222-228.

Hulgan, T., Shepherd, B. E., Raffanti, S. P., Fusco, J. S., Beckerman, R., Barkanic, G., & Sterling, T. R. (2007). Absolute count and percentage of CD4+ lymphocytes are independent predictors of disease progression in HIV-infected persons initiating highly active antiretroviral therapy. *The Journal of Infectious Disease, 195*(3), 425-431.

Hardon, A., Davey, S., Gerrits, T., Hodgkin, C., Irunde, H., Kgatlwane, J., Kinsman, J., Laing, R. (2006). From Access to Adherence: The Challenges of Antiretroviral Treatment. Studies from Botswana, Tanzania, and Uganda, a Research Report. Retrieved from: http://archives.who.int/prduc2004/Book/MULTICOUNTRY.pdf.

Hopwood, M., & Southgate, E. (2003). Living with hepatitis C: A sociological review. *Critical Public Health, 13*(3), 251-267.

Hu Y., Lu H., Raymond H. F., Sun Y., Sun J., Jia Y., Ruan Y. (2014). Measures of condom and safer sex social norms and stigma towards HIV/AIDS among Beijing MSM. *AIDS and Behaviour, 18*(6), 1068-1074.

Holzemer, W. L., Uys, L. R. (2004). Managing AIDS stigma. *SAHARA-J: Journal of Social Aspects of HIV/AIDS, 1*(3), 165-174.

Integrated Biological and Behavioural Surveillance Survey (IBBS) (2014). HIV/STI/Hepatitis C Sector, Disease Control Division, Ministry of Health Malaysia.

Introduction to Hospital Kuala Lumpur, Ministry of Health Malaysia (2017). Retrieved from: http://hkl.moh.gov.my/index.php/about-us/introduction.

Ike, N., Hernandez, A. L., An, Q., Huang, T., Hall, H. I. (2015). Care and viral suppression among women, 18 US jurisdictions. In: Paper presented at the Conference on Retroviruses and Opportunistic Infections (CROI).

Jacoby A. (1994). Felt versus enacted stigma: a concept revisited. Evidence from a study of people with epilepsy in remission. *Social Science & Medicine, 38*(2), 269-274.

Jarrin, Lumbreras, B., Ferreros, Perez-Hoyos, S., Hurtado, Hernandez-Aguado. (2007). Effect of education on overall and cause-specific mortality in injecting drug users,

according to HIV and introduction of HAART. *International Journal of Epidemiology, 36*(1), 187-194.

Joseph, H., Stancliff, S., Langrod, J. (2000). Methadone maintenance treatment (MMT): A review of historical and clinical issues. *Mount Sinai Journal of Medicine, 67*(5-6), 347-364.

Jeffries, W. L. IV., Townsend, E. S., Gelaude, D. J., Torrone, E. A., Gasiorowicz, M., Bertolli J. (2015). HIV stigma experienced by young men who have sex with men (MSM) living with HIV infection. *AIDS Education and Prevention, 27*(1), 58-71.

Jain, A., Carr, D., Nyblade, L. (2015). Measuring HIV stigma and discrimination among health facility staff: Standardized brief questionnaire user guide. Health Policy Project, Washington, DC: Futures Group.

Katz, I.T., Ryu, A.E., Onuegbu, A., Weiser, C.P., Bangsberg, D.R., Tsai, A.C. (2013). Impact of HIV-related stigma on treatment adherence: systematic review and meta-synthesis. *Journal of the International AIDS society, 16*(3), 18640.

Kim, H. Y., Grosso, A., Ky-Zerbo, O., Lougue, M., Stahlman, S., Samadoulougou, C., Ouedraogo, G., Baral, S. (2017). Stigma as a barrier to healthcare utilization among female sex workers and men who have sex with men in Burkina Faso. *Annals of Epidemiology, 28*(1), 13-19.

Kurtz, S. P., Surratt, H. L., Kiley, M. C., Inciardi, J. A. (2005). Barriers to health and social services for street-based sex workers. *Journal of healthcare for the poor and undeserved,16*(2), 345-361.

Krishna, V., Bhatti, R., Chandra, P., Juvva, S. (2005). Unheard voices: experiences of families living with HIV/AIDS in India. *Contemporary Family Therapy, 27*(4), 483-506.

Kinsler, J. J., Wong, M. D., Sayles, J. N., Davis, C., Cunningham, W. E. (2007). The effect of perceived stigma from a healthcare provider on access to care among a low income HIV-positive population. *AIDS Patient Care and STDs, 21*(8), 584-592.

Kumarasamy, N., Safren, S. A., Raminani, S. R., Pickard, R., James, R., Krishnan, A. K., et al. (2005). Barriers and facilitators to antiretroviral medication adherence among patients with HIV in Chennai, India: A qualitative study. *AIDS Patient Care and STDs, 19*(8), 526-537.

Karamouzian, M., Akbari, M., Haghdoost, A. A., Setayesh, H., Zolala, F. (2015). ‘‘I am dead to them’’: HIV-related stigma experienced by people living with HIV in Kerman, Iran. *Journal of the Association of Nurses in AIDS Care, 26*(1), 46-56.

Kremer, H., Sonnenberg-Schwan, U., (2003). Women Living with HIV does sex and Gender Matter? A Current Literature Review. *European journal of medical research, 8*(1), 8-16.

Kay, E. S., Rice, W. S., Crockett, K. B., Atkins, G. C., Batey, D.S., Turan, B. (2017). Experienced HIV-Related Stigma in healthcare and Community Settings: Mediated associations with psychosocial and health outcomes. *Journal of Acquired Immune Deficiency Syndrome, 77*(3), 257-263.

Khan, S. A., Liew, M. L., Omar, H. (2017). Role of ethical beliefs and attitudes of dental students in providing care for HIV/AIDS patients. *The Saudi Dental Journal, 29*(1), 7-14.

Kipp, W., Bajenja, E., Karamagi, E., Tindyebwa, D. (2007). AIDS-related stigma: perceptions of family care givers and health volunteers in Western Uganda. *Journal of World Health & Population, 9*(2), 5-13.

Kocic, K., Petrovic, B., Bogdanović, D., Jovanović, J., Nikić, D., Nikolić, M. (2008). Professional risk, knowledge, attitudes and practice of healthcare personnel in Serbia with regard to HIV/AIDS. *Centre European Journal of Public Health, 16*, 134-137.

Koh, K.C. (2014). A Review of HIV/AIDS Research in Malaysia. *Medical Journal of Malaysia, 69*, 68-81.

Kumarasamy, N., Solomon, S., Flanigan, T. P., Hemalatha, R., Thyagarajan, S. P., Mayer, K. H. (2003). Natural history of human immunodeficiency virus disease in southern India. *Clinical Infectious Disease, 36*(1), 79-85.

Lima, V. D., Kretz, P., Palepu, A., Bonner, S., Kerr, T., Moore, D., Hogg, R. S. (2006). Aboriginal status is a prognostic factor for mortality among antiretroviral naive HIV-positive individuals first initiating HAART. *AIDS Research Therapy 3*, 14.

Lowther, K., Selman, L., Harding, R., Higginson, I. J. (2014). Experience of persistent psychological symptoms and perceived stigma among people with HIV on antiretroviral therapy (ART): A systematic review. *International Journal of Nursing Studies, 51*(8), 1171-1189.

Li, L., Lee, S. J., Wen, Y., Lin, C., Wan, D., Jiraphongsa, C. (2010). Antiretroviral Therapy Adherence among Patients living with HIV/AIDS in Thailand. *Nursing & Health Sciences, 12*(2), 212-220.

Lee, S. S., Lee, K. C., Lee, M. P., Tse, I. C., Mak, W. L., Li, P. C., Sung, J. J., (2011). Development of an HIV clinical cohort database for enhancing epidemiologic surveillance in Hong Kong. *Asia Pacific Journal of Public Health, 23*(3), 408-418.

Lekas, H. M., Siegel, K., Leide, J. (2011). Felt and enacted stigma among HIV/HCV-co-infected adults: The impact of stigma layering. *Qualitative Health Research, 21*(9), 1205-1219.

Li, L., Wu, Z., Wu, S., Zhaoc, Y., Jia, M., Yan, Z. (2007). HIV related stigma in healthcare settings: A survey of service providers in China. *AIDS Patient Care and STDs, 21*(10), 753-762.

Li, L., Cao, H., Wu, Z., Wu, S., Xiao, L. (2007). Diffusion of positive AIDS care messages among service providers in China. *AIDS Education and Prevention, 19*(6), 511-518.

Li, L., Wu, Z., Zhao, Y., Lin, C., Detels, R., & Wu, S. (2007). Using case vignettes to measure HIV-related stigma among health professionals in China. *International Journal of Epidemiology, 36*(1), 178-184.

Lim, S. H., Alias, H., Kien, J. K. W., Akbar, M., Kamarulzaman, A., Wong, L. P. (2019). A Qualitative Study of HIV "Test-and-Treat" Experience Among Men Who Have Sex With Men in Malaysia. *AIDS Education Prevention, 31*(3), 193-205.

Lazarus, L., Deering, K. N., Nabess, R., Gibson, K., Tyndall, M. W., Shannon, K. (2012). Occupational stigma as a primary barrier to healthcare for street-based sex workers in Canada. *Culture, Health & Sexuality, 14*(2), 139-150.

Le Coeur, S., Collins, I. J., Pannetier, J., Lelievre, E. (2009). Gender and access to HIV testing and antiretroviral treatments in Thailand: Why do women have more and earlier access? *Social Science Medicine, 69*, 846-853.

Li, L., Lee, S. J., Thammawijaya, P., Jiraphongsa, C., Rotheram-Borus, M. J., (2009). Stigma, social support, and depression among people living with HIV in Thailand. *AIDS Care, 21*(8), 1007-1013.

Lee, R. S., Kochman, A., Sikkema, K. J. (2002). Internalized stigma among people living with HIV-AIDS. *AIDS and Behaviour, 6*(4), 309-319.

Logie, C. H., James, L., Tharao, W., Loutfy, M. (2013). Associations between HIV-related stigma, racial discrimination, gender discrimination, and depression among HIV positive African, Caribbean, and Black women in Ontario, Canada. *AIDS Patient Care STDs 27*, 114-122.

Link, B. G., Phelan, J.C. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*, 363-385.

Lopez, S. M. J., Ramiro, V. R., Roxas, E. A. (2017). Measuring stigma and discrimination towards People Living with HIV among healthcare workers in a tertiary, government teaching hospital in the Philippines. *Acta Medica Philippina 51*(4), 320.

Martinez, J., Harper, G., Carleton, A. R., Hosek, S., Bojan, K., Glum, G., Ellen, J. (2012). The Impact of stigma on medication adherence among HIV-positive adolescent and young adult females and the moderating effects of coping and satisfaction with healthcare. *AIDS Patient Care & Standards, 26*(2), 108-115.

Maisara Mhode & Tumaini Nyamhanga. (2016). Experiences and Impact of Stigma and Discrimination among People on Antiretroviral Therapy in Dar es Salaam: A Qualitative Perspective. *AIDS Research and Treatment, 10*, 1-11.

Mahendra, V. S., Gilborn, L., Bharat, S., MudoL, R. J., Gupta, I., George, B., Samson, L., Daly, C., Pulerwitz, J. (2007). Understanding and measuring AIDS-related stigma in healthcare settings: A developing country perspective. *Journal of Social Aspects, 4*(2), 616-625.

Mehrabi, D., Tamam, E., Hasan, H. (2016). A Rapid Review of the Literature on HIV-related Stigmatization and Discrimination Studies in Malaysia. *Journal of Social Science & Humanities, 24*(2), 701-720.

Maznah, D., Nazar, A., Bulgiba, A., Zaki, R., Oche, O. M, Adekunjo, F. O., Chinna, K. (2015). HIV/AIDS Related Stigma and Discrimination against PLWHA in Nigerian Population. *PLoS One, 10*(12).

Madiba, S. (2013). The impact of fear, secrecy, and stigma on parental disclosure of HIV status to children: a qualitative exploration with HIV positive parents attending an ART clinic in South Africa. *Global Journal of Health Science, 5*(2), 49-61.

Magnus, M., Herwehe, J., Murtaza-Rossini, M., Reine, P., Cuffie, D., Gruber, D., Kaiser, M. (2013). Linking and retaining HIV patients in care: The importance of provider attitudes and behaviours. *AIDS Patient Care and STDs, 27*(5), 297-303.

Mills, E. A. (2006). From the physical self to the social body: expressions and effects of HIV-related stigma in South Africa. *Journal of Community & Applied Social Psychology,16*, 498-503.

Ma, W., Detels, R., Feng, Y., Wu, Z., Shen, L., Li, Y., Li, Z., Liu, T. (2007). Acceptance of and barriers to voluntary HIV counselling and testing among adults in Guizhou province, China. *AIDS, 21*, 129-135.

Morrison, S. D., Banushi, V. H., Sarnquist, C., Gashi, V. H., Osterberg, L., Maldonado, Y. et al. (2011). Barriers to care and current medical and social needs of HIV-positive patients in Albania. *Central European Journal of Public Health, 19*(2), 91-97.

Mugavero, M. J., Lin, H. Y., Allison, J. J., Giordano, T. P., Willig, J. H., Raper, J. L., Saag, M. S. (2009). Racial disparities in HIV virologic failure: Do missed visits matter? *Journal of Acquired Immune Deficiency Syndrome, 50*(1), 100-108.

Mawar, N., Saha, S., Pandit, A., Mahajan, U. (2005). The third phase of HIV pandemic: social consequences of HIV/AIDS stigma & discrimination & future needs. *The Indian journal of medical research, 122*(6), 471-484.

Mawar, N., Paranjape, R. (2002). Live and let live: Acceptance of people living with HIV/AIDS in an era where stigma and discrimination persist. *ICMR Bulletin, 32*, 105-114.

Mahendra, V. S., Gilborn, L., George, B., et al. (2006). Reducing AIDS related stigma and discrimination in Indian hospitals. Horizons Program.

Naar-King, S., Bradford, J., Coleman, S., Green-Jones, M., Cabral, H., Tobias, C. (2007). Retention in care of persons newly diagnosed with HIV: Outcomes of the Outreach Initiative. *AIDS Patient Care and STDs, 21*, 41-48.

Ngozi, C. M., Borne, B. V., De Vries, N. K. (2009). Stigma of People with HIV/AIDS in Sub-Saharan Africa: A Literature Review. *Journal of Tropical Medicine.*

Nyblade, L., Field, M.L. (2000). Community involvement in prevention of mother to child transmission (PMTCT) initiative. Women, communities and the prevention of mother - to - child transmission of HIV: issues and findings from community research in Botswana and Zambia. Washington, DC: International Center for Research on Women.

Nyblade, L., MacQuarrie, K., (2006). Can we measure HIV/AIDS-related stigma and discrimination? Current knowledge about quantifying stigma in developing countries. USAID: Washington, DC.

Nyblade, L., et al., (2008). Communities Confront HIV Stigma in Vietnam: Participatory Interventions Reduce HIV-Related Stigma in Two Provinces. Washington, DC: International Center for Research on Women.

Nyblade, L., Stangl, A., Weiss, E., Ashburn, K. (2009). Combating HIV stigma in healthcare settings: what works? *Journal of International AIDS Society, 12*, 15.

Nyblade, L., Jain, A., Benkirane, M., Lohiniva, A. L., McLean, R., Turan, J. M., Varas-Díaz, N., Cintrón-Bou, F., Thomas W., et al. (2013). A brief, standardized tool for measuring HIV-related stigma among health facility staff: results of field testing in China, Dominica, Egypt, Kenya, Puerto Rico and St. Christopher & Nevis. *Journal of the International AIDS Society, 16*(3), 18718.

National Centre in HIV Social Research (NCHSR) (2012). Stigma and Discrimination around HIV and HCV in healthcare Settings: Research Report.

Nozaki, I., Dube, C., Kakimoto, K., Yamada, N., Simpungwe, J. B. (2011). Social factors affecting ART adherence in rural settings in Zambia. *AIDS Care, 23*(7), 831-838.

Nobre, N., Pereira, M., Roine, R. P., Sutinen, J., Sintonen, H. (2018). HIV-Related Self-Stigma and Health-Related Quality of Life of people living with HIV in Finland. *The Journal of the Association of Nurses in AIDS Care, 29*(2), 254-265.

Nagothu, L. M., Tilekar, S. D., Sebastian, A. K., Fernandes, P. R., McCreary, L. L., Norr, K. F. (2018). HIV-Related Stigma among Nursing Students Attending a College of Nursing that Promotes Non discriminatory Care in India. *The Journal of the Association of Nurses in AIDS Care, 29*(2), 241-253.

Nudelman A. (2013). Gender-related barriers to services for preventing new HIV infections among children and their mothers alive and healthy in high-burden countries: Results from a qualitative rapid assessment in the Democratic Republic of Congo, Ethiopia, India, Nigeria and Uganda. Retrieved from: http://files.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2013/201312_discussion-paper_Gender-HIV-services_PMTCT_en.pdf.

Najwa, Z. L., Nadiatul, I. Z., Wan, M. K., Noor Haslinda, I., Intan, S. S., Hasneezah, H., Anuratha, S., Rosliza, A. M., et al. (2016). The concept of district health management in Malaysia. *International Journal of Public Health and Clinical Sciences, 3*(1).

Nguyen, T. A., Oosterhoff, P., Pham, Y. N., Hardon, A., Wright, P. (2009). Health workers' views on quality of prevention of mother-to-child transmission and postnatal care for HIV-infected women and their children. *Human Resources for Health, 7*, 39.

Niang, C. I., Tapsoba, P., Weiss, E., Diagne, M., Niang, Y., Moreau, A.M., et al. (2003). 'It's raining stones': Stigma, violence and HIV vulnerability among men who have sex with men in Dakar, Senegal. *Culture, Health & Sexuality, 5*(6), 499-512.

Nyamathi, A., Thomas, B., Greengold, B., Swaminathan, S., (2009). Perceptions and healthcare needs of HIV positive mothers in India. *Progress in community health partnership: research education and action, 3*(2).

Nebhinani, N., Mattoo, S. K and Wanchu, A. (2012). HIV stigma and Specified Correlates in North India. *Indian Journal of Psychological Medicine, 34*(4), 32-331.

Oanh, K., Ashburn, K., Pulerwitz, J., Ogden, J., Nyblade, L. (2008). Improving hospital-based quality of care in Vietnam by reducing HIV related stigma and discrimination. Horizon program: USAID final report. Retrieved from: https://pdfs.semanticscholar.org/215c/a4f9e01f03963901b4aa7d4f7f424698fe25.pdf.

Olalekan, A. W., Akintunde, A. R., Olatunji, M. R. (2014). Perception of Societal Stigma and Discrimination towards people living with HIV in Lagos, Nigeria: A Qualitative Study. *Materia Socio-medica, 26*(3), 191-194.

Oku, A. O., Owoaje, E. T., Ige, O. K., Oyo-Ita, A. (2013). Prevalence and determinants of adherence to HAART amongst PLHIV in a tertiary health facility in south-south Nigeria. *BMC Infectious Disease, 13*, 401.

Obermeyer, C. M., Osborn, M. (2007). The utilization of testing and counselling for HIV: A review of the social and behavioral evidence. *American Journal of Public Health, 97*(10), 1762-1774.

Oktem, P. (2015). The role of the family in attributing meaning to living with HIV and its stigma in Turkey. *SAGE Open, 5*(4), 1-15.

Parker, R, Aggleton, P, Attawell, K., Pulerwitz, J., Brown, L. (2002). HIV/AIDS-related stigma and discrimination: A conceptual framework and an agenda for action. Horizon Program. New York: Population Council.

Parker, R. (2012). Stigma, prejudice and discrimination in global public health. *Cadernos de Saude Publica, 28*(1), 164-169.

Parker, R., Aggleton, P. (2003). HIV and AIDS-related stigma and discrimination: A conceptual framework and implications for action. *Social Science & Medicine, 57*(1), 13-24.

Pendse, R., Gupta, S., Yu, D.B., & Sarkar, S. (2016). HIV/AIDS in the South-East Asia region: progress and challenges. *Journal of Virus Eradication, 2*(4), 1-6.

Pisal, H., Sutar, S., Sastry, J., Kapadia-Kundu, N., Joshi, A., Joshi, M., Leslie, J., Scotti, L., Bharucha, K., Suryavanshi, N., Phadke, M., Bollinger, R., & Shanker, A.V. (2007). Nurses Health Education Program in India increases HIV knowledge and reduces fear. *The Journal of the Association of Nurses in AIDS Care, 18*(6), 32-43.

Policy Project. (2003). Siyam'Kela: Measuring HIV/AIDS Related Stigma (Report): USAID, POLICY Project, South Africa, Centre for the Study of AIDS, University of Pretoria, Chief Directorate: HIV, AIDS & TB, Dept. of Health.

Rachel Jean-Baptiste (2008). USAID, Quality Assurance Project: HIV/AIDS-related stigma, fear and discriminatory practices among healthcare providers in Rwanda. Retrieved from: https://www.usaidassist.org/sites/default/files/rwanda_stigma_2008.pdf.

Reis, C., Heisler, M., Lynn, L., Amowitz1, R., Moreland, S., Jerome, O., Anyamele, C., Iacopino, V. (2005). Discriminatory attitudes and Practices by Health Workers toward Patients with HIV/AIDS in Nigeria. *PLoS Medicine, 2*(8), 246.

Rintamaki, L. S., Davis, T. C., Skripkauskas, S., Bennett, C. L., Wolf, M. S. (2006). Social stigma concerns and HIV medication adherence. *AIDS Patient Care STDs, 20*(5), 359-368.

Rintamaki, L. S., Scott, A. M., Kosenko, K. A., Jensen, R. E. (2007). Male patient perceptions of HIV stigma in healthcare contexts. *AIDS Patient Care and STDs, 21*(12), 956-969.

Rulian, W., Fan, L. V., Peng, X., Hong, L. (2012). Discrimination against people living with HIV within healthcare settings in China. The HIV Program, International Labour Organization (ILO) Beijing Office for China and Mongolia.

Rueda, S., Mitra, S., Chen, S., Gogolishvili, D., Globerman, J., Chambers, L., Wilson, M., Logie, C. H., Shi, Q., Morassaei, S., Rourke, S. B. (2016). Examining the associations between HIV-related stigma and health outcomes in people living with HIV: a series of meta-analyses. *BMJ Open, 6*(7), 011453.

Rutayuga, T. (2011). HIV Related stigma, depressive morbidity and treatment adherence in patients on antiretroviral therapy attending the Mwanayamala hospital, Dar es Salaam. Muhimbili University of Health and Allied Sciences. (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses.

Rougemont, M., Stoll, B. E., Elia, N., Ngang, P. (2009). Antiretroviral treatment adherence and its determinants in Sub-Saharan Africa: a prospective study at Yaounde Central Hospital, Cameroon. *AIDS Research and Therapy, 6*, 21.

Risher, K., Adams, D., Sithole, B., Sosthenes, K., Caitlin, K., Zandile, M., Mabusa, X., Baral, S. D. (2013). Sexual stigma and discrimination as barriers to seeking appropriate healthcare among men who have sex with men in Swaziland. *Journal of International AIDS Society, 16*(3), 18715.

Rithpho, P., Grimes, D. E., Grimes, R. M., Senaratana, W. (2009). Known to be positive but not in care: A pilot study from Thailand. *Journal of the International Association of Physicians in AIDS Care, 8*(3), 202-207.

Roura, M. (2005). HIV/AIDS interventions in low prevalence countries: A case study of Albania. *International Social Science Journal, 57*(186), 639-648.

Rice, W. S., Logie, C. H., Napoles, T. M., Walcott, M., Batchelder, A. W., Kempf, M. C., Turan, J. M., et al. (2018). Perceptions of inter-sectional stigma among diverse women living with HIV in the United States. *Social Science & Medicine, 208*, 9-17.

Rosenfield, A., Yanda, K. (2002). AIDS treatment and maternal mortality in resource-poor countries. *Journal of the American Medical Women's Association, 57*(3), 167-168.

Saki, M., Khan, S. M., Kermanshahi., Mohammadi, E., Mohraz, M. (2015). Perception of patients with HIV/AIDS from stigma and discrimination. *Iranian Red Crescent Medical Journal, 17*(6), 23638.

Salih, M. H., Tessema, G. A., Cherkos, E. A., Ferede, A. J., Zelalem Anlay, D. (2017). Stigma towards people living on HIV/AIDS and associated factors among nurses' working in Amhara region referral hospitals, Northwest Ethiopia: a cross-sectional study. *Advances in Nursing*, 1-7.

Sands, M. L., Murphy, J. R. (1996). Use of Kappa Statistic in Determining Validity of Quality Filtering for Meta-Analysis: A Case Study of the Health Effects of Electromagnetic Radiation. *Journal of Clinical Epidemiology, 49*(9), 1045-1051.

Satel, S., & Klick, J. (2006). Are Doctors Biased? *Policy Review*, (136), 41.

Sayles, J. N., Ryan, G. W., Silver, J. S., Sarkisian, C. A., Cunningham, W. E. (2007). Experiences of Social Stigma and Implications for healthcare among a Diverse Population of HIV Positive Adults. *Journal of Urban Health, 84*(6), 814-828.

Sayles, J. N., Wong, M. D., Kinsler, J. J., Martins, D., & Cunningham, W. E. (2009). The association of stigma with self-reported access to medical care and antiretroviral therapy adherence in persons living with HIV/AIDS. J*ournal of General Internal Medicine, 24*(10), 1101-1108.

Schietinger, H. (2005). Supportive and palliative care for people living with HIV. Retrieved from: https://www.aiha.com/wp-content/uploads/2015/07/11-Supportive-Palliative-Care-for-People-Living-with-HIV-AIDS.pdf.

Schuster, M. A. et al. (2005). Perceived Discrimination in Clinical Care in a Nationally Representative Sample of HIV-Infected Adults Receiving healthcare. *Journal of General Internal Medicine, 20*(9), 807-813.

Sekoni, A. O., Obidike, O. R., Balogun, M. R. (2012). Stigma, medication adherence and coping mechanism among people living with HIV attending General Hospital, Lagos Island, Nigeria. *African Journal of Primary Healthcare & Family Medicine, 4*(1), 417.

Shisana, O., Zungu-Dirwayi, N., Toefy, Y., Simbayi, L. C., Malik, S., & Zuma, K. (2004). Marital status and risk of HIV infection in South Africa. *South African Medical Journal, 94*(7), 537-543.

Shanthi, A. G., Damodharan, J., & Priya, G. (2007). Depression and coping: A study on HIV positive men and women. *A Sri Ramachandra Journal of Medicine*, 15-19.

Solomon, P., Guenter, D., Stinson, D. (2005). People living with HIV as educators of health professionals. *AIDS Patient Care and STDs, 19*(12), 840-847.

Sohn, A., Park, S. (2017). HIV/AIDS Knowledge, Stigmatizing attitudes, and Related Behaviours and Factors that Affect Stigmatizing attitudes against HIV/AIDS among Korean Adolescents. *Osong Public Health Research Perspective, 3*(1), 24-30.

Stahlman, S., Hargreaves, J. R., Sprague, L., Stangl, A. L., Baral, S. D. (2017). Measuring Sexual Behaviour Stigma to Inform Effective HIV Prevention and Treatment Programs for Key Populations. *JMIR Public Health and Surveillance, 3*(2), 23.

Stein, A. D., Makarawo, T. P., Ahmad, M. F. R. (2003). A survey of doctors' and nurses' knowledge, attitudes and compliance with infection control guidelines in Birmingham teaching hospitals. *The Journal of Hospital Infection, 54*(1), 68-73.

Stewart, K., O'Reilly, P. (2017) Exploring the attitudes, knowledge and beliefs of nurses and midwives of the healthcare needs of the LGBTQ population: An integrative review. *Nurse Education Today, 53*, 67-77.

Stringer, K., Turan, B., McCormick, L., Durojaiye, M., Nyblade, L., Turan, J. M. (2016). HIV-Related Stigma among healthcare Providers in the Deep South. *AIDS and Behaviour, 20*(1), 115-125.

Subramanian, T., Gupte, M. D., Dorairaj, V. S., Periannan, V., Mathai, A. K. (2009). Psycho-social impact and quality of life of people living with HIV in South India. *AIDS care, 21*(4), 473-481.

Sujak, S., Abdul-Kadir, R., & Omar, R. (2005). Self-disclosure of HIV Status: Perception of Malaysian HIV-positive Subjects towards attitudes of Dental personnel in Providing Oral Care. *Asia-Pacific Journal of Public Health, 17*(1), 15-18.

Scambler, G., Paoli, F. (2008). Health work, female sex workers and HIV/AIDS: global and local dimensions of stigma and deviance as barriers to effective interventions. *Social Science & Medicine, 66*(8), 1848-1862.

Sumari-de Boer, I. M., Spangers, M. A., Prins, J. M., Nieuwkert, P. T. (2012). HIV stigma and depressive symptoms are related to adherence and virological response to antiretroviral treatment among immigrant and indigenous HIV infected patients. *AIDS and Behaviour, 16*(6), 1681-1689.

Sadoh, A. E., Fawole, A. O., Sadoh, W. E., Oladimeji, A. O., Sotiloye, O. S. (2006). attitudes of healthcare workers to HIV/AIDS. *African Journal of Reproductive Health, 10*(1), 39-46.

Semugoma, P., Nemande, S., Baral, S. D. (2012). The irony of homophobia in Africa. *Lancet, 380*(9839), 312-314.

Steward, W. T., Herek, G. M., Ramakrishna, J., Bharat, S., Chandy, S.,Wrubel, J., et al. (2008). HIV-related stigma: Adapting a theoretical framework for use in India. *Social Science and Medicine, 67*(8), 1225-1235.

Sweeney, S. M., Vanable, P. A. (2016). The association of HIV-related stigma to HIV-related medication adherence:A systematic review and synthesis of the literature. *AIDS and Behaviour, 20*(1), 29-50.

Stutterheim, S. E., Sicking, L., Brands, R., et al. (2014). Patient and provider perspectives on HIV and HIV-related stigma in Dutch healthcare settings. *AIDS Patient Care and STDs, 28*(12), 652-665.

Survey Instruments and Scales. Cross-Site Evaluation: Patient Assessment. (2004). Departmental of Medicine, University of California San Francisco.
Retrieved from: http://caps.ucsf.edu/resources/survey-instruments.

Tarimo, E. A. M., and George, J. (2014). Providing antiretroviral therapy in the context of self-perceived stigma: a mixed methods study from Tanzania. *Tanzania Journal of Health Research, 16*(2), 79-88.

Temple-Smith, M., Jenkinson, K., Lavery, J., Gifford, S. M., Morgan, M. (2006). Discrimination or discretion? Exploring dentists' views on treating patients with Hepatitis C. *Australian Dental Journal, 51*(4), 318-323.

Tirelli, U., Accurso, V., Spina, M., Vaccher, E. (1991). HIV and discrimination. *BMJ, 303*(6802), 582.

Treloar, C., Hopwood, M. (2004). Infection control in the context of Hepatitis C disclosure: Implications for education of healthcare professionals. *Education for Health, 17*(2), 183-191.

Turan, B., Hatcher, A. M., Weiser, S. D., Johnson, M. O., Rice, W. S., Turan, J. M. (2017). Framing mechanisms linking HIV-related stigma, adherence to treatment and health outcomes. *American Journal of Public Health, 107*(6), 863-869.

Turan, B., Budhwani, H., Fazeli, P. L., et al. (2017). How does stigma affect people living with HIV? The mediating roles of internalized and anticipated HIV stigma in the effects of perceived community stigma on health and psychosocial outcomes. *AIDS and Behaviour, 21*(1), 283-291.

The World Bank (2013). Report on the Global HIV Epidemics among Sex Workers. Retrieved from: https://openknowledge.worldbank.org/handle/10986/12217.

Thai Network of people living with HIV (TNP+), (2009). Report: Index of stigma and discrimination against people living with HIV in Thailand. Retrieved from:

http://www.aidsdatahub.org/sites/default/files/documents/Stigma_Index_Thailand.pdf.

Thomas, B. E., Rehman, F., Suryanarayanan, D., et al. (2005). How stigmatizing is stigma in the life of people living with HIV: A study on HIV positive individuals from Chennai, South India. *AIDS Care, 17*(7), 795-801.

Thomas, B., Nyamathi, A., Swaminathan, S. (2009). Impact of HIV/AIDS on mothers in southern India: A qualitative study. *AIDS and Behaviour, 13*(5), 989-996.

Thanawuth, N., Chongsuvivatwong, V. (2008). Late HIV diagnosis and delay in CD4 count measurement among HIV-infected patients in Southern Thailand. *AIDS Care, 20*, 43-50.

Ulasi, C. I., Preko, P. O., Baidoo J. A., et al., (2009). HIV/AIDS-related stigma in Kumasi, Ghana. *Health and Place, 15*(1), 255-262.

UNAIDS. (2009). HIV-related Stigma and Discrimination: A Summary of Recent Literature. Retrieved from: http://data.unaids.org/pub/Report/2009/20091130_stigmasummary_en.pdf.

UNAIDS. (2016). Report on UNAIDS Strategy 2016-2021: Catalyzing Global Action to Eliminate Stigma and Discrimination in healthcare. Geneva.

UNAIDS Data. (2017a). Retrieved from: https://www.unaids.org/sites/default/files/media_asset/2017_data-book_en.pdf

UNAIDS. (2017b). 'Agenda for zero discrimination in health-care settings'. Retrieved from: (http://www.unaids.org/sites/default/les/media_asset/2017ZeroDiscriminationhealthcare.pdf).

UNAIDS. (2017c). Make some noise for zero discrimination on 1 March. Retrieved from: https://www.unaids.org/sites/default/files/media_asset/2017-zero-discrimination-day_en.pdf.

United Nations. (2004). Impact of AIDS. Report from Department of Economic and Social Affairs/Population Division. Retrieved from: https://www.un.org/en/development/desa/population/publications/hiv-aids/aids-impact.asp.

UNDP. (2012). Lost In Transition: Transgender People, Rights and HIV Vulnerability in the Asia-Pacific Region. Retrieved from: http://www.undp.org/content/dam/undp/library/hivaids/UNDP_HIV_Transgender_report_Lost_in_Transition_May_2012.pdf.

United Nations Educational Scientific Cultural organization. (2012). Promoting health-seeking behaviors and quality of care: Among men who have sex with men and transgender women: Evidence from 5 provinces in Thailand. Bangkok: UNESCO, 2012.

UNGASS. (2012). Global AIDS Response: Country Progress Report January 2010-December 2011. Malaysia March 2012.

USAID. (2005). Tanzania stigma-indicators field test group: Measuring HIV stigma: results of a field-test in Tanzania. Washington, DC: Synergy.

USAID. (2007). Evaluation of knowledge, attitudes, and practices of healthcare providers toward HIV-positive patients in Tanzania. Quality Assurance Project: Tanzania HIV Stigma Study Team.

USAID. (2010). Measuring the degree of HIV-related stigma and discrimination in health facilities and providers: Working report. Washington, DC.

Vallabhaneni, S., Chandy, S., Heylen, E., & Ekstrand, M. (2012). Reasons for and correlates of antiretroviral treatment interruptions in a cohort of patients from public and private clinics in southern India. *AIDS Care, 24*(6), 687-694.

Vicknasingam, B., Narayanan, S., & Navaratnam, V. (2009). The relative risk of HIV among IDUs not in treatment in Malaysia. *AIDS Care, 21*(8), 984-991.

Varga, C. A., Sherman, G. G., Jones, S .A. (2006). HIV-disclosure in the context of vertical transmission: HIV-positive mothers in Johannesburg, South Africa. *AIDS Care, 18*(8), 952-960.

Vorasane, S., Jimba, M., Kikuchi, K., et al. (2017). An investigation of stigmatizing attitudes towards people living with HIV/AIDS by doctors and nurses in Vientiane, Lao PDR. *BMC Health Services Research, 17*, 125.

Wang, J. F, Simoni, P. S, Paterson, J. (1993). AIDS-related knowledge, fear and behavioural change among nurses in Taiwan. *Public Health Nursing, 10*(4), 257-262.

Wayne, T., Steward., Ramakrishna, K., Bharat, S., Chandy, S. et al. (2009). HIV related stigma: adapting a theoretical framework for use in India. *Social Science and Medicine, 67*(8), 1225-1235.

Welch, S. E., Bunin, J. (2010). Glove use and the HIV positive massage therapy client. *Journal of Bodywork and Movement Therapies, 14*(1), 35-39.

World Health Organization. (2004). Human Resources for Health: Overcoming the crisis. The Joint Learning Initiative report. Retrieved from: http://www.who.int/hrh/documents/JLi_hrh_report.pdf.

World Health Organization. (2008). Towards Universal Access: Scaling up priority HIV/AIDS interventions in the health sector: Progress report 2008. Retrieved from: (http://www.who.int/hiv/mediacentre/2008progressreport/en/).

World Health Organization. (2011). Global HIV/AIDS Response. Epidemic update and health sector progress towards Universal Access: Progress report. Retrieved from: http://www.unaids.org/sites/default/files/media asset/20111130 UA Report en 1.pdf.

World Health Organization, Western Pacific Region Health Report. (2012). Retrieved from: http://www.wpro.who.int/asia_pacific_observatory/hits/series/Hit_MYS_1_introduction.pdf.

World Health Organization, Article on HIV/AIDS. (2013). Definition of key terms. Retrieved from: http://www.who.int/hiv/pub/guidelines/arv2013/intro/keyterms/en/.

World Health Organization, Western Pacific Region Financing Report. (2015). Retrieved from: http://www.wpro.who.int/asia_pacific_observatory/hits/series/Hits_MYS_3_financing.pdf.

World Health Organization, Country Profile: Malaysia Statistics. (2017a). Retrieved from:http://www.who.int/countries/mys/en/.

World Health Organization, HIV/AIDS epidemic update. (2017b). Retrieved from:http://www.who.int/mediacentre/factsheets/fs360/en/.

World Health Organization. (2017c). Occupational Health. Needle stick injuries: Protecting healthcare workers preventing needle stick injuries. Retrieved from: http://www.who.int/occupational_health/topics/needinjuries/en/.

World Health Organization. (2018). HIV/AIDS: Injecting Drug Use. Retrieved from: http://www.who.int/hiv/topics/idu/en/

Wikipedia (2017): Social stigma classification by Erving Goffman. Retrieved from: http://en.wikipedia.org/wiki/Social_stigma#Erving_Goffman.

Women of the Asian Pacific Network of people living with HIV (2012). Positive and pregnant-How dare you: a study on access to reproductive and maternal health care for women living with HIV in Asia. *Reproductive Health Matters, 20*(39), 110-118.

World health rankings (2017). Retrieved from: http://www.worldlifeexpectancy.com/country-health-profile/malaysia.

Wong, L. P., Caroline, K. L. C., Low, W. Y., Nasruddin, J. (2008). HIV/AIDS-Related Knowledge among Malaysian Young Adults: Findings from a Nationwide Survey. *Journal of the International AIDS Society, 10*,148.

Wolitski, R. J., Pals, S. L., Kidder, D. P., Courtenay-Quirk, C., & Holtgrave, D. R., (2009). The effects of HIV stigma on health disclosure of HIV status and risk behavior of homeless and unstably housed persons living with HIV. *AIDS and behavior, 13*(6), 1222-1232.

Wolfe, W. R., Weiser, S. D., Bangsberg D. R., et al., (2006). Effects of HIV-related stigma among an early sample of patients receiving antiretroviral therapy in Botswana. *AIDS Care, 18*(8), 931-933.

Wood, K., & Lambert, H. (2008). Coded talk, scripted omissions: The micro politics of AIDS talk in South Africa. *Journal of Medical Anthropology Quarterly, 22*(3), 213-233.

Wu, S., Li, L., Wu, Z., Liang, L. J., Cao, H., Yan, Z., et al. (2008). A brief HIV stigma reduction intervention for service providers in China. *AIDS Patient Care and STDs, 22*(6), 513-520.

Weaver, E. R. N., Pane, M., Wandra, T., Windiyaningsih, C., Herlina, et al., (2014). Factors that Influence Adherence to Antiretroviral Treatment in an Urban Population, Jakarta, Indonesia. *PLoS One, 9*(9), 107543.

Wasti, S. P., Simkhada, P., Randall, J., Freeman, J. V., Teijlingen, E. V. (2012). Factors influencing adherence to antiretroviral treatment in Nepal: A mixed-methods study. *PLoS One, 7*(5), 35547.

Wong, L. P., & Syuhada, A. R. (2011). Stigmatization and discrimination towards people living with or affected by HIV/AIDS by the general public in Malaysia. *The Southeast Asian Journal of Tropical Medicine and Public Health, 42*(5), 1119-1129.

Wolfe, W. R,. Weiser, S. D., Leiter, K., et al. (2008). The impact of universal access to antiretroviral therapy on HIV stigma in Botswana. *American Journal of Public Health, 98*(10), 1865-1871.

White, R. C., Carr, R. (2005). Homosexuality and HIV/AIDS stigma in Jamaica. *Culture Health & Sexuality, 7*(4), 347-359.

Weiss, M.G., Ramakrishna, J., Somma, D. (2006). Health-related stigma: rethinking concepts and interventions. Psychology, Health and Medicine, 11(3):277–87.

Wu X., Chen J., Huang H., Liu Z., Li X., Wang H. (2015). Perceived stigma, medical social support and quality of life among people living with HIV in Hunan, China. Applied Nursing Research, 28(2), 169-174.

Weiss, M. G., Ramakrishna, J., Somma, D. (2006). Health-related stigma: Rethinking concepts and interventions. *Psychology Health & Medicine, 11*(3), 277-287.

Zhang, C., et al., (2016). Stigma against people living with HIV in China: Does the Route of Infection Matter? *PLoS One, 11*(3), 0151078.

Zukoski, A. P., Thorburn, S. (2009). Experiences of stigma and discrimination among adults living with HIV in a low HIV-Prevalence context: A qualitative analysis. *AIDS Patient Care and STDs, 23*(4), 267-276.

LIST OF PUBLICATIONS AND PAPERS PRESENTED

Conference Proceedings

Oral Presentation

a) Saguntala Selvamani, Rafdzah Zaki, Wong Li Ping (2017). *Cross cultural translation and adaptation of the Malay version of ACTG baseline psychosocial questionnaire and enacted stigma scale.* Paper presented at the 5th Asia Pacific Conference on Public Health (10/09 - 13/09/2017), Kuching, Sarawak, Malaysia.

b) Saguntala Selvamani, Rafdzah Zaki, Wong Li Ping (2018). *Effects of stigmatization on general health care seeking behaviour among people living with HIV in Kuala Lumpur.* Paper presented at the 50th Asia Pacific Academic Consortium for Public Health (12/09 - 14/09/2018), Kota Kinabalu, Sabah, Malaysia.

Poster Presentation

a) Saguntala Selvamani, Rafdzah Zaki, Wong Li Ping (2018). *Discriminatory attitudes towards HIV/AIDS among public health care professional in urban Malaysia: A descriptive study.* Paper presented at the 4th International Conference on Public Health (19/07 - 21/07/2018), Bangkok, Thailand.