OUTCOMES OF PREGNANCY AMONG UNMARRIED MOTHERS IN MALAYSIA

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KUALA LUMPUR

2016

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THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

FACULTY OF MEDICINE
UNIVERSITY OF MALAYA
KUALA LUMPUR

2016

UNIVERSITY OF MALAYA

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Registration/Matric No: MHA 090039

Name of Degree: DOCTOR OF PHILOSOPHY IN MEDICINE

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OUTCOMES OF PREGNANCY AMONG UNMARRIED MOTHERS IN MALAYSIA

Field of Study: SEXUAL AND REPRODUCTIVE HEALTH

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ABSTRACT

Births among unmarried women have become a serious concern for public health and reproductive health, especially in developing countries. Such pregnancies are both far more likely to be unintended and to have negative effects on both mother and child. The first objective of this study is to examine the impacts of unmarried pregnancy on pregnancy outcomes among young women in Malaysia. The second is to evaluate the characteristics of unmarried pregnant women and the risk factors of unmarried pregnancy. The final objective is to explore the experiences of women facing unmarried pregnancy. The study employs both quantitative and qualitative data collection procedures, carried out in two phases at six hospitals and six shelters in Peninsular Malaysia. Phase one was a prospective cohort study of pregnant women at four separate times; during their antenatal, shortly after childbirth, one month, and three months after childbirth. Pregnant women with and without marital ties at the point of pregnancy diagnosis were invited to participate in this study. Phase two consisted of in-depth interviews of selected unmarried mothers. A total of 506 women (261 unmarried and 245 married) agreed to participate (92.2% response rate), but 203 unmarried and 200 married women followed up three months after childbirth. Results have shown that most unmarried mothers were adolescents (mean age 19.2 ± 3.9 years) from low socioeconomic groups, who were still studying and living with parent prior to pregnancy. The majority of unmarried mothers were primigravidae, were pregnant due to consensual sexual intercourse and received antenatal care at government health centres. From the multivariate regression analysis, marital status was significantly associated with postpartum depression (OR 3.04; 95% CI 1.29-7.18), preterm birth (OR 1.66; 95% CI 1.05-2.61) and low birth weight (OR 2.79; 95% CI 1.68-4.61). Unmarried mothers were more likely to have poor psychological well-being, poor quality of life, lower social support, poor coping strategies and effected job/study and economic condition as compared to married mothers. 43.8% gave their

child for adoption, while 27.1% chose single motherhood, 17.7% kinship fostering, and 9.9% married the father of the infant. Factors associated with unmarried pregnancy included age (OR 0.64; 95% CI 0.60-0.76), have friends involve with risky behaviour (OR 18.09; 95% CI 4.36-75.14), cigarette used (OR 21.87; 95% CI 2.75-173.93), exposure to pornographic material (OR 10.59; 95% CI 2.49-44.49), sexual health information (OR 10.54; 95% CI 3.32-33.43), contraceptive used (OR 0.17; 95% CI 0.06-0.51), and social support of significant others (OR 0.79; 95% CI 0.70-0.89). Six themes emerged from the 14 unmarried women who were interviewed in the phase two. Most unmarried women knew the father of their babies and contraceptive use was uncommon among them. There were three primary reactions from women, partners, or families when they knew about the pregnancy; abortion, marriage or staying in shelters. Three choices were made regarding their infant; adoption, motherhood and kinship fostering. Among the impacts faced by women were economic, emotional, health, and physical and social/lifestyle impacts. In conclusion, unmarried pregnancy strongly impacted mental health and birth outcome. It is influenced by various factors which should be addressed by intervention programs. Promoting access to antenatal care and social support programs for unmarried mothers appear important to reduce adverse pregnancy outcomes.

Keywords: premarital sex, unplanned pregnancy, unwed mothers, pregnancy outcome, postpartum depression, antenatal care, mental health

ABSTRAK

Kelahiran di kalangan wanita yang belum berkahwin menjadi satu kebimbangan yang serius dalam kesihatan awam dan kesihatan reproduktif, terutama di negara sedang membangun. Kehamilan ini lebih cenderung kepada kehamilan yang tidak dirancang dan mempunyai kesan negatif kepada ibu dan anak. Objektif pertama kajian ini adalah untuk mengkaji kesan status perkahwinan ibu terhadap implikasi kehamilan di kalangan wanita muda di Malaysia. Kedua adalah untuk mengetahui ciri-ciri wanita yang hamil luar nikah dan faktor risiko kepada kehamilan luar nikah. Objektif terakhir adalah untuk meneroka pengalaman wanita yang mengalami kehamilan luar nikah. Kajian ini melibatkan dua kaedah pengumpulan data iaitu kuantitatif dan kualitatif; dilaksanakan dalam dua fasa di enam hospital dan enam pusat perlindungan di Semenanjung Malaysia. Fasa pertama melibatkan kajian kohort ke atas wanita hamil menggunakan soal selidik berpandu pada empat masa yang berasingan; semasa mengandung, sejurus selepas bersalin, satu bulan dan tiga bulan selepas bersalin. Wanita berkahwin (kumpulan perbandingan) dan wanita tidak berkahwin semasa mengandung telah dijemput untuk mengambil bahagian dalam kajian ini. Fasa kedua adalah temubual secara mendalam ke atas wanita yang tidak berkahwin. Seramai 506 wanita (261 tidak berkahwin dan 245 telah berkahwin) bersetuju untuk mengambil bahagian (kadar respons 92.2%), tetapi 203 wanita tidak berkahwin dan 200 wanita berkahwin berjaya membuat susulan sehingga 3 bulan selepas bersalin. Wanita tidak berkahwin adalah lebih muda (min mur 19.2 ± 3.9 tahun), lebih tinggi peratus yang berasal dari keluarga berpendapatan rendah, masih belajar dan tinggal bersama ibu bapa sebelum hamil. Majoriti wanita tidak berkahwin hamil buat kali pertama (90.8%), hamil hasil persetubuhan secara rela dan menerima rawatan pranatal di pusat kesihatan kerajaan (81.6%). Analisis logistik regresi menunjukkan status perkahwinan ibu mempunyai hubungkait dengan kemurungan selepas bersalin (OR 3.04; 95% CI 1.29-7.1), kelahiran pramatang (OR 1.66; 95% CI 1.05-2.61) dan berat lahir yang

rendah (OR 2.79; 95% CI 1.68-4.61). Ibu tidak berkahwin lebih cenderung mengalami kesejahteraan mental, kualiti hidup, sokongan sosial, dan keupayaan menangani krisis dan keadaan fizikal serta ekonomi yang rendah berbanding ibu yang berkahwin. Seramai 43.8% ibu tidak berkahwin telah menyerahkan anak mereka kepada keluarga angkat, 27.1% memilih untuk menjaga sendiri, 17.7% menyerahkan kepada keluarga/saudara mara dan 9.9% memilih untuk menjadi ibubapa (berkahwin dengan bapa kepada bayi). Umur (OR 0.64; 95% CI 0.60-0.76), mempunyai rakan yang terlibat dengan tingkahlaku berisiko, (OR 18.09; 95% CI 4.36-75.14), merokok (OR 21.87; 95% CI 2.75-173.93), pendedahan kepada bahan lucah (OR 10.59; 95% CI 2.49-44.49), maklumat kesihatan seksual (OR 10.54; 95% CI 3.32-33.43), penggunaan kontraseptif (OR 0.17; 95% CI 0.06-0.51), dan sokongan sosial dari orang lain (OR 0.79; 95% CI 0.70-0.89) mempunyai hubungkait dengan kehamilan luar nikah. Analisa data kualitatif daripada 14 wanita tidak berkahwin menunjukkan enam topik utama yang menggambarkan pengalaman hamil luar nikah. Semua wanita dalam kajian ini mengenali bapa kepada bayi mereka namun penggunaan kontraseptif adalah kurang di kalangan mereka. Tiga reaksi apabila wanita, pasangan atau keluarga tahu tentang kehamilan ini; pengguguran, perkahwinan atau tinggal di pusat perlindungan. Sokongan yang diterima daripada masyarakat adalah sokongan emosi dan sokongan material. Tiga keputusan yang diambil terhadap bayi mereka adalah menyerahkan kepada keluarga angkat, menjaganya sendiri atau menyerahkan kepada keluarga/saudara mara. Implikasi yang dihadapi oleh wanita adalah dari segi ekonomi, emosi, kesihatan fizikal dan implikasi sosial dan gaya hidup. Sebagai kesimpulan, kehamilan luar nikah memberi kesan kepada kesihatan mental dan hasil proses pelahiran. Ia juga dipengaruhi oleh pelbagai faktor yang perlu diambil kira dalam merancang program intervensi. Mempromosikan penjagaan pranatal dan menyediakan program sokongan sosial kepada ibu tidak berkahwin adalah penting untuk mengurangkan implikasi kehamilan yang negatif.

Kata kunci: hamil sebelum nikah, kehamilan tak terancang, kehamilan remaja, ibu tanpa nikah, faktor risiko, hasil kelahiran, penjagaan antenatal, kesihatan mental

ACKNOWLEDGEMENTS

In the name of Allah, the Most Gracious, the Most Merciful. Thank You Allah.

This thesis could not have been prepared without the valuable contributions of many individuals.

First and foremost, I would like to express my heartiest gratitude and appreciation to my supervisor, Profesor Dr. Sarinah Low Abdullah for your guidance, continuous advice and encouragement from the beginning until the completion of this study. I am also very thankful to my co-supervisor, Profesor Madya Dr. Sajaratulnisah bt Othman for your dedicated guidance, and enduring support. A million thanks for having given me the opportunity to be a PhD student. I appreciate the faith they had in me.

My special thanks and deepest appreciation to Director of University Malaya Medical Centre, Kuala Lumpur General Hospital, Hospital Universiti Sains Malaysia, Hospital Raja Perempuan Zainab II, Hospital Sultanah Nur Zahirah, Hospital Tuanku Ampuan Afzan for giving me this opportunity to conduct my field work at the hospitals. Sincere gratitude also to all heads of departments, doctors, nurses and staff of all hospitals for their help, time, and guidance throughout the project and to all the participating women, for their cooperation.

I would like to express my appreciation to Pusat Bimbingan Remaja Puteri Raudhatus Sakinah, Pusat Perlindungan Wanita Baitul Ehsan; Majlis Agama Islam Selangor, Kompleks Dar-Assadah; Majlis Agama Islam Wilayah Persekutuan, Rumah Bimbingan Darul Wardah; Angkatan Belia Islam Selangor, Social Welfare Department and Pusat Perlindungan An-Nasuha for giving me this opportunity and good cooperation to conduct

this study at their places. My warmest appreciation to all of the women and mothers participating in this study.

My heartfelt gratitude to all the lecturers and the staffs of the Medical Education and Research Development Unit (MERDU) and Primary Care Medicine, Faculty of Medicine, for their continuous effort, help and encouragement during this study. Also not forgetting, the postgraduate colleagues for their support and sharing of knowledge during this study and all my friends, Siti Khadijah Yahya, Norazwana Zakaria and Fauhan Farizat who had helped in the field work.

Last but not least, I am also indebted to my beloved husband Mohd Hafis Ismail for his support and continuous encouragement, without which, this thesis would not be a reality. Special thanks also to my daughter Nurul Insyirah, my sons Muhammad Haziq, Muhammad Hariz and my parent, Mohd Zain bin Deris and Mariam binti Said, parents in-law Ismail Che Ali and Marina binti Ibrahim, whole families and friends for their *do'a*, relentless love, support and understanding throughout my entire postgraduate study.

May Allah bless them all

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LIST OF SYMBOLS AND ABBREVIATIONS

AIDS	:	Acquired Immune Deficiency Syndrome
CDC	:	Centre for Disease Control
CEMD	:	Confidential Enquiry into Maternal Death
EPDS	:	Edinburgh Postpartum Depression Scale
GH	:	General Hospital (Kuala Lumpur)
GHQ	:	General Health Questionnaire
HIV	:	Human Immunodeficiency Virus
ICPD	:	International Conference on Population and Development
LSCS	:	Lower Segment Caesarean Section
MCH	:	Maternal and Child Health
MOH	:	Ministry of Health (Malaysia)
MSPSS	:	Multidimensional Scale Perceived Social Support
MOSSSS	:	Medical Outcome Study Social Support Survey
NGOs	:	Non-Government Organisations
NHMS	:	National Health and Morbidity Survey (Malaysia)
NPFDB	:	National Population and Family Development Board (Malaysia)
n.d	:	No Date
SF12	:	Short Form 12
SRH	:	Sexual and reproductive health
STDs	:	Sexually Transmitted Diseases

LIST OF APPENDICES

CHAPTER 1: INTRODUCTION

It is essential to have good understanding of the concepts of sexual and reproductive health (SRH), and unmarried pregnancies as part of the crucial problems of SRH issues and the increasing rate of unmarried pregnancy, non-marital birth, and childbearing. These components are described in this introductory chapter.

1.1 Background of the Study

Pregnancy is one of the most significant events in a woman's life. Generally, it has connotations of good tidings and fortune, as when a married woman become pregnant, both the women, her family members and indeed society rejoices greatly. It is considered a symbol of happiness and the actual consummation of a legitimate marriage. Becoming and being a mother is related to high status and respect. However, in societies in which unmarried pregnancy is frowned upon, it becomes an irreconcilable insult, usually not welcomed by family, the community or the entire society. This pregnancy is usually kept as a high priority secret within the family because of its perceived and manifest social and other related problems.

Unmarried pregnancy or known as premarital pregnancy lead to unmarried motherhood is a common phenomenon. It has become an everyday occurrence in many communities. In 2009, about 50.7% of all births in the United States were to unmarried women. In the beginning of 1940, birth rate among unmarried women increased from 7.1 to 46.1 per 1000 unmarried women in 2004 (Martin et al., 2013). In other parts of the world, non-marital birth rates in Latin America were reported at between 38% to 73%, while Europe's were 31% to 50%, and Asia's ranged from 0.8% to 25.8% (Moore, 1995; Ventura, 2009).

1.1.1 Sexuality Beliefs and Norm in Malaysia

In Malaysia, conservative and traditional values dominate societal attitudes towards sexuality, with a majority still emphasizing virginity and chastity. It is taboo to discuss sexual issues for the majority of the people. Open discussion on the topic is avoided and if it is discussed, it is usually linked to unwanted behaviour. Information with regards to sexual health and safe sex coming from health authority are mainly limited to heterosexuals who are married. People who are not married receive restricted information on sexual health and safe sex.

However, local data reports that the mean age at first sexual intercourse for women is under 15 years old (Department of Statistic Malaysia, 2012b; Low, 2009). A national survey by the National Population and Family Development Board (NPFDB) and Ministry of Health (MOH) found that the prevalence of premarital sexual intercourse among young people in Malaysia increased from 0.9% in 1994 to 6.5% in 2010. This was more prevalent (15.0%) among those aged 20-24 years old (Noor Azlin et al., 2012). Several other local studies have reported that percentage of young people engaged in premarital sex ranged between 1% and 26% (Anwar, Sulaiman, Ahmadi, & Khan, 2010; Jamsiah & Hazlinda, 2009; Low, 2009). Looking at the numbers and values among the Malaysian society, this adds burden to the 'othering' of women who get pregnant before marriage.

1.1.2 Unmarried Pregnancies in Malaysia

In Malaysia, pregnancy before marriage is considered a violation of the norm. It leads to family embarrassment and is considered sinful and abhorrent (Saim & Fatimah, 2011; Whittaker, 2010). Due to the traditional values and religious beliefs in Malaysian culture, pregnancy before marriage is often seen as immoral, leading to disapproval and social problems. Parent are sometimes blamed and considered a failure in fulfilling in their

responsibilities as a parent when their daughter has engaged in premarital sex or premarital pregnancy (Nordin, Abd Wahab, & Wan Yunus, 2012). This situation is not only affecting women and families. Children born from these unmarried mothers have been labelled as forbidden child or illegitimate child. Malaysian Muslims believe that unmarried pregnant women should be punished because of their consensual sexual activity (Saim, Dufaker, & Ghazinour, 2014) .

Despite the negative opinion in Malaysian society regarding pregnancy before marriage, the numbers of non-marital birth and childbearing have been increasing substantially as shown in hospital records and in shelters. Nevertheless, the actual numbers might be more as not all present to these facilities. There were 971 unmarried mothers in Kuala Lumpur Hospital between 2000 and 2003; and 693 cases between 2009 and July 2010 (Saim & Fatimah, 2011). Birth records from Hospital Tengku Ampuan Rahimah reported that out of the 13,189 births in 2008, 256 births were by teenage girls. Out of these numbers, 75.8% were married, 21.9% were unmarried, and 3% were raped (Fatimah, Khaidzir, & Surayah, 2013). One of the shelters in Malaysia reported of receiving 620 unmarried mothers between 2009 and 2011. Another centre in Kuala Lumpur was reported to provide shelter to 80 to 100 unmarried pregnant women a year, with 40% of them being undergraduates (Rashidah, 2009).

A study on the risk factors and outcomes among 102 adolescent pregnancies reported that 52% were unmarried (Omar et al., 2010). Statistics from the Malaysia Welfare Department for year 2010, reported that there were 111 unmarried young girls who were pregnant from January to April 2010 (Noordin et al., 2012). Data from Universiti Kebangsaan Malaysia Medical Center in 2004 claimed that there were 46 deliveries by single mothers out of total 6305 deliveries (0.73%); an increasing trend from 1999 (Harlina, 2006). A delivery database

from University Malaya Medical Centre in 3 year period showed that 177 were adolescents, giving a teenage pregnancy rate of 1.1%. 67 out of 377 (17.8%) women in this study were not married (Sulaiman, Othman, Razali, & Hassan, 2013).

Malaysia provides universal access to healthcare services, including sexual and reproductive health services, to all adolescents in all primary and secondary healthcare facilities nationwide. With easy access to health facilities, a total of 5,962 new antenatal cases among 10 to 19 years old have been registered in primary care facilities in the public sector between July and December 2010. Out of these antenatal cases, 25% were unmarried (Singh, 2012). The figure, however, is just the tip of the iceberg, as many cases either go unreported or end up with marital birth or abortion.

Unmarried pregnant women in Malaysia face discrimination in the community. Many of the women handle the problem in different ways and put themselves as well as the baby in dangerous situations. In many cases, babies are born unassisted during delivery, leading to delivery complications and uncertainty of the survival of the babies. Between 2005 and 2009, about 5% of unmarried mothers under the age of 18 were convicted of abandoning their babies (Badiah & Mohd Jamil, 2006).

1.2 Problem Statement

The major problems to be addressed in this study are the consequences of unmarried pregnancy. The two main reasons for pregnancy among unmarried women were rape or consensual sex with male partners (Saim et al., 2014). A report from a Non-Government Organisation (NGO) indicated that 32% of victims of sexual assault have been exposed to rape by boyfriends/partners (Women's Centre for Change Penang, 2011). Reports from the Royal Police Department of Malaysia stated that 2049 cases of statutory rape in 2009 and

2419 in 2011 with victims aged 16 years or younger (Saim, Duffaker, Eriksson, & Ghazinour, 2013). A local study found that romantic relationships are normally the main factor that influences young women to have premarital sex which then leads to unmarried pregnancy (Salamatussadah & Noor Ba'yah, 2009).

A few factors have been found to be associated with unmarried pregnancy. These are the socio-economic condition of young women (Moni, Nair, & Devi, 2013), family stability, and the family process including parenting style (Landor et al., 2011; Tsala Dimbuene & Kuate Defo, 2010). Young women were also noted not to practice any form of contraception or to practice it inefficiently (Lee, Chen, Lee, & Kaur, 2006; Moni et al., 2013).

Young people today are constantly bombarded with sexuality through advertisements, X-rated movies, television and free pornography. Pornographic videos and pictures are the important factors leading to sexual intercourse with their partners (Collins, Martino, & Shaw, 2011). Other factors include a lack of sexual and reproductive health knowledge, particularly on menstrual cycle, symptoms of pregnancy, and effects of sexual intercourse (Ankomah, Mamman-Daura, Omoregie, & Anyanti, 2011; Calvet et al., 2013; Fatimah et al., 2013). The influence of modernization has changed the young people’s beliefs and attitudes towards social morality. Young people see sexual activity as their right which nobody has any standing to interfere with, despite the fact that most of them are hardly aware of the negative implications of the act.

Many unintended pregnancies among unmarried women ended in abortion (Qian, Tang, & Garner, 2004); a major contributor to maternal morbidity and mortality, especially in countries where abortion is illegal and unsafe. Studies show women who carry unintended pregnancies to a live birth were more likely to experience pregnancy problems, delayed

antenatal care (Hohmann-Marriott, 2009), adverse birth outcomes such as premature birth (Mohllajee, Curtis, Morrow, & Marchbanks, 2007; Orr, Miller, James, & Babones, 2000) and low birth weight (Mohllajee et al., 2007; Sulaiman et al., 2013), and adverse socioeconomic consequences, such as psychosocial stress and poor mental health (Raatikainen, Heiskanen, & Heinonen, 2005a), stigmatization, discrimination, education or job termination, violence, and forced marriage (Ilika & Igwegbe, 2004).

The qualitative findings from a few studies indicate that unmarried mothers in Malaysia faced rejection and repression by the society (Saim et al., 2014; Saim et al., 2013). Fear of abandonment by parents or friends and living with shame and disgrace lead the unmarried mothers to abandon their babies or even worst resort to infanticide (Saim et al., 2014). This pregnancy crisis also caused this traumatized women to believe that they were alone and abandoned by family and community. Usually shelters home are used as a strategy to avoid shame or responsibility by parents after knowing that their daughter pregnant outside marriage. However, few studies showed that using an institutions or shelter home in dealing with unmarried pregnant women is not an appropriate way forward (Nordin et al., 2012; Tan et al., 2012) as the environment in the shelters home does not promote psychology recovery and the social reintegration of the women (Saim et al., 2013).

In view of the above issues, unmarried pregnancy appears to be a widespread problem in Malaysia. People are alarmingly questioning the trend and departure from what it used to be. It not only cripples women but also affected the family and the child. In a patriarchal and conservative society, every female is expected to be married before getting pregnant. Where the contrary becomes the case, female undergoes a potentially threatening pregnancy condition without a husband for support and will face various hardships.

The consequences of unmarried pregnancy, although explored elsewhere, have yet to be investigated within the context of unmarried women in Malaysia. The available local studies were mainly on teenage pregnancies. Most studies on pregnancy outcomes were from Western countries. Currently, there is no data on the characteristics of unmarried pregnant women, and no data concerning pregnancy outcomes related to the marital status of women in Malaysia. This study will therefore be concerned with the outcomes of unmarried pregnancy. In the same vein, the study attempts to proffer solutions and remedies to the problem, with a view to curtailing its future occurrence.

1.3 Research Questions and Objectives

Following are the research questions:

1. What are the impacts of unmarried pregnancy towards mother and the baby?
2. What are the socio-demographic characteristics of unmarried women with pregnancy?
3. What are the risks factors that influence pregnancy among unmarried women in Malaysia?
4. What is access to antenatal care like for women with unmarried pregnancy in Malaysia?
5. What are the experiences of unmarried women facing and dealing with their pregnancy?

The aims of the study were two-fold. The first was to provide descriptive and analytical evidence of a sample of Malaysian women in reproductive age with regards to outcomes of unmarried pregnancy as well as factors associated. It is also aimed at exploring in-depth lived experiences of unmarried women during and after pregnancy. The following research objectives are proposed.

1.3.1 General Objectives

To examine the impact of unmarried pregnancy on mother and child and risk factors influencing the pregnancy among women in Malaysia.

1.3.2 Specific Objectives

1. To assess the impacts of unmarried pregnancy towards the mothers and their children in the various aspects:
    a. Postpartum depression
    b. Psychological well-being
    c. Birth outcomes including babies' birth weight, gestational age, Apgar score, mode of birth delivery, intra-partum complication, and babies' abnormality.
    d. Quality of life of the mothers.
    e. Physical impact on the mothers.
    f. Economic impact on the mothers.
    g. Social outcome for the infant in terms of either adoption or non-adoption.
2. To assess the social support and coping strategies among women with unmarried pregnancy in Malaysia.
3. To describe the accessibility of antenatal care among women with unmarried pregnancy in Malaysia.
4. To describe the profile of unmarried women with pregnancy presented at health care facilities.
5. To examine the factors influencing unmarried pregnancy among women in Malaysia:
    a. Socio-demographics factors.
    b. Family factors.
    c. Community factors
    d. Risky behaviour factors.
    e. Sexual health knowledge factors.
    f. Social support factors.

6. To explore the experiences of women facing this unmarried pregnancy in various aspects before, during, and after the pregnancy.

1.3.3 Research Hypothesis

Several hypotheses were developed to address the main research questions and were tested according to the proposed framework (section 2.7).

1. H_0 = There is no difference in psychiatric morbidity and quality of life among pregnant women based on marital status and time.

   H_A = There is a difference in psychiatric morbidity and quality of life among pregnant women based on marital status and time.

2. H_0 = There is no difference in social support and coping strategies among pregnant women based on marital status and time.

   H_A = There is a difference in social support and coping strategies among pregnant women based on marital status and time.

3. H_0 = There is no association between marital status and birth outcomes.

   H_A = There is an association between marital status and birth outcomes.

4. H_0 = There is no association between marital status and impact on the mothers in both physical and economic aspects.

   H_A = There is an association between marital status and impact on the mothers in both physical and economic aspects.

1.4 Significance of Study

Unmarried pregnancy issues not only impose health problems on both mother and the baby but also other social and psychological problems. It is a challenge to current medical care and social services which requires multi sectorial approach and coordination. More comprehensive research and concrete data regarding the problem are needed.

The significance features of this study are numerous. The findings of this study further understands the consequences of unmarried pregnancies as well as its risk factors in the Malaysian society. It will assist community civil society, academicians, researchers, and programme managers plan prevention programmes and conduct further studies on the solutions to the problems of unmarried pregnancy. Knowledge obtained from this study will prove valuable to readers as it will not only inform but also educate them regarding this matters. The various statistical data and analysis contained in the study will hopefully serve as valuable aid and reliable working tool to further research on this topic.

Importantly, the knowledge and information gained from this study will help unmarried mothers by providing better understanding of their situation to others. With this understanding, measures could be taken to adequately equip them psychologically and with certain life skills. This will assist in achieving their life goal despite unfavourable conditions that they have gone through. Finally, the contents and findings of this study will provide reference material to both policy makers and those in position of influence and power. It will guide them in making decisions and policy pronouncements that will particularly be of interest to government planning authorities, population agencies, as well as non-governmental organisations interested in adolescent health, sexual reproductive health, and safe motherhood.

1.5 Reflexivity

After graduating as a nurse in 2006, I worked at Kota Bharu Medical Centre and at the same time I worked part time at a shelter home operated by a non-government organisation as a warden. This shelter home provides services for residential care and place for protection for unmarried mothers with the approach of religious and spiritual activities. My day-to-day duties at the shelter home were to handle and assist unmarried women with pregnancy in every aspect of their new life as a mother, including antenatal check-ups at clinic. I was also responsible in helping these young women deal with emotional problems and giving a right information and education related to sexual reproductive or pregnancy.

During that time, I met many young unmarried pregnant women with various cases and issues. Most of them came to the shelter home by request of family or by voluntary admission with the aim of hiding their pregnancy from the community. Some were sent by their family to repent or transform into a new person. From my observations, there was no easy way to handle this situation in Malaysian society. I have seen how such a situation affects the life of unmarried mothers as well as their families.

Working closely with this group of young unmarried mothers encouraged me to do investigations and readings about unmarried pregnancy. I was later given an opportunity to continue my education in Master of Community Health Science majoring in family health, focusing on maternal and child health, adolescent health, and sexual reproductive health. Completing the master degree with all those knowledge and past experiences, I decided to explore further on unmarried pregnancy issues by focusing on impacts of unmarried pregnancy in health aspects and psychological aspects. The present study also explored the factors influencing the unmarried pregnancy as one step in providing concrete data in Malaysia and helping the society and women in dealing with this situation.

1.6 Focus and Organisation of Theses

The thesis is divided into seven chapters.

Chapter 1 – Introduction: This introduces the problem statement being studied and the intent of the study.

Chapter 2 – Review of the literature: This chapter describes the present situation of problem in terms of epidemiology and statistics, as well as a series of previously published study on factors of unmarried pregnancy and their outcomes. Following that, the theories and conceptual framework which guided the research are elaborated upon to explain the study problems.

Chapter 3 – Methodology: This chapter elaborates on research design and methodology of the study which applied sequential mixed methods procedures.

Chapter 4 – Results (Part One): Part one presents the statistical findings of the study covering descriptive, univariate, and multivariate analyses.

Chapter 5 – Results (Part Two): Part two presents findings from qualitative study.

Chapter 6 – Discussion: This chapter provides a discussion of the results.

Chapter 7 – Conclusions and Recommendations: The final chapter summarized the results finding and provides implications and recommendations stemming from the research.

1.7 Chapter Summary

This chapter presented the background of the study, research problems, and the significance of the study. Objectives and hypotheses were developed to address the research problems and tested in the final model. This following chapter provides a literature review and previous studies.

CHAPTER 2: LITERATURE REVIEW

In this chapter, a literature review is carried out to familiarize the reader with issues relating to the research problems. This chapter also highlights gaps in the literature that need further exploration while laying the foundation for the study. A literature review on outcomes of unmarried pregnancy and factors contributing to the unmarried pregnancy has assisted the researcher to formulate appropriate research objectives. In the last section of this chapter, a conceptual framework of the various factors contributing to unmarried pregnancy and outcomes of pregnancy are described.

2.1 Malaysia

2.1.1 Country Profile

Malaysia, located in Southeast Asia, has a total landmass of 329,847 square kilometres. It consists of thirteen states separated by the South China Sea into two similarly sized regions, Peninsular Malaysia and Malaysian Borneo. In 2010, the population was 28.33 million, with 22.6 million living in the Peninsular. The Malaysian Census 2010 revealed that an average annual population growth rate of 2.0% for ten years period, 2000-2010 (Department of Statistic Malaysia, 2012a).

Malaysian citizens contributed 91.8% of the total population while 8.2% were non-citizens. Malaysian citizens consist of the ethnic groups of Bumiputera (67.4%), Chinese (24.6%), Indians (7.3%) and others (0.7%). Malays (63.1%) are the predominant ethnic group and Islam (61.3%) is most widely professed religion in Malaysia. Other religions include Buddhism, Christianity, and Hinduism (Department of Statistic Malaysia, 2012a).

2.1.2 Demography and Social Development

In 2010, 19.8 million people out of 28.3 million in Malaysia were under 40 years of age. There were 5.4 million adolescents (10-19 years) which represent 19% from total population. The proportion of the population age 15 to 24 years was 18.4% (5.2 million) and the proportion of 25 to 39 year age group was 24.1% (6.8 million) of the total population (Department of Statistic Malaysia, 2012b).

Men outnumbered women with a sex ratio of 106 in 2010 (Narimah et al., 2007). The Malaysian Census 2010 showed that population age of 15 years and above who never married were 34.5%t while those who were married were 60.0%. Women have a tendency to marry at a later age, with mean age of first marriage at 25.8 years in 2010 compared to 25.1 years in 2000 (Department of Statistic Malaysia, 2013a).

In 2012, most people lived in urban areas (72.8%) with a literacy rate of 97.3% and school attendance of 95.8% in 2010 (Department of Statistic Malaysia, 2013a). Total fertility rate was 2.1 in 2012. Maternal mortality was 29 deaths per 100,000 live births and contraceptive rate was 54.5% (Department of Statistic Malaysia, 2013b).

2.1.3 Health Services

The Ministry of Health is the main government agency responsible for delivering health care in Malaysia. Healthcare services by government encompass curative, preventive, rehabilitative, promotive and regulatory concerns. This healthcare services can be divided into primary, secondary and tertiary care. Primary care is first line medical care and involves preventive healthcare as well. Secondary care is medical care given at hospitals and tertiary care involves specialist services.

Health services are provided through a nationwide network of hospital; community, mobile and maternal and child health clinics; and specialized institution. Service provision is facilitated through the hierarchical referral system, with hospitals providing the highest level of services. The Ministry of Health operates 124 government hospitals throughout the country. Other government health facilities include 172 urban health clinics, 94 maternal and child health clinics, 168 mobile health units and 2620 rural community health clinics.

In Malaysia, the sexual reproductive health services include health promotion and education, early screening, immunization and vaccination, early treatment for STI, family planning, pregnancy and childbirth. All these health services are provided by several government ministries including Ministry of Health, the Ministry of Education, the Ministry of National Unity and Welfare Services, Ministry of Women, Family and Community Development, and the Ministry of Youth and Sport, the police as well as many Non-Government Organisations (NGO) e.g. Federation of Family Planning Associations Malaysia (FFPAM), Women Aids Organisation (WAO) and Malaysia AIDS Council (The Center for Reproductive Rights, 2005).

Strong economic growth rates allowed continued investment in public health and substantial improvements in the reproductive health services. In 2010, more than 85% of people had access to free health services within five kilometres from their residence (Rashidah, 2009). There are no problems in accessing affordable maternal health services for Malaysian citizens. However, unmarried pregnant women remain among the underserved population despite access to antenatal care, in view of the social stigma in unmarried pregnancy (Narimah, 2005).

2.2 Sexual Reproductive and Social Related Issues in Malaysia

Malaysia manifests a complex picture in terms of sexual matters. Sexuality is considered a sensitive subject for many people because of their conservative and traditional value systems. However, these traditional values are changing, especially among young people as they are more liberal towards sexuality. Although sexual and reproductive behaviours among young people have changed, their knowledge about sexuality is still not accurate (Wong, 2012a). Reasons why this is happening include insufficient sex education in formal curriculums in school. Thus, issues related to sexual and reproductive health in Malaysia are described.

2.2.1 Premarital Sexual Activity

Sexual activity among young and unmarried people is still frowned upon and not accepted by Malaysian society. However, adolescent sexual and reproductive health studies undertaken in Malaysia and other Asian countries have revealed that premarital sex is clearly on the rise. As early as data reported in 1991 until recent years, the numbers and proportion of Malaysian youth involved with premarital sexual activities can be seen in Table 2.1.

Based on this data, patterns of premarital sexual activity among Malaysia youth were found to be similar. Higher frequency of premarital sex activities reported among male compared to female. Youth who were working were more likely to be involved in premarital sex than those still in school (Lee et al., 2006; Low, 2009; Zulkifli & Low, 2000). However, one study among secondary school students showed different results as females (11.3%) reported a high percentage than males (9.8%) (Jamsiah & Hazlinda, 2009).

Table 2.1: Prevalence of sexual activity among young people in Malaysia

Study	Respondents	Percentage involved in sexual activity
Malaysian Health & Lifestyle Survey 1991	N= 468 adolescents	13.0% had sex -male =18.2% -female =7.1%
Malaysian Health & Lifestyle Survey 1992	N= 2270 Secondary students	4.0% had sex
Youth Sexuality Survey by FFPAM 1994	N= 1303 Age 15-24 years old Out-of-school = 674 In-school = 629	Age of 1st intercourse: - 9-10 years old for male & female in-school and female out-of-school - 15-21 years old for male out-of-school
Zulkifli, Low & Yusof (1995)	N= 1181 adolescents 15-21 years old	20.3% had sex during dating -15-16 years old= 15.0% -17-19 years old = 23.3% -20-21 years old = 32.8%
Adolescent Health Risk Behaviour Study in the National Health Morbidity Survey II 1996	N= 30000 respondents in school	1.8% had sex -male=2.5% -female=1.2%
Malaysian Community & Family Study by NFPDB 2004	Youth aged 15-24 years old	2.2% had sex -15-19 years old = 1.4%
Anwar, Sulaiman, Ahmad & Khan (2010)	N= 1139 students Age 16-19 years old	12.6% had sex
Lee, Chen, Lee & Kaur (2006)	N= 4500 students Age 12 – 19 years old	5.4% had sex -male=8.3% -female=2.9%
Hamzah (2007)	Study in 2004 - 2007	0.9% to 7.1% had sex
Jamsiah & Hazlinda (2009)	N= 414 secondary school students	10.6 % had sex -male=9.8% -female=11.3%
Jahanfar (2010)	N= 530 university students 16-27 years old	2.3 % had sex last 12 month
Muhd Sapri et. al (2010)	N= 22810 adolescents (18-24 years old)	6.5% had sex -male=9.1% -female=3.6%
Muhd Sapri et. al (2014)	N= 5088 youth aged 13-24 years	5.8% had sex -male=7.7% -female=4.1%

There was no difference in the prevalence of different states in Malaysia, but significant differences have been observed between youth in urban and rural areas, and between older adolescents aged 16-18 and young adolescents aged 13-15 (Low, 2009). In terms of sexual orientation, it was reported that there are youth involved with gays, lesbians, and sex with commercial sex workers (Low, 2009).

Sexual behaviours also differ between out-of-school youth and in-school colleges/students. Age of first sexual intercourse for male and female in-school and female out-of-school was earlier (9 to 10 years) than male out-of-school (15 to 25 years) (Low, 2009). The research did not provide any reason for the differences of age for sexual contact between out-of-school and in-school students. The majority of the partners for the first sexual intercourse were a steady girlfriend/boyfriend, and there were males (15% to 27%) who had their first sexual intercourse with a prostitute. There were females who were raped by a stepfather, conman, and others (Low, 2009).

Other types of behaviour engaged during dating were ‘kissing and necking’ and ‘petting’. Dating behaviours such as petting and kissing are the leading factors to statutory rape with or without consent by victim as summarized by Noor Azlan, Mohamad Ismail, and Bazlin Darina (2011) in his analysis from 45 rape case at Kuala Lumpur Contingent Police Headquarters (IPK) from 2006 to 2009.

In a study involving 4,500 students in Negeri Sembilan aged 12 to 19 years reported that 5.4% have had sexual intercourse. Among the students who have had sex, 17.8% said that they had been pregnant or had made someone else pregnant (Lee et al., 2006). A high percentage of adolescents having sexual intercourse can be seen in another study in Penang;

12.6% out of 1,139 students aged 16 to 19 years. A majority of these students (75.7%) claimed sexual initiation at aged 15 years and 38.2% had more than three partners (Anwar et al., 2010).

Based on a study by Hamzah (2007), across the series of researches from 2004 to 2007 revealed that the percentage of girls and young women involved with premarital sex ranged from 0.9% to 7.1%. He concluded that pornography was a predictive factor to this problem, as the percentage of the respondents enjoying it was high, ranging from 7.6% to 25.1%. However, this statistic is different among university students age ranged from 16 to 27 years where only 2.3% out of 530 total students reported having sexual activity during the last 12 months and 75% (9 out of 12) had sex with a regular partner and only one had multiple partners (Jahanfar, 2010).

A study on Health Status of Youths by NPFDB and MOH, 2010 revealed that out of 22,810 adolescents randomly selected from PLKN camps in Peninsular Malaysia, 6.5% admitted to have had premarital sex and 40.0% were involved with pornography (Noor Azlin et al., 2012). In recent study among youths aged 13-24 years, 5.8% have had premarital sex, which was more common among youths aged 21-24 years (13.2%), Malay (6.5%), living in urban areas (6.4%) and out of educational institutions (Noor Azlin, Ahmad, Hassan, & Harun, 2014).

Young people in Malaysia stated several reasons why they engaged in sex and the reasons differed according to genders. Ng and Kamal (2006) stated the reasons for females to engage in sex vary such as to fulfil their partner's demands, expressing love, maintaining or improving their relationship, and seeking sexual pleasure. From the males' perspectives, reasons for having sex were due to natural urges, curiosity, releasing tension from family and

schoolwork, being away from family (Low, Ng, Kamal Sohaimi Fadzil, & Ang, 2007), for pleasure, and to satisfy their sexual desire (Ng & Kamal, 2006).

2.2.1.1 **Unprotected sex**

Another important issue related to sexual activities is whether the activities are performed in a protected manner. Unprotected sexual activities contradict to safe sex means having sex (vagina, anal or oral) without using any protection against sexual transmitted infections (STIs). Unprotected sex may put someone and their partner at risk of HIV, STIs such as chlamydia, gonorrhoea, syphilis and also unplanned pregnancy. Contraception also known as birth control is deliberate prevention of conception or impregnation by any of various drugs, technique or device. Condom is one of contraception devices that offers the best available protection (if used correctly) against STIs by acting as a physical barrier to prevent exchange of semen, vaginal fluids or blood between partners.

Qualitative studies among adolescent boys aged 13-17 years old and college students aged 18-22 years old revealed that safe sex would be defined in a limited manner as just avoiding pregnancy, while some even perceived safe sex as having one partner (Low et al., 2007; Ng & Kamal, 2006). Most of them reported that they did not practice safe sex, as some only used protection with their casual partners for the purpose of cleanliness. Some practiced withdrawal and the rhythm method and some of their partners just cleaned themselves after having sex (Ng & Kamal, 2006).

Prior to 2011, public health care policy restricted provision of contraception to the unmarried. Nevertheless, they could still obtain condoms and oral contraception pills from the private sector. In 2011, Malaysian government has developed the policy of providing contraception to women irrespective of the marital status, however this policy has not been

uniformly implemented at the ground level in the public sectors because of the influence of the conservative policies of Malaysia Department of Islamic Development for health care providers (Tong et al., 2014).

Generally, unmarried people chose to go to private clinics and pharmacies for contraceptive services. However, social sensitivity and religious sanction against sex before marriage force some young people to practice unprotected sex. A large number of young people in Malaysia do have knowledge about family planning, but usage of contraceptives among young people varies. In the NPFDB Adolescent Study (Huang, 1999), one-fifth of the respondents had used condoms (21.5%), with lower rates for the other methods; i.e. pills (6.1%), spermicides (2.2%), intra-uterine devices (1.3%), and injectable methods (1.1%).

In the Youth Sexuality Survey, when asked about "precautions to prevent pregnancy" among those who had experienced sex, 90% of females and 30% of males of the in-school group admitted not taking any measures, whereas 60% of females and 15% of males in the out-of-school group did take precautions for preventing pregnancy (Low, 2009). Study by Zulkifli and Low (2000) found that only 37% of sexually active teenagers used any form of birth control, even though a majority of them knew about birth control methods. By far, the most common method used was the condom (51%), followed by oral contraceptives (18%) and withdrawal (15%). Among those who did not use any form of contraceptives, about half explained that sex was not much fun with contraceptives or that they found contraceptives too difficult to use.

Adolescent boys shared their sexual experiences with their friends and reported that they preferred the withdrawal method. They felt that it was safe, cheap, and that they could avoid the embarrassment of purchasing contraceptive over the counter (Low et al., 2007). College

students aged 18 to 22 years knew where to buy condoms and oral contraceptives pills and were not embarrassed to make any purchase over the counter from pharmacies, convenience shops, and supermarkets. Their reason for not using protection differs, is that they have trust in stable relationship and believe that their partners are clean. They relied on their partner to practice safe sex, had concerns regarding harmful effect of oral contraceptives, and felt that they were not at risk of contracting STD infection. Some participants had not put much thought into the possibility of pregnancy because they were not pregnant or infected despite practicing unprotected sex for a long time (Ng & Kamal, 2006).

2.2.2 Sexual violence

Apart from premarital sex, rape is another issue that is important to be addressed. Rape means penetration of a woman's vagina by a man's penis without her consent. Lack of capacity to consent arise in three main situations according to law (under section 375 of the Malaysian Penal Code). First is the case of a minor and young person. Secondly are cases of mentally challenged persons while thirdly are cases of temporary mental abeyance by reason of intoxication or while asleep. If the girl is under 16 years of age, sex with or without consent is considered statutory rape under Malaysian law (Nadesan & Omar, 2002).

According to national statistics for the years 1997-1999, 56%, 54%, and 58% of reported victims of incest were under age of sixteen years. During the same period, almost 50% of reported rape victims were under the age of eighteen (Nadesan & Omar, 2002). Rape is a serious sexual crime and its rate has risen rapidly in recent years. The effects of the crime on victims are substantial, since it could cause the victim to commit suicide or endure an unwanted pregnancy.

Based on the data from the Royal Malaysia Police and the Ministry of Women, Family and Community Development on the statistics of rape cases among Malaysian, the total number of rape incidents increased every year from 1,217 in 2000 to 2988 in 2012. The data also reported the increasing numbers of incest cases from 213 cases in 2000 to 302 cases in 2012 (Women's Aid Organization, n.d-b). Rape cases are significantly increasing in Kuala Lumpur, Selangor and Johor. According to victims from 2005 to 2007, rates for girls below age of 16 were higher than girls above 16 years old (Women's Aid Organization, n.d-a).

From a total of 439 reported sexual offences attended at the One Stop Crisis Centre of the Accident and Emergency Department, Hospital Universiti Sains Malaysia from 2002 to 2003, 72.7% were rape cases and 27.3% were incest cases. It was found that there was a significant association between rapist and victim as it was supported that 27.5% victims were raped by friends or know the person, 18.9% by male partner or boyfriend, 13.7% by neighbour, and 11.8% by an unknown assailant. For incestuous rape, 2.1% were victims of incest by their grandfathers, 1.8% by their step-grandfathers, 5.5% by their fathers, 1.8% by their stepfathers, 3.4% by their brothers, 5.0% by their uncles and 4.8% by their cousins (Mohamed Nasimul, Khoo, Lai, & Jesmine, 2006).

Looking at the increasing trend of premarital sexual activity and rape cases, baby dumping is another chronic social crisis occurring in Malaysian society that needs to be highlighted here.

2.2.3 Baby Dumping

Malaysia is currently experiencing a phenomena of mothers abandoning and dumping their babies at birth. These infant babies may be abandoned for an extended period of time in a public or private setting with the intent to dispose the child. The Social Welfare Department

recorded 315 cases of abandoned babies from 2001 to 2004. In 2007, a report found that one baby is abandoned every ten days in Kuala Lumpur (Rashidah, 2008). Police statistics reported about 100 cases of abandoned babies a year and it has been estimated that 100,000 pregnancies are aborted annually in Malaysia.

According to statistic on baby dumping in Malaysia issued by the Headquarters of the Royal Malaysia Police, there were 407 cases of baby dumping for five years from 2005 until April 2010 (Noordin et al., 2012). However, the latest data from the police revealed that a total of 517 baby dumping cases were registered in the country, from 2005 until January 2011. Of the total, 203 were found alive while 287 were found dead.

According to Criminal Investigation Department, the number of cases throughout the country increased over the years. In addition, data until August 2010 reported that there were 65 dumped babies compared to 42 cases in 2009. State of Selangor and Johor recorded the highest cases of abandoned babies from 2000 until 2006. Statistics also showed that the dumped babies involved into two categories; 48 were foetuses and 532 were infants during the period of 2000 to 2006 (Bedu, Katip, Mohd Sahid, & Syed Mansor, 2008).

The majority of baby dumping cases are committed by teenagers or women who gave birth before marriage. The crisis is the result of the stigma of illegitimate children and the community being ill-equipped to deal with unwanted pregnancies. Unmarried mothers dumped their babies because they were afraid of what their communities might say, as well as lack of knowledge about the existence of women shelters.

In addition to baby dumping issues, abortion is another issue faced by Malaysian women that must be addressed.

2.2.4 Abortion

As discussed before, young people in Malaysia are more likely to have sex at an earlier age. With increasing age of first marriage and prevalence of premarital sexual activities, more unmarried young women are becoming pregnant. At the same time, unwanted pregnancies due to rape and incest are also increasing in Malaysia (Rashidah, 2008). Besides that, low contraceptive use rate among unmarried women contributes to more unwanted pregnancies and higher demand for abortion in Malaysia.

In Malaysia, the legal provisions relevant to abortion are in Sections 312 to 314 of the Penal Code. Section 312 of Act 727 of the Penal Code was amended to allow any medical practitioner registered under the 1971 Medical Act to "terminate the pregnancy of a woman if such medical practitioner is of the opinion, formed in good faith, that the continuance of the pregnancy would involve risk to the life of the pregnant woman or injury to the mental and physical health of the pregnant woman greater than if the pregnancy were terminated". Section 313 applies only when consent is not obtained and Section 314 applies only when it results in the death of the pregnant woman, which prescribes more serious penalties.

Any violation of the provisions of the Penal Code with the woman's consent will had to both the women and the provider to be fined up to seven years' imprisonment if the woman has experienced quickening. If the women has not experienced quickening, then the penalty would still involve fine and imprisonment up to three years (Dalvie et al., 2011). In the case of rape, there is an argument from few researchers that there is no objection for woman seeking medications against pregnancy on the basis that it is allowed to get rid of the semen before it settles in the womb. However, if pregnancy is established, abortion is not allowed in Islam and may be considered a crime (Mohd Noor, Aripin, & Jusoff, 2010).

Abortion services are not openly offered and may not be easily accessible in Malaysia. In fact, abortion remains shrouded in secrecy even for those who are married. There are no official statistics available, but a survey by several private clinics suggests that there may be one abortion for every five pregnancies (Yee, Rahman, & Raman, 2009). According to a recent estimation by the government, the abortion to live birth ratio in Malaysia is about one in five. Other unofficial sources estimated the rate of illegal abortions to be 0.1% of 500,000 live births per year (The Center for Reproductive Rights, 2005).

A confidential study of maternal deaths in 2004 by government publicly recognized the problems of unsafe abortion in Malaysia. They are linked to maternal mortality and morbidity (The Center for Reproductive Rights, 2005). The Ministry of Health's Information and Documentation System Unit reported 33,759 induced abortions, and nine deaths resulting from abortions, in 2002. A follow up study in 2006 showed that rates for women seeking pregnancy terminations were high among young single teenagers and young adult working women below the age of 30 (Kamaluddin, 2010).

A survey by National Planning Family Development Board (NPFDB) among school students found that although only 2.4% claimed to have had sex, 21.2% of the students said they knew of friends who have had illegitimate pregnancies and 10% knew friends who have undergone abortions (Low, 2009). Demographers estimate that about 100,000 abortions take place annually in Malaysia, of which 10% to 15% were among teenagers (Choong, 2012).

2.2.5 Sexual Health Education

Another issue debated in Malaysia in preventing premarital sex is sexual health education. Sexual and reproductive health education have been integrated into the school curriculum, and elements of it are taught through existing courses such as physical and health education, science, biology, and moral and Islamic education. Cultural and religious factors in this country means no legal compulsion for sex education in school system. However, both government and non-government agencies have made several efforts to bring informal education outside the school such as "*Programme Sihat Tanpa AIDS untuk Remaja*" (Healthy Programme without AIDS for Youth) (PROSTAR) and *Rakan Muda* group. Other involved agencies are NPFDB, JAKIM- Muslim Religious Council, Malaysian AIDS Council, FFPAM and Non-Government Organisations (NGOs) (Low, 2009).

The Ministry of Education introduced elements of Family Health Education (FHE) to primary-school children in physical and health education classes in 1994. The aim of such education is to enable students to obtain knowledge regarding the physical, emotional, and social changes that they undergo. The instructions also give them the skills to cope with these changes and maintain healthy relationships with family members, friends, and other members of the community in which they live. Health education strives to provide students with the knowledge, skills, and values to prepare them for the responsibilities and rigors of adult life, marriage, and parenthood, and to deal with social relationships in the context of family and society (The Center for Reproductive Rights, 2005).

In secondary school, elements of FHE have been taught in those subjects since 1989 during the implementation of the Integrated Secondary School Curriculum. For Muslim students, sexual and reproductive health is taught in Islamic Education as a compulsory subject in schools. In higher education system, where there is state control of the curriculum

in public universities, sexual health education and SRH right issues are taught by sivil society, international NGOs and those engaged with larger global heath (Allotey et al., 2011).

However, the government, especially the Ministry of Education, faces several challenges in running this programmes and reach desirable outcome. In practice, teachers have shied away from teaching family health education and are not skilled in dealing with what are deemed sensitive issues. Such education is also assigned to teachers who are untrained in this subject area, which often means they neglect to teach them (The Center for Reproductive Rights, 2005).

2.3 Recent Trends in Pregnancy of Unmarried Mothers

Pregnancy of unmarried women is related to premarital pregnancy, unwed mothers, non-marital birth, non-marital childbearing, out-of-wedlock birth, premarital conception or illegitimate child. Although different countries use different terms to report the situation, it is commonly related to one's marital status, as all countries have accepted that all child or infant babies should come from registered marital status of their father and mother during childbirth. Malaysia, as with many other countries, has accepted the status of marriage as an important point to label the child as legitimate or otherwise.

2.3.1 Worldwide Data

Information on unmarried pregnancies could be closely related to trends of non-marital births. In recent decades, the rate of non-marital births has increased similarly with the maternal age pattern. There has been an increase in the incidence of non-marital birth over the past few hundred years in the United States and Europe. The proportion has increased from 10% to nearly 30% of premarital conception in the 7th century to the late 18th century (Ventura, 2009).

In 1995, the most recent year for which pregnancy rate by marital status can be computed in the U.S, the pregnancy rate for unmarried women aged 15-44 years was 95.8 per 1000 unmarried women. Pregnancy rate among unmarried women aged 15-44 years of all races increased from 88 to 102 per 1000 unmarried women between 1980 and 1990 (Farber, 2009).

Looking at the birth rate for unmarried women in the United States, for the half century beginning in 1940, it increased from 1940 to 2010 as seen in Figure 2.1 (Ventura & Bachrach,

2000). In recent data, although the birth rate of unmarried women showed declined 3% from 2010 to 2011, the birth rate had increased in for the 10 year period.

Interestingly, in 2008-2009, the increase in birth rates among unmarried women were limited to age group above 30 years. The rate declined for teenagers and women in their 20s, as it accounts for 21% of all unmarried birth in 2009, continuing steady declined over the last several decades (Curtin, Ventura, & Martinez, 2014; Hamilton, Martin, & Ventura, 2010). In Latin America in 2007 the proportion of births before marriage in Mexico was 38%; in the Dominican Republic, 63%; in Paraguay, 70%; and in El Salvador, 73% of all births.

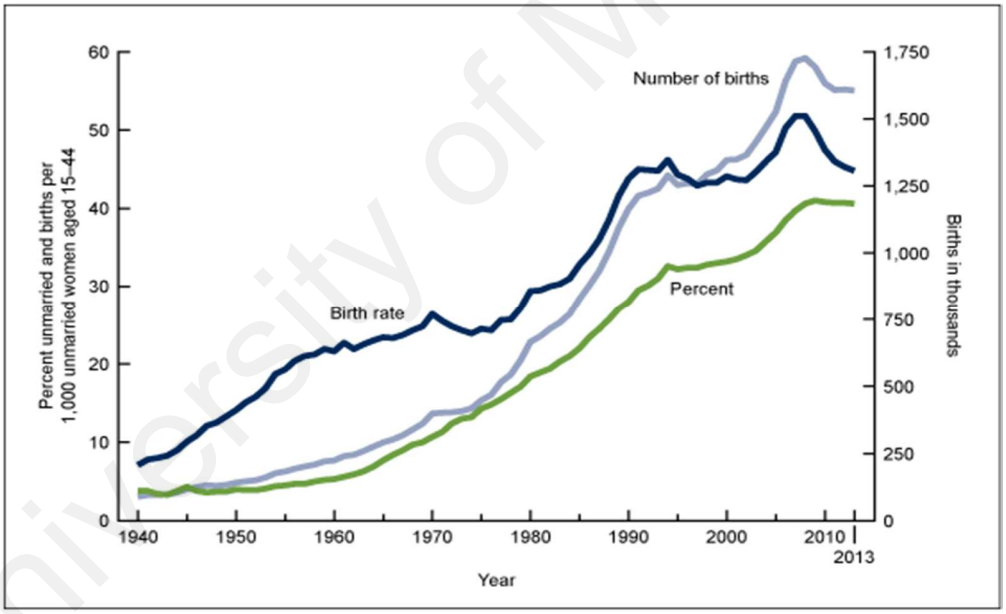

Figure 2.1: Numbers of birth, birth rate and percentage of birth among unmarried women; United States 1940-2013.

Adapted from Recent declines in nonmarital childbearing in the United States by Curtin, S. C., Ventura, S. J., & Martinez, G. M. 2014. *NCHS data brief* no 162. Hyattsville, MD: National Center for Health Statistics. Copyright 2014 by National Center for Health Statistics. Adapted with permission

Other western industrialized nations are also experiencing increase in the incidence of non-marital birth and childbearing as shown in Figure 2.2. In Europe, figures on birth before marriage are more staggering, as more than half of all births in many countries, including France, Bulgaria, UK, Netherlands, Austria, Scotland, Wales, Slovenia, Czech Republic, and throughout Scandinavia, occur before marriage (Ori & Speder, 2012).

The average rate of birth before marriage has risen from one out of four in 1997 to one out of three children. Nowadays, national figures in Europe range from 5% in Greece and 9% in Cyprus to 58% in Estonia and 64% in Iceland. In Britain the rate increased to 44% (2006) and further to 46% (2009), while in Ireland the percentage increased to 33.2% (2006). In Germany, Italy and Greece, less than 15% of birth occur out-of-wedlock (Ventura & Bachrach, 2000).

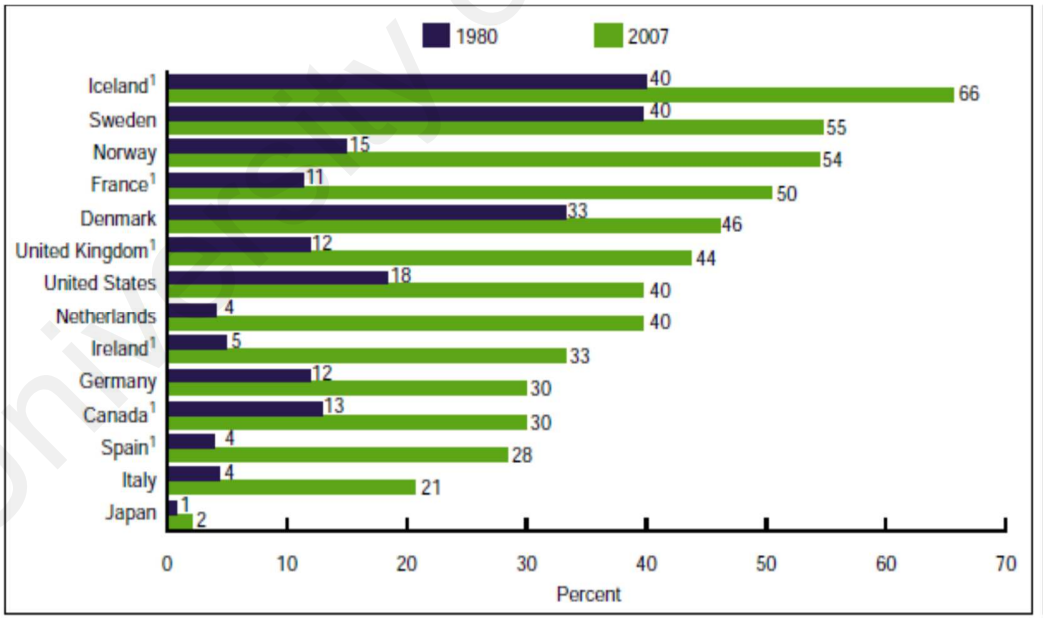

Figure 2.2: Percentage of birth among unmarried women, from selected countries, 1980 and 2007.

Adapted from Changing pattern of nonmarital childbearing in the United States by Ventura, S. J. 2009. *NCHS data brief, 18.* Hyattsville, MD: National Center for Health Statistics. Copyright 2009 by National Center for Health Statistics. Adapted with permission

Data drawn from the live birth registries for the province of Quebec, Canada from 1997 to 2001 showed that a large proportion (39.8%) of mothers were unmarried (Auger et al., 2008). In Ireland, since the 1970s most women faced with a crisis pregnancy have chosen to withstand the stigma of becoming an unmarried mother, parenting their child while continuing to live among their community. The emergence of more liberal, tolerant attitudes combined with specific welfare provision for single lone mothers has seen the incidence of non-marital motherhood grow steadily. The percentage of non-marital births has risen from 3.7% in 1975 to 9.1% in 1985 and further to 32% in 2000 (Conlon, 2006).

Data in Asia available from countries such as China, Kazakhstan and Sri Lanka showed range percentages of illegitimate child was 0.8 – 25.8%. A study among Chinese pre-married women participating in premarital medical examination found that 12%-32% had history of premarital pregnancy (Qian et al., 2004).

In developed Asian countries like Japan and South Korea, only a few children are born before marriage, and this issue has not received as much attention. Although Ministry of Health, Labour and Welfare in Japan has reported numbers of single mother families rose by 55% in 10 years (1993 to 2003) but the growth is due to almost entirely because of increase in divorce (Raymo & Zhou, 2012). Hertog and Iwasawa (2011) estimated that based on vital statistics, 23% of all birth resulted from premarital conception in early 2000s up from 5% in late 1970s. In year 2000 to 2004, more than half of all premarital pregnancies of women aged 15 to 29 years in Japan were aborted, while 38% ended as marital birth and only 4% led to non-marital birth. The same figure reported by Raymo and Zhou (2012) study on single mother families; only 6% of single parents in their study were from non-marital births.

In Arab countries facing military conflicts such as Iraq, Sudan, and Somalia, women are often forced to offer sex for survival, food, shelter, or protection; all of these factors contribute to the rise of the number of illegitimate children. However, statistics of illegitimacy in the Arab world are hard to come by because most illegitimate children are either camouflaged or assimilated by their families to avoid public shame (Iskandar, 2013).

In many societies in sub-Saharan Africa, pregnancy before marriage is common, either because of premarital childbearing, or because of widowhood and divorce. Data from the Demographic and Health Surveys in Africa shows that average total fertility rate (TFR) among African women who were never married was 3.9 and for married women was 4.3. Furthermore, age of specific fertility rates depicts a pattern of premarital childbearing that is highest among teenage girls and accounted for almost all births among women in their teens. The average prevalence of premarital fertility in Sub-Saharan Africa was 16% (Swartz, 2002).

2.3.2 Malaysia Data

In Malaysia, the population growth rate for 2011 was 1.61 percent; the crude birth rate was 17.6 births per 1,000 people (Department of Statistic Malaysia, 2013b). More than 50,000 women and 10,000 adolescent girls become pregnant and give birth annually (Omar et al., 2010). In 2012, Ministry of Health Malaysia (2012) reported that of 18,847 teenage pregnancies (10-19 years) registered at public health facilities, 4,183 (22%) were unmarried.

Current data by the National Obstetrics Registry from 14 tertiary hospitals in Malaysia from January 2011 to December 2012, there were 5200 cases (1.99%) of unmarried pregnancies of all deliveries. The total deliveries in 2011 among the unmarried was 2.06% while in 2012 was 1.91%. Age group 10-20 years had highest percentage of unmarried

pregnancies at 11.5% in 2011 and 10.5% in 2012. The highest incidence of unmarried pregnancy, of 446 cases in 2011 was in Hospital Umum Sarawak and 377 cases in 2012 was Hospital Kuala Lumpur (Ruhaizan et al. 2013).

Data on unmarried pregnancy or non-marital birth in Malaysia is scanty. However, based on the statistics of illegitimate children from a few unpublished reports, birth rate of children born before marriage seems to be rapidly increasing. The National Registration Department reported that more than 257,000 of birth certificates registered without the name of the father from 2000 to 2008. There were 17,303 illegitimate children to ethnic Malays in 2009, compared to 16,541 in 2008 and 16,100 in 2007 (Fatimah et al., 2013). In Sibu, newspaper reported that teenage pregnancies constitute about 12% of total fertility, and one third are due to pregnancies of unmarried mothers (Saim et al., 2013)

In 1999 to 2003, out of the 70403 illegitimate children registered, Selangor had the highest number at 12836, followed by Perak (9788), Kuala Lumpur (9439), 617 for Sarawak, and 574 in Terengganu. Ethnically, the Malays in Sabah and Sarawak recorded the highest with 20,949 babies, Indians 19581 and Chinese 18,111. Based on religion, the statistics showed 30,978 Muslims, 18,085 Hindus, 17,236 Buddhists, and 3,395 Christians (Mohd Tamyes, 2007).

2.4 Factors associated with Unmarried Pregnancy

There are many factors associated with unmarried pregnancy in different countries which vary with different social and cultural contexts. Factors contributing to pregnancy outside marriage can be examined in terms of demographic factors, social factors and behaviour factors such as high risk sexual behaviours, sexual abuse, economic forces, and accessibility of information and services.

2.4.1 Demographic Factors

An increase of births before marriage has been observed in all ages, ethnicities and socioeconomic groups. The perception that most births from unmarried women occur among those who are from low income and less educated is not true in today's society. Women who are older, economically independent, and educated have been choosing to give birth outside of traditional marital institution (Hamilton et al., 2010). The changing trends of age group among single mothers to the older age group is also seen in Malaysia. About half (58.7%) of single mothers have obtained a secondary level of education but the majority are unemployed or in a nonprofessional job (Harlina, 2006).

Kalinka, Laudanski, Hanke, and Wasiela (2003) found that births to unmarried women were characterized by younger age, less educated, unemployment and poor economic situation. Recent studies looking at risk factors for pregnancy among never-married women revealed that this is associated with lower educational level, the increasing age and occupation. The percentage of pregnancy among unmarried women were highest among house workers and farmers and lowest amongst students (Calvet et al., 2013). Another study revealed that women with low-socioeconomic status (OR 4.35; 95% CI 2.75-6.89) and fewer numbers of school years (OR 3.89; 95% CI 2.48-6.15) were at four times higher risk for unmarried pregnancy (Moni et al., 2013).

In a comparison study of never pregnant adolescents and pregnant adolescents, it was reported that socioeconomic status (OR 2.18; 95% CI 1.46-6.80) and age (OR 2.21; 95% CI 1.64-2.98) factors increased the probability of an adolescent pregnancy (Wang, Wang, & Hsu, 2003). Finding from female 'never pregnant' group and 'pregnant' group demonstrated that respondents that been pregnant were more likely to be unemployed and living with their boyfriend than those never pregnant (Woodward, 1995). This is consistent with another study; cohabitating women were more likely to be at risk of unintended pregnancy compared to single women (60% vs 49%) (Lindberg & Singh, 2008).

Living alone during high school was associated with increased premarital sexual activities compared to those living with parents (Oljira, Berhane, & Worku, 2012). This relationship also occurred in the findings of a few local studies; there were significant differences in sexual experience among those not staying with their parent and those staying with their parent (Lee et al., 2006; Zulkifli & Low, 2000).

In Sri Lanka, women who were pregnant before marriage came from social environment characterized by poverty and limited employment opportunities (Jordal, Wijewardena, & Olsson, 2013). Sexual activity has been source of income and survival for some women. This was supported by Ghubaju (2002), as economic constraints can influence the behaviour of young people in some cases. Young women are more likely than older adults to engage in sexual behaviour such as offering sex for money or having coercive sex. Adolescent girls are more vulnerable than adult women to being involved in such exploitative sexual practices, such as to earn money for their own needs or for their families (Ankomah et al., 2011; Podhisita, Xenos, & Varangrat, 2001). The same reasons occur for unmarried pregnancy, as some women get pregnant to earn money by selling their baby to married couples who are not able to conceive themselves.

Study in Nigerian found that over 98% of unmarried pregnant young women had sex for money to supplement school fees, buying other necessities such as cosmetics, clothing, food, drinks, or free ride to school or workplace. Most of the partners in this study were much older men, with whom it is difficult for the women to negotiate safe sex and protection from unwanted pregnancy (Ilika & Igwegbe, 2004).

2.4.2 Family Factor

2.4.2.1 Family Characteristics

Family plays a protective role in determine the youth behaviour. The socio-economic status of parent (education level, employment and income), family structure including the marital status of parent, living arrangement, and numbers of siblings has been reported to influence youth behaviour. It has been reported that most pregnant adolescents had only one family income and father who self-employed (Guijarro et al., 1999). In correlating to parent's socio-economic status and adolescent sex behaviour, Wang'eri and Otanga (2013) found those with unemployed parents or business class parents show higher percentage of sexual behaviour. The assumption was related to either easy access to money predispose them to engage with such behaviour (Oljira et al., 2012) or sex can be one of the ways to get money (economic deprivation factors). Parental poverty may be a pushing factor to expose young female to early sex when engaging in street trading or transactional sex (Ankomah et al., 2011).

A mother's lower education also increased the likelihood of a pregnancy and mean years of education of parents was found to differ between women who experienced teen pregnancy with women who did not (Berry, Shillington, Peak, & Hohman, 2000). The odd ratio of involvement in premarital sexual activities is 3.6 if their mothers are working and 11.2 for lack of parental interaction (Rusilawati & Khadijah, 2006). These findings suggest that

mothers who are not working and could spend more time with their children is a factor that could prevent girls from becoming involved with premarital sexual activities. There is a suggestion that the rise in the social problem such as unwanted pregnancy may arise because the community is started to take for granted about the importance of the family. Parent are too busy with their work, neglecting their responsibility to provide emotional and spiritual needs rather than physical need to their child. This situation may lead children to find happiness outside their home and hence easily become involved in negative activities.

Unwanted pregnancy among adolescents has been associated with family structure. Lower socio-economic status including family structure (absent father, broken family) and parental education had been reported to increase risk of early sex initiation (Caminis et al., 2007) and unwanted pregnancies among young women (Moni et al., 2013). One study comparing pregnant and non-pregnant adolescents from the same area and similar socioeconomic background in Ecuador revealed that more pregnant adolescents lived with stepsiblings or stepfathers and had a high numbers of siblings (Guijarro et al., 1999). Similar findings in Malaysia also show that adolescent pregnancy is associated with being raised by a single parent (p=0.03) (Omar et al., 2010).

2.4.2.2 **Parenting Practices**

Parenting practices are defined as specific behaviours that parents use to socialize their children (Spera, 2005). Parenting practice involves family relationships, parental control, parental monitoring and communication in the family. Some parenting practices such negative support, less control and less monitoring could eventually lead to high risk sexual behaviour and premarital pregnancy (Bailey, Hill, Oesterle, & Hawkins, 2009; Hoeve et al., 2009). However, this not always in agreement. Experts suggest that too liberal or flexible and too strict type of parenting over children's behaviour may have negative or positive link to

high risk behaviour (Bedu et al., 2008). Students in China are more likely to engage in premarital sex if from divorced families and parent who practice strict disciplinary style (Wang et al., 2007; Yan et al., 2009).

One study identifying the factors leading to pregnancy among unmarried adolescents and young adults in Kerala, India found that those with no control or strict control by parent (OR 13.97) and had poor intra-family relationship (OR 15.58) had a higher risk for unwanted pregnancy (Moni et al., 2013). Emotional bonding with family could be a protective factor for young people in participating problem behaviours (Kapungu, Holmbeck, & Paikoff, 2006). When a child has a strong family relationship and are emotionally attached to their family such as sharing their daily routines, feelings, and experiences, they will come to their family first for any problem. However, a study in Thailand found that a good family relationship are not a trigger factor for females, because females tolerate more poor family relationships without behavioural display compared to males (Podhisita et al., 2001). Other study revealed that youth who had higher reported relationships with parents were significantly associated with lower risk of premarital intercourse. A good parent-child relationship is related to a type of family when it was found higher in nuclear two-parent families compared to other types of families (Tsala Dimbuene & Kuate Defo, 2010).

Parental warmth, involvement, communication, monitoring and the consistent discipline collectively known as authoritative parenting style have been found to be an important determinant of youth behaviour (Landor et al., 2011). In this parenting style, parent demand age-appropriate behaviour from their children and encourage conventional values and behaviour. Authoritative parenting may increase the chance of their adolescent offspring adopt their conventional value and eschew risky behaviour or deviant peer group. In

Singapore study; authoritative parenting was significantly low among sexually active adolescent than non-sexually active (Wong et al., 2009).

Monitoring children's activities at school, college, after school, or activities with friends is an important approach for parent in preventing social misconduct among young people. Parental monitoring is linked to decrease of the premarital sexual activities risks. (Tsala Dimbuene & Kuate Defo, 2010; Wang'eri & Otanga, 2013). Being away from family for working or studying freed young people from parental control and monitoring, which could be a reason for engagement in sexual activity (Low et al., 2007).

Many believe that parental communication may function as protective factors and prevent young people in engaging with sexual risk behaviour (Aspy et al., 2007; Bersamin et al., 2008; Gelibo, Belachew, & Tilahun, 2013). The important issue when discussing the parent child communication is communication pertaining to sexual behaviour. Parent are still uncomfortable talking about reproductive health matters with their children, leaving their children dependent upon information from their peers or other sources such as the Internet. Adolescents as well as youths do not feel comfortable discussing issues pertaining their sexual feeling with their parent or other family members. This has been supported by Kamrani, Sharifah Zainiyah, Hamzah, and Ahmad (2011) in their study of determining the source of information pertaining sexual and reproductive health among female students in the Klang Valley, Malaysia. Although parent are the key or primary source of sex related information, almost half of the girls (48.3%) never discussed sex related matters while only 6.3% of the girls discussed it often with their mothers.

Parent may have the opportunity and ability to influence their children's sexual behaviour decisions (Aspy et al., 2007). Youth were less likely to initiate sexual intercourse if their

parent had taught them to say no, set clear rules, talked about what is right and wrong, and about delaying sexual activity. If youth were sexually active, they were more likely to use birth control if parent taught about delaying sexual activity and birth control at home. A study among university students in Ethiopia has also reported that having good communication with parent about sexual issues was a potent predictor of sexual abstinence (Gelibo et al., 2013).

2.4.3 Community Factors

2.4.3.1 Peer Influences

Peers often provide a model of behaviour for youth. Adolescent females are reported to relate their experiences of intercourse of sexual behaviour among their peers, as everybody else was doing it. Acquiring peer approval and not wanting to be left behind has put pressure on them for sexual initiation (Ankomah et al., 2011; Skinner et al., 2008). The effects of peer group influence on youth attitude and increase the chances of problem behaviour have been well established (Bhatta, Koirala, & Jha, 2013; Sieving, Eisenberg, Pettingell, & Skay, 2006).

Female students in China who had friends living with boyfriends and work at places of entertainment (where alcohol and sex are likely present) were two times more likely to report high risk sexual behaviour (Yan et al., 2009). Having at least two friends who use a substance has been reported to decrease the odds of adolescents to use contraception (Majumdar, 2006). However, few studies have reported contradict findings on adolescent involved with risky sexual behaviour as a result of peer influence. There is a gender difference in terms of peer influence as young males experienced more peer pressure than females in engaging sexual behaviour (Wang'eri & Otanga, 2013).

In investigating the impacts of peers at various level of peer context, Bearman and Bruckner (1999) found that a close network of low-risk male and female friends can reduce the chances of sexual and pregnancy risks. Similar are close friendship networks such as best friends' influence; this can protect adolescents from risk behaviour. This is supported in another study in which it was found that the increase in interaction with best friends significantly decreased the likelihood of a female adolescent becoming involved with risky behaviour (Majumdar, 2006).

2.4.3.2 **Participation in Social Activity**

Most people are part of several communities, including neighbourhood, school, or work, religious affiliation or social group. Physical characteristics of community such as economic conditions, residential stability, level of social disorganization and service availability have demonstrated associations with sexual behaviour of their residents. A shared community culture, based on either heritage or on belief and practices, also plays an integral part. Each community possess norms and values about sexuality that influence the sexual behaviour of community members (Office of Surgeon General, 2001).

Participation in the community, social group, or school activity could protect youth from being involved in social problems and predicting sexual behaviour. Lower involvement in school activities has been reported to be a significant risk factor for sexual initiation, pregnancy and childbearing. Adolescents who became pregnant were more likely to engage in unsupervised activities with peers after school and not participating in extracurricular activities in the school (Omar et al., 2010).

2.4.3.3 **Religious Affiliation**

One factor that contributes to unmarried pregnancy is lack of religious understanding and religious affiliation in youth's life. Religion invests human existence with meaning by establishing goals and value systems that potentially pertain to all aspects of a persons' life. Religious goals, beliefs and practices are not only distinctive components of a person but could contribute to the core of one's personality. Religious values have been reported to influence the behaviour and attitude of youths (Idris et al., 2008).

All religions promote modest, humane, rational, purposeful, discipline, and promote restriction of sexual behaviour in man and woman (Abdulssalam, 2006). Any religion similar to Islam recognizes the strength and importunity of sex, but it tries to satisfy the sexual instinct and protect honour of the human through legal means i.e. marriage (Ebrahim, 2005). The act of free sex and premarital sex is contrary to "honour" and had bad effects on themselves and community. However for the atheist society, behaviour such as sexual relationship outside marriage, cohabitation, abortion, pornography and homosexuality were morally acceptable (The Barna Group of Ventura, 2001). According to American Religious Identification Survey (ARIS) more than half of atheist doesn't get married and irreligion is positively correlated with illegitimacy rate in the societies (Kosmin & Keysar, 2009; Kosmin, Mayer, & Keysar, 2001).

Not many youth nowadays consider religion in terms of sexual behaviour. However, youth with higher levels of religious commitment will be more prone to align their sexual behaviours with their moral values or religious values that emphasized in their religion. It has been proven that religiosity (e.g., attendance, prayer, affiliation, and participation) has a strong link with sexual attitudes and behaviour, thus providing ample empirical evidence that

religiosity influences adolescents' sexual behaviour (Ishida, Stupp, & McDonald, 2011; Rostosky, Wilcox, Wright, & Randall, 2004).

Simons, Burt, and Peterson (2009) found that adolescents who hold strong religious beliefs and pray have less permissive attitudes about sex and reported less sexual activity. Religiosity has also been found to be associated with the number of adolescent sexual partners (Lammers, Ireland, Resnick, & Blum, 2000). In identifying factors associated with sexual abstinence among university students, those with increased frequency of church/mosque attendance were six times more likely to abstain from sexual intercourse (Gelibo et al., 2013)

2.4.4 Non-sexual Risk Behaviours

Involvement in any risk behaviour will increase the likelihood of involvement in other risk behaviours (Jessor, 1991). The risk behaviours are including smoking, drinking, substance abuse, violence, suicide, and unprotected sex. Certain non-sexual behaviours at a younger age (e.g. alcohol consumption) may also predict later sexual risk behaviour (e.g. unprotected sex) and increase risk of unwanted pregnancy (Coleman & Cater, 2005).

In the analyses by Ma et al. (2008) among university student in China, having smoked cigarettes in women and men were related to a history of unintended pregnancy in women and the men's partner. In understanding the variables that posed risk for teen pregnancy, Berry et al. (2000) found that cigarette and marijuana use increased the likelihood of a teen pregnancy.

Studies in Asian have documented correlations between nonsexual behaviour and premarital sexual behaviour (Tu et al., 2012; Wong et al., 2009). Both male and female, married and unmarried youth aged 15-24 years who have experienced sexual intercourse are

found to be more likely to engage in nonsexual risk behaviour such as smoking, drinking, drug use, violence, and running away from home (Tu et al., 2012).

Alcohol could be used to raise the confidence level and increase sexual desire of a person, but intoxication may make a person lose control over his/her behaviour. Sexual intercourse under these conditions are more likely to be of a higher risk and unprotected (Golbasi & Kelleci, 2011). A study exploring first experiences of sexual intercourse among Australian females revealed that alcohol used at first sexual intercourse was common and being drunk made the approach for sexual intercourse easier (Skinner et al., 2008).

Study by Lee et al. (2006) among secondary school students in Malaysia showed that respondents who smoked (OR 4.1; 95% CI: 3.06-5.56), consumed alcohol (OR 2.7; 95% CI:1.99-3.66) and drugs (marijuana; OR 10.6; 95% CI:6.99-16.13, ecstasy pills; OR 21.7; 95% CI: 12.19-38.46, glue sniffing; OR 6.8; 95% CI: 4.39-10.64, heroin; OR 17.5; 95% CI: 8.55-35.71 and intravenous drug; OR 15.6; 95% CI: 7.58-32.26) were more likely to have sexual intercourse than those who did not. After adjusting for age and gender, there was still a strong positive association between substance use and sexual intercourse. This is supported as few boys had voiced that drugs such as Ecstasy could cloud their mind and lead them to casual sex (Low et al., 2007).

2.4.5 Risky Sexual Behaviours

Risky sexual behaviour commonly defined as behaviour that increase one's risk of contracting sexually transmitted infectious and occurrence of unwanted pregnancy. They include having sex at early age, multiple sexual partners, sex under the influence of drug or alcohol and unprotected vaginal, oral, or anal intercourse (Coleman & Cater, 2005; Golbasi & Kelleci, 2011). Majority of women that ended up with unmarried pregnancy are among

the women involved with high-risk sexual behaviour. This can be seen in data on premarital sexual activity and adolescent pregnancy.

The earlier that a young women engages in sexual intercourse, the more likely the risk of unintended pregnancy. There is a correlation of being young with other risky sexual behaviours such as lower rates of use of contraception (Ma et al., 2009). A study focusing on risk factors of unintended pregnancy among universities students revealed that initiation of sexual activity before high school, having multiple sex partners, and non-consensual sexual intercourse at first sex were associated with pregnancy among women (Ma et al., 2008). A study in California reported that only 31% of junior high school students had a single lifetime sexual partner, while 25% reported had two partners and 43% reported had three or more partners (Durbin et al., 1993).

Lindberg and Singh (2008) in their analysis of 6493 female respondents aged 20-44 years old found that 70% of single women were sexually active. Those single women (22%) are more likely to have had two or more sexual partners in the past year. Sexually active, having more lifetime partner and not having casual partner in the past year increased the risk of pregnancy as supported in the study among never-married women (Calvet et al., 2013).

In terms of frequency of sexual intercourse, it has been shown that frequency of sexual intercourse was an important predictor of pregnancy status. Never pregnant adolescents were less likely to have sexual intercourse more than once per week compared to pregnant adolescents (Wang et al., 2003).

In the United States, a survey among high school students in 2011, out of those who ever had sexual intercourse, about 39.8% did not use condom and 76.7% did not use any birth controls to prevent pregnancy at the last time they had sex (Eaton et al., 2012). About 15.3%

from these students have had sex with four or more partners during their life time (Eaton et al., 2012). In a study among 162 Turkish university students who had an active sexual life, 51.9% asserted that they had experienced of unprotected sexual intercourse at least once, 64.2% had experienced sexual intercourse when intoxicated and 59.3% had more than one sexual partners (Golbasi & Kelleci, 2011).

Whether or not a woman used a contraceptive at first intercourse is also associated with unintended pregnancy. A study in Taiwan found that contraceptive use at first intercourse was more common in never pregnant adolescents (Wang et al., 2003). When women initiate sexual intercourse with contraception, they are more likely to practice contraception later or consistently and decreased the likelihood of becoming pregnant later. In addition, contraceptive knowledge plays an important role as shown in their finding that contraceptive knowledge was significantly different between pregnant and never-pregnant adolescents (Wang et al., 2003).

The association between contraceptive used at first sex with risk of unintended pregnancy were also identified (Ma et al., 2008). Lack of condom used at first sex (OR 1.71) and use of condom often during lifetime for men remained a risk factor for pregnancy in their partners. While for women, sometimes/never (OR 3.02) or often (OR 3.92) use condom during their lifetime were the risk factors for unintended pregnancy (Ma et al., 2008).

Besides those at high risk of sexual behaviour, long term couple relationship and dating behaviour increased the risk of unintended pregnancy. Couple's relationship and dating behaviour gives freedom to unmarried people to have sex and for the male partner, it was like a ticket for consensual sexual relationship. This was proven in Noor Azlan et al. (2011) study where a majority of the statutory rape cases involved loving couples and majority

victims admitted having dating relationship with perpetrators. A majority of the girls in this study had their first sexual experience before the age of 15. In addition, losing their virginity at very young age to their lovers is common. Moreover, all of the victims and perpetrators did not use any protection every time they engaged a in sexual relationship.

With regard to high risk of sexual behaviour, it was found that it may begin with pornography, where on the average one in ten of the female respondent enjoyed it (Hamzah, 2007). In his analysis of four studies from 2004 to 2007, the percentage of females involved with pornography were from 7.6 to 25.1. In recent study among form four students at Melaka, out of 41 students, 28.7% had watched pornographic films, with higher prevalence among males (47.7%) than females (12.2%). This is supported by Rusilawati and Khadijah (2006) when they found that the odds ratios of involvement in premarital sex were 27.8 and 12.4 exposed to pornographic books and movies, respectively.

2.4.5.1 **History of sexual abuse**

Sexual abuse was defined as forcing undesired sexual touching/behaviour by a person upon another person either outside or inside the family (Francisco et al., 2008). Sexual abuse was strongly associated with unwanted pregnancy and adolescent pregnancy, through the strong association between sexual abuse and high risk sexual behaviour. Analysis from Washington State Survey of Adolescent Health Behaviour found that those who had experienced both sexually and physically abuse were four times more likely to have had an unwanted pregnancy. Respondent who had experienced abuse were also twice more likely to have had first intercourse by age 15, have used no birth control and more likely to have had more than one sexual partner (Stock, Bell, Boyer, & Connell, 1997).

Similar to the findings from few studies (Francisco et al., 2008; Goicolea, Wulff, Ohman, & San Sebastian, 2009), sexual abuse during childhood-adolescence was a risk factor in experiencing pregnancy among adolescents. Female who had been victims of childhood violence had increased odds of being sexually active (Ishida et al., 2011). Girls who had been sexually abused were eight times more likely to engage in premarital sexual intercourse and reported more partners (Wong et al., 2009)

Women who had been abused before age 18 were at increased risk of having an unintended pregnancy. Females who had been sexually abused by boyfriends were found to be more than twice as likely to become pregnant than those abused by family members (Francisco et al., 2008). Apart from that, exposure to violence also had an effect to sexual behaviour as one study found that community violence witnessing among girls significantly associated with risky sexual behaviour such as early sexual initiation or unprotected sex (Yi et al., 2010).

2.4.6 Sexual Health Knowledge

Sexuality education is a lifelong process of acquiring information and forming attitudes, beliefs and values about identity, relationship and intimacy. It encompasses sexual development, reproductive health, interpersonal relationship, affection, intimacy, body image and gender roles. Sexual education addresses the biological, socio-cultural, psychological, and spiritual dimensions of sexuality from the cognitive, affective and behavioural domains including the skills to communicate effectively and make responsible decisions (Sexuality Information and Education Council of the United States, 2004).

In Malaysia, sexuality is considered a sensitive topic and is related to cultural and religious issue. Due to this sensitivity, youth receive inadequate information, education, guidance and service on sexual and reproductive health. Limited knowledge about their bodies and

sexuality, youth are vulnerably involved with unplanned and unwanted pregnancy as well as sexual transmitted diseases and unsafe abortions (Wong, 2012a).

Low level of sexual knowledge particularly about the functioning of the reproductive organs and contraception is correlated to a higher risk of unintended pregnancy among adolescents in Estonia (Haldre, Rahu, Rahu, & Karro, 2009). This has been linked to dislike of school among teenage girls as compulsory sexual education in human studies was introduced in Estonia. In India, one study revealed that lack of knowledge on sexual and reproductive health had a significant association with unmarried pregnancy. In that study, poor knowledge about sexual and reproductive health was high (61.9%) among unmarried pregnant women compared to unmarried non-pregnant women (OR 7.28) (Moni et al., 2013).

According to Noordin et al. (2012) in their study, parent, teachers, media, and related institutions need to provide basic knowledge to the youth, especially females about their relationship with male partner, their sexuality, about the pregnancy and the consequences of the unwanted pregnancy. Other than formal lesson, youth obtain sexual and reproductive health information from variety of sources.

A few researchers have established that mothers were the primary source of information on topics relating to puberty and sexual topics, especially among girls (Kamrani et al., 2011). However, this matter was perceived negatively among boys, as they reported that none of their parents talked to them about sex. Adolescent boys' first exposure to sexual information were mainly from their male friends, while some learnt by themselves through VCDs, the Internet, newspapers, books and magazines. Only few boys mentioned that they first learnt about sex from their teachers during science classes or by overhearing their parent talking about it, but no direct discussion (Low et al., 2007).

Media and friends have been reported as the main sources of knowledge about STIs, whereas families, teachers, and textbooks were uncommon sources of knowledge. Being more sexually active were more knowledgeable about STIs than their counterparts. However, higher knowledge level alone cannot always ensure responsible behaviour among young people. This concurred with adolescents from a secondary school in Perak who claimed that books, peers, and pornographic video were the common sources of information about sex. A majority of them perceived that they need sex education in school and felt the current curriculum in Malaysian education system is insufficient (Low, 2009).

In China, a cross sectional study among a group of 682 unmarried adolescents identified that the most important sources of sex knowledge were school teachers and mass media. The percentage of adolescents obtaining knowledge on puberty, sexuality, and STI from teachers declined by topics (45.4, 30.7 and 18.4%, respectively), while the percentage of adolescents obtaining knowledge from television/movie increased by topics (6.7%, 12.2% and 27.5%, respectively). Topics which are less taboo such as puberty was obtained from teachers and topics with more taboo such as sexuality or STI were obtained from mass media. However, this differed for another category of adolescents sexually experienced or not. Parent were the primary source for less taboo subjects and doctors were the primary source for STI knowledge. Sexually active adolescents obtained sex knowledge mainly from peers or mass media, while adolescents who were not sexually experienced identified teachers and parent as main sources of sex knowledge (Zhang, Li, & Shah, 2007).

2.4.7 Social Support

Social support is defined as the existence or availability of people on whom one can rely, having people who let one know that they are cared, valued, and loved (Sarason, Levine, Basham, & Sarason, 1983). It is provided by one's social network, which are all the people with whom one has some regular social contact such as family, friends, and co-workers (Lepore, 2012). Social support could also be described in terms of its types and function. Types of social support can be identified as emotional, appraisal, informational, and instrumental. On the other hand, social support in terms of its function as the level of meeting one's needs by interaction with others or as informative counselling service (Basol, 2008). All elements of the social support play important roles in a youth's behaviour.

2.4.7.1 Social Support Factors to Unmarried Pregnancy

Social support from family, friends, school or community can protect youth from being involved with premarital sexual activity or high risk behaviour. A study among 1049 secondary students in Cambodia revealed that lower level of family support was significantly associated with risky behaviours among girls. A good relationship between youth and their family members provide stable emotional support and are less likely to be associated with delinquent peers or tendency towards inappropriate behaviour (Yi et al., 2010).

However, perceived social support from friends, school, neighbours and other adults was not associated with sexual activity among middle school students in Mexico (Reininger et al., 2012). Their results on sexual activity cannot be explained by this social support because it is related to forced sexual activity at earlier age, as half of the girls have had sex before age of 12 years. In the area of sexual relations, peers can offer support in many ways such as providing space in which a couple could meet or giving advice on appropriate methods of contraception. This has been supported by one study among youth in India (Alexander et al.,

2007). Their study reported that peer support (OR 1.2) and frequency of peer contact (OR 1.3-1.6) was associated with physical intimacy and sex among young women and men.

2.4.7.2 **Social Support in Motherhood**

Three categories of support are crucial in bringing up a child, namely affectionate, instrumental, and informational support. Affectionate support involves providing empathy, care and trust, whereas instrumental support includes providing the mothers with help with infant/child care and household tasks. As for informational support, it consists of providing information that a mother can use with tasks of infant/child care, self-care, and personal and environmental problems (Wan Mohd Rushidi, Awang, & Mohamed, 2004).

The transition to motherhood ushers in many life changes and adjustments as well as new patterns, responsibilities and routines; beginning from pregnancy stage. Coping with these changes requires mothers to rely on support of kin and non-kin social networks to a varying degree. Availability of social support includes economic, household, or psychological support. This so called social support system acts as a coping resource in providing both emotional support and task oriented assistance to the new mothers (Wan Mohd Rushidi et al., 2004).

A study by Gage and Meekers (1994) exploring family support of unmarried mothers among 4,368 women aged 15-49 in Africa found that family makes an invaluable contribution to the welfare of unmarried mothers, especially for the younger mothers. Young mothers are more likely to remain in their parental household than to head their own household. The establishment of independent households is largely a function of age, but it is also associated with work for cash. They also revealed that unmarried mothers receive substantial support from their own relatives in terms of child care. Family members provide

at least a third of the child care needs of working unmarried mothers with dependent children. Much of the child care needs of unmarried mothers are met by the respondent's parents, especially if the respondent has never been married.

A number of studies have determined the influence of social support during pregnancy on birth weight and length of gestation as the primary indicators of infant health. Early studies found that social support may be related to fewer pregnancy complications for women with high stress level but not for those with low stress level. These findings are consistent with the "stress-buffering" model of social support. Later, more recent studies show a direct relationship of social support towards birth outcomes (Elsenbruch et al., 2007; Feldman, Dunkel-Schetter, Sandman, & Wadhwa, 2000).

2.5 Impacts of Unmarried Pregnancy

Unmarried mothers are part of the national political debate as high rates are seen as sign of the moral decay as well as indicators of poor health outcomes. Impacts of unmarried pregnancies are more or less the same all over the countries (Shah, Zao, & Ali, 2011). Reviews on impacts of unmarried pregnancies can be seen from many aspects. The first includes looking at the impacts of people involved i.e. impact onwards mothers (women) and towards the children. Second approach is looking at their health impacts, social impacts (include family structure changes), policy and economic impacts. However, these impacts are interrelated with each other. Research and data on the impacts of unmarried pregnancies in Malaysia is scanty; thus, these impacts have been examined from developed countries.

Among the impacts of unmarried pregnancy to the mothers that were discuss in this section were concealment of pregnancy, antenatal care issue, problem related pregnancy, childbirth complication and poor mental well-being such as depression during pregnancy and after childbirth. There are long term and short term effects of unmarried pregnancy to the child. Among the short term effects of unmarried pregnancy to the child that were discuss in this section is in the medical aspect; adverse birth outcome and in the social aspect; the fate of the baby either being placed for adoption which may affect the future development of the child (Johnson, 2002; van Ijzendoorn, Juffer, & Poelhuis, 2005).

2.5.1 Concealment of Pregnancy and Abortion

Pregnancy outside of the institution of marriage context has been heavily censured. Discrimination, stigma, shame and condemnation have all attached to this pregnancy. Women responded that one strategy in handling the pregnancy crisis was to conceal the pregnancy by disappearing from their community either by emigrating or, in many cases, entering institutions during the pregnancy, giving birth and placing the baby for adoption.

Concealment of pregnancy was defined as "conscious awareness of a pregnancy, which was then purposefully hidden from others." Concealment of pregnancy occurs in women who know that they are pregnant and actively conceal pregnancy from family, partners, friends, teachers, and co-workers (West Sussex Local Safeguarding Children Board, 2007).

The first set of implications related to concealed pregnancy is that it impedes women's participation in the full range of antenatal care set down by current practices in the medical management of pregnancy. There is no opportunity to detect foetal anomaly or other complications and put them at risks associated with unassisted birth (Conlon, 2006). In the Irish context, two studies have shown that low birth weight, delivering preterm, neonatal death, and risk of maternal mortality are more common in women who have concealed their pregnancies (Treacy et al. 2002; Geary et al. 1997).

In Malaysia, a paper presented by Harlina (2006) in The International Federation of Gynaecology and Obstetrics (FIGO) stated that 28.9% (13 out of 46) cases of single mothers delivered at HUKM in 2004 were concealed pregnancies. These included late antenatal booking (above 34 weeks) up to onset of labour and pregnancy became apparent after a labour at assisted or unassisted deliveries. The cases of concealed pregnancies are among age group of 20 years and above. Most of the cases have had three complications in their pregnancies; eclampsia, severe pre-eclampsia and HIV transmission.

From adolescent boys' perspectives, when they had been challenged with the issues of premarital pregnancy, some suggested abortion as an alternative solution. Boys accompanied their partners to either private or general clinic for the abortions. Marriage was not the best solution, as they said that they would not marry their partners at such a young age. Some

chose to leave their female partners and returned to their hometown to avoid the responsibilities (Low et al., 2007).

Oye-Adeniran et al. (2004) reported that among the important reason for abortion among women in South western Nigeria was that they were not married and marital status is significantly related to the abortions after controlling for the other confounders. In East Asia, 39% of the 40 million pregnancies every year are unplanned and 30% end in abortion. In the other Asian countries, 34% of 83 million pregnancies that occur each year are unplanned and 17% end in abortion. Women in all parts of world, either young, old, married, unmarried, rich or poor have abortions, but often poor, young, and unmarried women's access to safe service, even when legally entitled, is grossly limited (Racherla, 2006).

Unmarried mothers who undergone induced abortion are then at increased risk for depressive symptoms later in life (Casey, 2010). In examining the linkage between having an abortion and mental health outcomes among women ages 15-25 years, Fergusson, Horwood, and Ridder (2006) revealed significant associations between abortion history and rate of major depression, anxiety disorders, suicidal ideation, illicit drug dependence and total mental health problems. In the other analysis, abortion may protect their educational opportunities (higher level of degree attainment), but the advantages did not apply for income, welfare dependence, and partnership outcomes (higher rate of partner violence) (Fergusson, Boden, & Horwood, 2007).

Confidential Enquiries into Maternal Deaths has reported that death in mothers which were ascribed to abortions numbered from 3-6 deaths per year in Malaysia (Ministry of Health Malaysia, 2006-2008). In Malaysian situation where premarital pregnancy is frowned upon, many women involved with unsafe abortion and many cases of death to abortion were

unreported. Unsafe abortion as the procedure of terminating a pregnancy either by individuals lacking the necessary skills or in an environment that does not conform to minimum medical standards or both may lead to life-threatening condition and contribute to maternal death. Apart from statistics, a qualitative study on the understanding of needs, experiences and perspectives of abortion among 39 urban working class of married women in Penang, Malaysia, found that women who sought termination of pregnancy experienced abortion-related complications such as depression, missing work and losing their jobs (Kamaluddin, 1998).

2.5.2 Antenatal Care

WHO in 1997 had issued a call that all pregnancies be considered at risk which requires health system that is functional, adequately funded and able to respond quickly to the emergency needs of women in the throes of pregnancy and childbirth complication (Melgar, 2006). This new approach lead to the introduction of various programs such as Maternal and Child Health programme (MCH), High Risk Approach, Confidential Enquiry into Maternal Death (CEMD) and Safe Motherhood Initiatives in providing maternal care for pregnant women in Malaysia. Monitoring the well-being of mother and unborn child through antenatal visits is considered a proxy indicator and a first step for safe deliveries. Primigravida women are advised to go for a total of ten visits during their pregnancy and for multigravida women, the total recommended antenatal visit is seven sessions (Ministry of Health Malaysia, 2012; Yadav, 2012) .

Among the important factors in reducing maternal mortality ratio in Malaysia were improving accessibility to maternal health care, the increase in coverage of antenatal care and reduction of high risk-pregnancy (Yadav, 2012). Several studies have highlighted the

importance of antenatal and postnatal care in reducing the risk of pregnancies and childbirth complication.

However, the pregnant adolescent mothers reported by Omar et al. (2010) took less advantage of the available antenatal care provided in Malaysia. This was evident by a later gestation date at the first visit and fewer numbers of visits during the pregnancy. They concluded that this may be due to a lack of knowledge regarding the importance of early and regular care, lack of awareness of the services available in the community, as well as their belief that they were not eligible for the services or their preference to conceal their pregnancies.

Raatikainen, Heiskanen, and Heinonen (2007) showed that non-attenders and under-attenders (1-5 visit) of antenatal care in Finland were significantly more often among unmarried mothers (30.74% and 33.33%). Clinically, under-attending antenatal care appears to be a significant contributor to low birth weight, and this association was chiefly the result of preterm delivery.

2.5.3 Pregnancy and Childbirth Complication

Based on the Ministry of Health statistics, there were 772 pregnancies related to death in 2006-2008, decreasing numbers from 316 in 2001 to 267 in 2008 and a declining trend is observed from 1950-2012. The main causes of maternal death were post-partum haemorrhage (PPH), hypertensive disorders in pregnancy, obstetric embolism, sepsis and associated medical conditions (Ministry of Health Malaysia, 2006-2008; Yadav, 2012).

In 2003, the pre-pregnancy care programme was introduced focusing upon optimizing the health of pregnant women where women were screened and counselled appropriately for early intervention and treatment. Following that, a nationwide pre-pregnancy health

screening was conveyed and had identified three main risks of pregnancy problems, namely diabetes, anaemia and hypertension (Ministry of Health Malaysia, 2012).

Anaemia (haemoglobin level below than 11 gm) in pregnancy constitutes a major public health problem especially in developing countries and studies found an association of severe anaemia with maternal mortality and adverse perinatal outcomes (Chumak & Grjibovski, 2010; Haniff et al., 2007). One study has reported that anaemia in pregnancy was significantly higher among unmarried, teenage, less educated and HIV positive women (Okuedo, Ezem, Anolue, & Dike, 2014). WHO data shows that South East Asia has the highest number of pregnant women with anaemia (24.8 million) (World Health Organization, 2008) and in 2004, 38.3% pregnant women in Malaysia were anaemic (World Health Organization, 2007).

The available national data in 2006 reported that the percentage of pregnant women who were anaemic was 28.7%. Percentage of pregnant mothers with Hb level below than 9 gm% and Hb level between 9-11 gm% were 2.0% and 26.8%, respectively (Ministry of Health Malaysia, 2006). Although there is no epidemiological data by marital status regarding this problems, unmarried pregnant women have been shown to be at high risk of anaemia due to various difficulties during their pregnancy such as lack of healthy nutritional, lack of social support, physical and mental condition.

Postpartum haemorrhage (PPH) is the excessive loss of blood via the vagina after the delivery of the baby and up to 42 days postpartum. PPH can take the life of a healthy woman in less than two hours if no intervention takes place, making it the fastest cause of maternal death. Hypertensive disorders in pregnancy include pre-existing chronic hypertension and eclampsia, hypertension with hyper-reflexia, proteinuria, oedema and seizures. Studies on

childbirth complications among unmarried women were limited and available studies failed to relate the association between PPH or hypertensive disorder and marital status. However, unmarried women with unplanned pregnancies had a high risk of these problems if they concealed their pregnancies and do not get full antenatal care, had late booking, or had home births without skill birth attendants (Mutihir & Utoo, 2011; Yadav, 2012).

2.5.4 Mental Health Status

Apart from life threatening conditions such as abortion or concealment of pregnancy which led to the lack of antenatal care or unassisted birth attendant, mental health problems are another serious impacts of unwanted pregnancy among unmarried women. Mental health is defined as a state of well-being which allows individual realize their own abilities, adjust with daily life's stresses, work productively, and contribute to community. Mental health problem refers to the absence of mental well-being, changes of thinking, mood and behaviour that significantly affect the ability of a person to cope and function (Yeap & Low, 2009).

Women are vulnerable to mental health problems during pregnancy and after childbirth mainly due to changes in hormones and roles in their life as a mother. As the postpartum period is transition period to mothering and meaningful to women's life, it also can be a critical episode of adjustment and stressful time for women (Arifin et al., 2014). WHO has reported about 10-33% of pregnant women worldwide suffer from mental health problems such as maternal stress, anxiety, and depression that can contribute to maternal morbidity (Mukherjee, Pierre-Victor, Bahelah, & Madhivanan, 2014).

These mental health problems can lead to poor nutrition, non-compliance to antenatal care, miscarriage, preeclampsia, adverse birth outcome (e.g. low birth weight, preterm birth) and lower rates of breastfeeding initiation (Grigoriadis et al., 2013; Raisanen et al., 2014).

Moreover, unplanned pregnancies among unmarried pregnant women have a double share of risk for mental health problems because of low social support from family and friends (Azidah, Daud, Yaacob, & Hussain, 2009; Williams et al., 2011). A meta-analysis found that single marital status is a significant predictor in increased risk of maternal depression during pregnancy (Lancaster et al., 2010).

Postpartum depression (PPD) is a major form of depression occurring following childbirth, beginning at any time throughout the year following childbirth. PPD is estimated to occur in approximately 10% to 20% of new mothers (Ministry of Health Malaysia, 2012). A few previous studies have reported that being a single mother was one predictor for PPD, controlling for the effect of other socio-demographic characteristics (Adewuya et al., 2005; Segre, O'Hara, Arndt, & Stuart, 2007). Although one local study found that marital status was not associated with postpartum depression, four out of nine (44.4%) unmarried women in their study had postpartum depression (Arifin et al., 2014).

2.5.5 Adverse Birth Outcomes

The adverse pregnancy outcomes of pregnancy outside marriage are including low birth weight (LBW), preterm birth, small gestational age (SGA), assisted birth delivery, low Apgar score, intra-partum complication, birth defect and admission to neonatal care unit. The maternal marital status has been identified in large number of population as a risk factor for a low birth weight baby, preterm birth and infant mortality (Curtin et al., 2014). Several interrelated reasons why being unmarried increases the risks of having adverse birth outcomes include economic insecurity, lack of social and emotional support, depression and insufficient antenatal care.

A case control study among 13690 women in Europe proved that there was a significant elevated risk for preterm birth associated with cohabitation (OR=1.20; 95% CI: 1.08-1.33) and single motherhood (OR=1.30; 95% CI: 1.10-1.52) (Zeitlin, Saurel-Cubizolles, Ancel, & the, 2002). Research in Canada has also shown an increased in adverse birth outcomes, including low birth weight and premature baby for unmarried women who are not cohabitating with a partner when compared to unmarried women cohabitating with a partner (Luo, Wilkins, & Kramer, 2004).

In the United States, Young and Declercq (2010) used a nationally representative sample of mothers aged 18-45 years to examine the effects of marital status towards low birth weight and premature baby by separating marital status into three categories; married, unmarried with partner and unmarried without partner. Unmarried mothers with a partner had over twice the risk of having premature baby (OR=2.71; 95% CI: 1.07-6.85) while unmarried mothers without partners had over five times the risk (OR=5.64; 95% CI: 1.68-18.92) when compared to married mothers. Other studies also reported more admission rate to neonatal care unit (OR=1.15; 95% CI: 1.05-1.27) (Raatikainen, Heiskanen, & Heinonen, 2005b) and lower numbers of Apgar score at 1 min (Lurie, Zalmanovitch, Golan, & Sadan, 2010) among unmarried women as compared to married women.

A meta-analysis has been done on risk of infant being born with low birth weight, preterm birth and small gestational age by marital status and found that as compared to married mothers, the odd ratio of being LBW, SGA and preterm birth increased among unmarried, single and cohabitating mothers (Shah et al., 2011). The same findings on adverse outcome of pregnancy associated with marital status were reported in other studies (Masho, Chapman, & Ashby, 2010; Shah et al., 2011; Siza, 2008). Adverse outcomes were linked to poor economic conditions, inadequate access to antenatal care (Sulaiman et al., 2013), unhealthy

lifestyle, emotional stress and lack of social support among unmarried women (Masho et al., 2010). A few researchers have suggested that unmarried status may reflect other risk factors rather than being an independent risk factor.

2.5.6 Adoption

Social outcomes of the baby born by unmarried mothers is also an important outcome. In many communities and cultures, especially those with traditional family values, being an unmarried mother carries a social stigma and a life-challenge. Malaysia belongs to the culture in which people have a strong tendency for a moral obligation to follow the values and react with anger when they perceive their violation (Saim et al., 2014). In hiding the pregnancy and avoiding stigma to the child, unmarried mothers will choose adoption.

In 1952, the introduction of Adoption Act led to a greater number of Irish women resolving a non-marital pregnancy by placing their baby for adoption. The proportion of non-marital births placed for adoption was very high between the passing of the Act and the introduction of social welfare support for unmarried mothers in 1973 and the legalization of abortion in Britain in 1967. In 1967, 97% of non-marital births were adopted. The proportion fell in the subsequent years to 71% by 1971, 30% by 1980 and 7% by 1990. By 2002, just 0.5 % of births before marriage were placed for adoption (Conlon, 2006).

One study consisted of 125 pregnant adolescents to determine either therapy intervention programme focused on applying decision-making skills had effect on adolescents' adoption vs parenting decision. They revealed that decision-making skills did not have an impact on the adolescent mother's choice for adoption vs parenting. It was clear in this study that marital status were related to this decision (Herr, 1989).

Adoption is promoted to be the best interests of the child born to unmarried mothers. It will protect the baby from the slur of illegitimacy and would have a better life in the adoptive family. A local study among unmarried pregnant adolescents reported that in future plans for care of baby, 42.3% planned to give away their infants for adoption and the rest planned to parent their child with (42.0%) or without (7.7%) others' support (Tan et al., 2012).

Although adoption potentially offer opportunities for non-marital child from their circumstances to grow up in a healthy environment, it may lead to conflicting results. In many countries, adoption terminates the biological parent's right and responsibility towards the adopted child and in many cases, biological mothers cannot have ongoing contact with the child. Mothers may feel powerless and have emotional disturbance such as feeling of loss, mourning and grief. However, ongoing contact with the child or adoptive parent may bring back difficult memories and is painful. The child also may become emotionally disturbed when they grow up such as disappointment or abandoned and may struggle with self-esteem and identity development issues (Baran & Pannor, 1993).

2.6 Experiences of unmarried pregnancy

Malaysian societies stigmatize unmarried mothers, most of whom are stereotyped by their communities, families and services providers (Saim et al., 2014). Few studies that investigated the experience of unmarried pregnant women concluded that this pregnancy rarely understood as a consequences of violence as majority of them were seduced by their partners (Mohamed & SHarifah Fauziah Hanim, 2014; Saim et al., 2014).

In investigating the reactions received from parents and partners of the unmarried mothers in Malaysia, there were three reactions; secrecy, repression and rejection (Saim et al., 2014). The secrecy happened when they tried to hide the pregnancy from being noticed by siblings, extended families, friends, neighbours, and school personnel. Various excuses were used to

hide the pregnancy, such as medical problems, the daughter was sent to a boarding school. In addition the parents and partners repressed the unmarried mothers by threatening or forcing them to induce abortion either by traditional methods, such as abortifacient herbs that are not scientifically proven or by illegal clinical abortion. The families and the partners also often reacted to the pregnancy by rejection of the unmarried mothers. These rejections took different expressions such as avoiding them, verbal harassment, isolated from their families and sent them to the shelter homes. Breaking their relationship was the most common rejection by partners (Saim et al., 2014).

In describing how the unmarried mothers experience their pregnancy and the baby, women felt detachment, trapped, unworthy and ambiguous (Saim et al., 2013). The detachment led women to constantly attempt to self-induce abortion. The women described their feeling of detachment to their pregnancy or the baby by having no feelings, or suppressing the feelings. In addition, the women felt unworthy; most of them felt guilty because of having had sex before marriage and tarnishing the reputation of their family. Hence, they perceived their pregnancy as a punishment (Saim et al., 2014). Consequently, most of the girls were reluctant to make decisions about their future and their baby because they were afraid to make another mistake and make the situation worse.

In another study exploring the issue of shelter home, majority women mentioned their experiences of the impact of rules and regulations limiting their contact with their family. Some of the women mentioned that they received support from their family by visits, phone calls, letters or ready-made food or parcels for their daily use; whereas others received little or no family support at all. As the majority of the women viewed their family as their source of information that could strengthen them, the limitation might jeopardize their progress. In general, the unmarried women had lack of social support from their parents or other family

members because of the rules and regulations in the shelter home (Nordin et al., 2012; Saim et al., 2013).

2.7 Theoretical consideration and Conceptual Framework

In this last section, theoretical consideration and conceptual framework of the factors contributing to unmarried pregnancy and outcomes of pregnancy are deliberated. The final model based on the study findings was developed and presented in Chapter 6. Conceptual framework is a structure of what has been learned to best explain the natural progression of a phenomenon that is being studied. Comparatively, theoretical frameworks are explanations for this phenomenon (Camp, 2000).

The conceptual framework which is also called the research paradigm embodies the specific direction by which the research was undertaken. The conceptual framework describes the relationship between specific variables identified in the study. It also outlines the inputs, processes and outputs of the whole investigation. A conceptual framework is the researcher's idea on how the research problem was explored.

Conceptual and theoretical frameworks are based on previous studies, conceptual analyses, and theories exist in the literature. The understanding of the conceptual framework is important to guide my research design, research objectives, research questions, and research hypothesis as well as data analysis. Unmarried pregnancy, factors associated and outcomes of this study can be conceptualized from Problem Behaviour Theory (PBT) (Jessor, 1987) and Social Cognitive Theory (Bandura, 1986).

2.7.1 Problem Behaviour Theory

Problem Behaviour Theory is a widely used theory explaining dysfunction or maladaptation in individual derived initially from fundamental premise of theory that all behaviour is the result of person-environment interaction (Jessor, 1987). This is psychosocial model that originally attempts to explain behavioural outcomes by focusing on three major systems of psychosocial influence: personality system, perceived environment system and the behaviour system. Problem behaviour is defined as any behaviour that deviates from both social and legal norms or behaviour that is socially disapproved from those of authority (Jessor, 1987). The concepts that constitute the behaviour systems include problem behaviour and conventional behaviour. Conventional behaviours are behaviours that are socially approved and normatively expected for adolescents (Donovan, Jessor, & Costa, 1991). In this study, problem behaviour is defined as behaviour that is disapproved by the community for social, cultural, and religious reasons for sexual risk behaviour (i.e. premarital sexual activity) that may cause other adverse health problems in many aspects of life.

The explanatory model in this theory takes into account direct effects of protective factors, risk factors and buffering effects that protection may have on the impacts of exposure to risk. According to the theory, the greater the risk factors and the less the protective factors in a human's life situation, the greater the likelihood of an human involvement in problem behaviour (Jessor, 1991).

The PBT has been extended into the domain of the health-related behaviour because many problem behaviours can be considered to be health-compromising behaviours. As behaviours constitute risk factors for morbidity and mortality, the understanding of behaviour, and its antecedents and consequences are very important (Jessor, 1991).

2.7.2 Social Cognitive Theory

When looking at interpersonal level of health promotion and prevention perspectives, this study has been based on Social Cognitive Theory (SCT) (Bandura, 1986). SCT is a health behaviour theory that describes a dynamic, ongoing process in which personal factors, environment factors and human behaviour exert influence upon each other (Glanz, Rimer, & Su, 2005). The theory deals with cognitive, emotional aspects, and aspects of behaviour for understanding behavioural change.

The social cognitive theory explains how people acquire and maintain certain behavioural patterns and behavioural change depends on the factors environment, people and behaviour. There are social and physical environments that can affect a person's behaviour. Social environment includes family members, friends and colleagues where as physical environment is like the size of a room or the availability of information. Environment and situation provide the framework for understanding behaviours. The situation refers to the cognitive or mental representations of the environment such as a person's perception of the place, time, physical features and activity that may affect a person's behaviour (Glanz, Rimer, & Viswanath, 2008).

As stated by Glanz et al. (2005), behaviour is not simply the result of the environment and the person, just as the environment is not simply the result of the person and behaviour. The three factors; environment, people and behaviour are constantly influencing each other. Observational learning occurs when a person watches the actions of another person and the reinforcements that the person receives. Behavioural capability means that if a person is to perform a behaviour he must know what the behaviour is and have the skills to perform it (Bandura, 2001).

2.7.3 Social Support Theory

Theory of Optimal Matching (Cutrona & Russell, 1990) is one of the models of social support. The best type of social support is support that matches an individual's needs as suggested by this theory. Although the matching model of type of support with need for support makes intuitive sense, matching models are criticized for being overly simplistic because they suggest that upon identifying a person's need there is a corresponding type of support that can address that need (Barrera, 1986). However, human beings are complex and have multiple needs. Another criticism of matching models is that the same supportive action can fulfil multiple needs. Despite these criticisms, matching models of support serve an important role in our understanding of how support is provided and received. The researchers (Saim, 2013; Tan et al., 2012; Zeitlin et al., 2002) found that women facing unmarried pregnancy had multiple needs for social support, including information about local shelters, advice about how to handle the problem, and tangible aid such as housing, child care, and transportation, as well as emotional and esteem support.

This study examined the outcomes of unmarried pregnancy as well as the factors affecting unmarried pregnancy. Based on a review of the pertinent literature, the following conceptual framework has been devised (figure 2.3). In line with the two theories, unmarried pregnancy is an outcome of problem behaviour influenced by personality, biology, perceived environment, social environment and other behavioural system. Health or life compromising outcomes that were measured in this study are medical outcomes and illness experienced by mothers such as depression, poor mental health, low quality of life, and birth outcome such as babies' birth weight and preterm birth)

Socio-demographics of the women and their families represent antecedent-background variables which is biology/genetic and social environment factors. Variables in peer and community characteristic represent both social environment and perceived environment systems. Social support and sexual health education are part of a perceived environment systems. Practice of contraceptive method, risk behaviour and sexual behaviour represent the influence of behaviour systems. Influence from personality systems in this study is explored via religiosity and educational achievement.

2.8 Chapter Summary

This chapter has discussed the significant issues in the study area and provide comprehensive literature review. Following that, the theories and conceptual framework in explaining the topic of study was described extensively. A preliminary model of unmarried pregnancy was developed as a basis of analysis. The method of the study is discussed in detail in the next chapter.

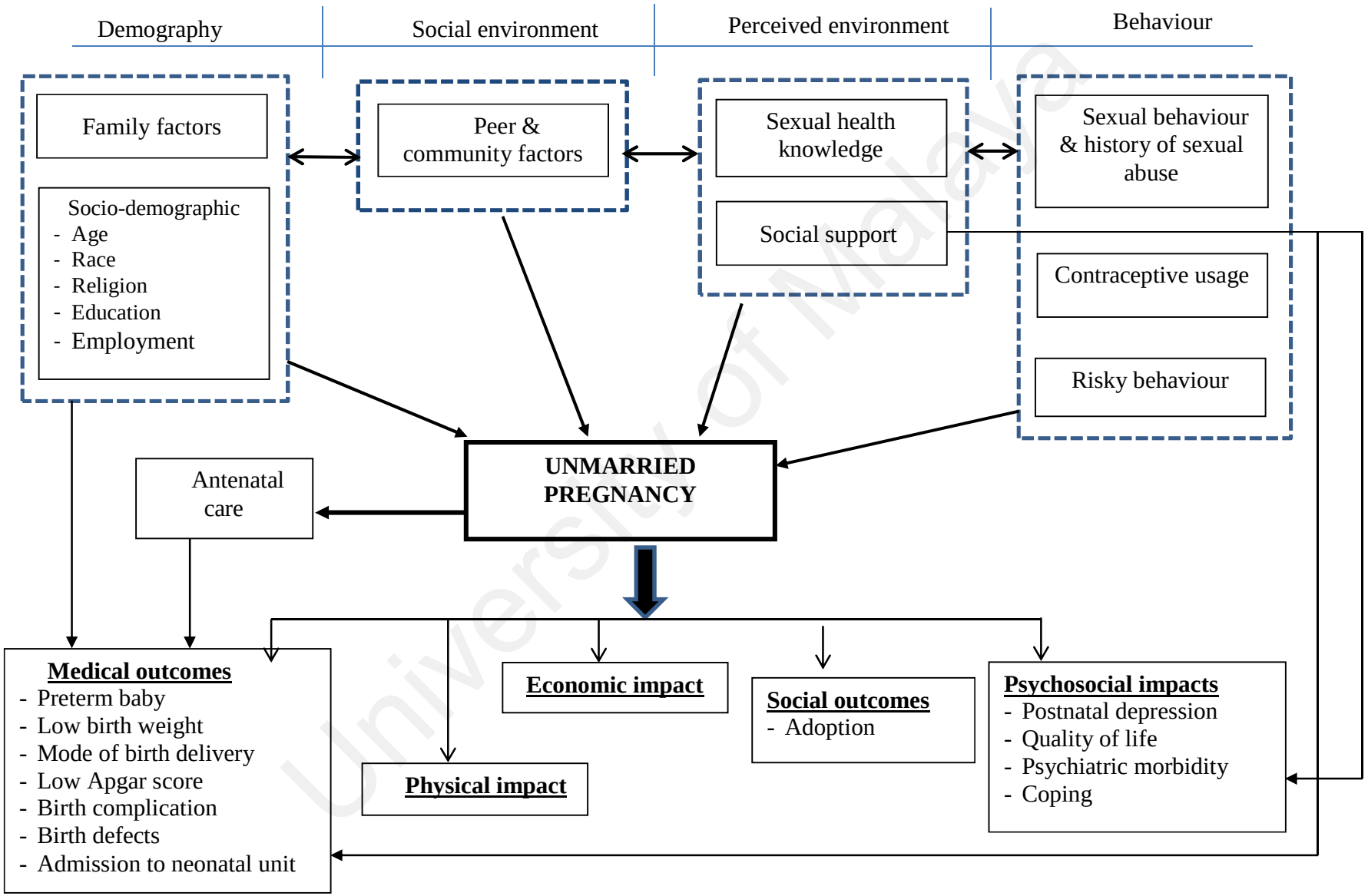

Figure 2.3**:** Conceptual Framework of Factors Associated with Unmarried Pregnancy and Outcomes

CHAPTER 3: METHODOLOGY

In this chapter, the study methodology and procedure is discussed in order to answer various research questions and hypotheses. Details about the study design, setting, and targeted population including sample selection, study instruments, data management, ethical considerations and definitions of variables are described here. The study employed both quantitative and qualitative data collection procedures. It was carried out in two phases. Phase one being a cohort study of pregnant women with unmarried status looking at the impact of pregnancy. Phase two was an in-depth semi-structured interviews of unmarried women on experience of unmarried pregnancy.

A research strategy that was applied in this study was sequential mixed methods procedures (sequential explanatory design) in which I sought to expand on the findings of quantitative method with qualitative method. A mixed method design is useful in this study because a quantitative or qualitative approach by itself is inadequate to understand the research problem. Using this method helps to answer the various confirmatory and exploratory research questions simultaneously (Tashakkori & Teddlie, 2003). Indeed, the strengths of mixed method research can provide better inferences with triangulation and complementary functions which confirm and complement each other. Moreover, the different inferences from mixed method research give opportunity to view a greater diversity of the research problem (Tashakkori & Teddlie, 2003).

3.1 Study Settings

This study took place in four locations in the Peninsular Malaysia; Klang Valley, Pahang, Kelantan and Terengganu states. It has covered two different settings in which the unmarried mothers were located; the public hospitals and the shelter homes. Peninsular Malaysia can be divided into four zones; West, East, South and North. In this study, Klang Valley was selected to represent West zone, while Pahang, Kelantan, and Terengganu were selected to represent East zone.

Klang Valley is an area in Malaysia comprising Kuala Lumpur (capital of Malaysia) and its suburbs, cities, and towns in the state of Selangor. Kelantan and Terengganu are positioned in the northeast of Peninsular Malaysia facing the South China Sea. Pahang is the largest state in Peninsular Malaysia bordered to the north by Kelantan, to the west by Perak, Selangor, Negeri Sembilan, to the south by Johor, and to the east by Terengganu and the South China Sea. Figure 3.1 shows the locations of these areas.

Two hospitals were selected from west region, while four hospitals were selected from east region; two in Kelantan, one in Terengganu and one in Pahang. The shelters selected were centred in west region. The hospitals and shelters from these locations were selected due to their facilities and functions.

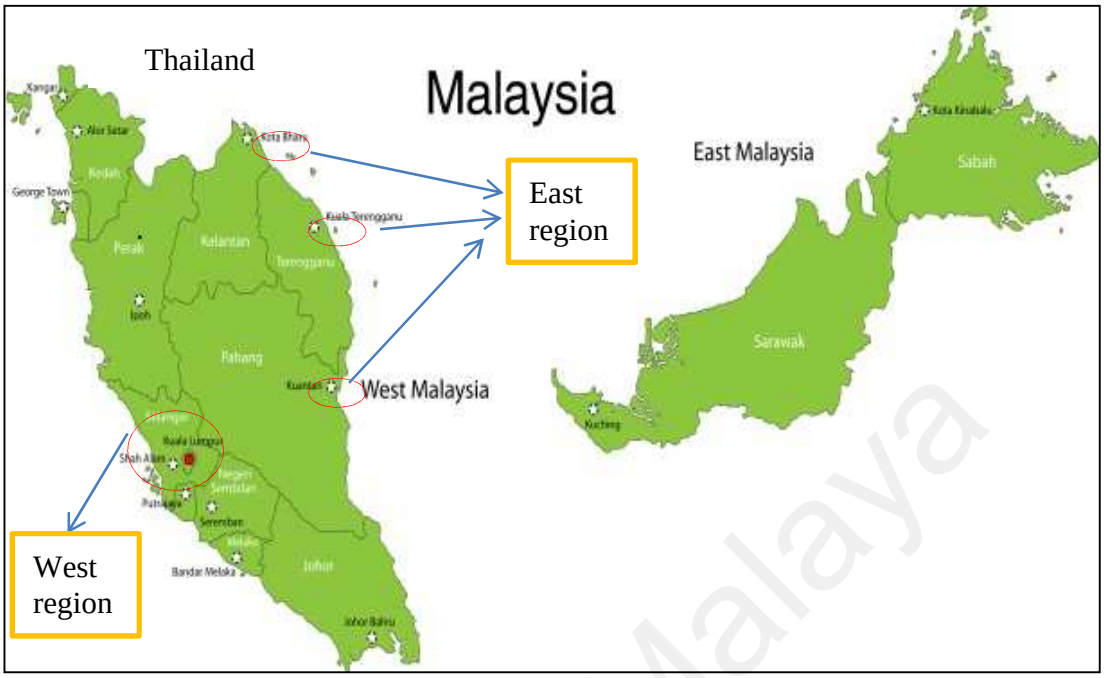

Figure 3.1: The selected locations where data were collected

3.1.1 Hospitals

Hospitals A, B, C, and D are government tertiary hospitals under Ministry of Health Malaysia and biggest public hospitals in each state. Hospitals E and F are teaching hospitals under the Ministry of Higher Education. These hospitals were selected because they received patients from all over the state either by referral from district hospital and clinic or walk in patient. The characteristics of these hospitals have been summarized in Table 3.1.

Table 3.1: Summary of characteristics for each hospital

Hospital	Characteristic		
	Type	**Obstetric Unit**	**Placement of patient in ward**
A (KL)	MOH	3 sub unit	Antenatal and postnatal case
B (Kelantan)	MOH	3 sub unit	Separated antenatal and postnatal case
C (Terengganu)	MOH	2 sub unit	Antenatal and postnatal case
D (Pahang)	MOH	2 sub unit	Antenatal and postnatal case
E (KL)	MOHE	2 sub unit	Separated antenatal and postnatal case
F (Kelantan)	MOHE	2 sub unit	Separated antenatal and postnatal case

MOH= Ministry of Health, MOHE =Ministry of Higher Education

3.1.2 Shelter Homes

A woman's shelter is a place of temporary refuge, rehabilitation or one stop centre which supports women escaping violent, abusive or unsafe situations such as rape or domestic violence. The objectives of the shelters are to protect and help women in social crisis in providing a safe place for women and give them a support that they need. In Malaysia, the shelters are managed by the government agencies, the non-government organisations (NGOs) or the private sector. Each must be registered with the Welfare Department, under Care Center Act 1993 (Act 506). Women get access to these shelters either voluntarily or are referred by hospital, school and college or compulsory order by court.

There are six woman shelters involved in this study. All of these shelters provide services for temporary place in helping women or young girls with unmarried pregnancy or any social related crisis. These institutions help women with pregnancy problems in terms of seeking antenatal care, delivery process and legal procedure for the baby adoption besides other basic

needs. All shelters are filled with daily scheduled activities such as vocational training and religious classes for its occupants aimed at equipping them with the right skills and religious perspectives. Other activities conducted in shelters include spiritual guidance, counselling therapy, and recreational and physical activity. The characteristics of these shelter homes are summarized in Table 3.2

Table 3.2: Summary of characteristics for each shelter

Shelters	**Management**	**Characteristics**
Shelter G	Social Welfare Department - Ministry of Women, Family and Community Development	- Rehabilitation centre - Short terms shelters until childbirth - Accommodate 50 women at a time
Shelter H	State Islamic Division	- Islamic rehabilitation centre - Minimum period of stay 6 months - Accommodate 50 women at a time - Have facilities for those who want to bring up the baby
Shelter I	State Islamic Division	- Islamic rehabilitation centre - Minimum period of stay: 2 years - Accommodate 50 women in one time - Have facilities for those who want to bring up the baby
Shelter J	Non-Government Organisation - Have branches in East, South and North of Peninsular Malaysia	- Islamic rehabilitation centre - Minimum period of stay 6 months to 1 year - Accommodate 25 women at a time - Have to pay monthly fee
Shelter K	Non-Government Organisation	- Islamic rehabilitation centre - Minimum period of stay: 6 months to 1 year - Accommodate 25 women at a time - Have to pay monthly fee
Shelter L	Private Organisation	- Short terms shelters until childbirth - Accommodate 10 women at a time

3.2 Phase one – Quantitative Approach

Phase one of the study was a quantitative method approach using close-ended questionnaire. Phase one activities involved sample size determination, questionnaire development, pilot study for questionnaire testing, and actual data collection of the study.

Strategy of inquiry used for quantitative part in this study was analytic observational study. It is considered natural experiment because the exposure occurs in natural setting without any elements (i.e. prevention or treatment) during the study process. Observational research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population. (Aschengrau & Seage, 2003). The design can test specific etiologic hypotheses which later may suggest a mechanism of causation (Friis & Sellers, 2009).

3.2.1 Study Design

This study was prospective cohort study of pregnant women where they were followed up at four points: (1) prior to delivery, (2) shortly after delivery prior to hospital discharge, (3) 1 month after childbirth, and (4) 3 months after childbirth (Figure 3.2). The data collection was conducted from February 2011 until June 2012.

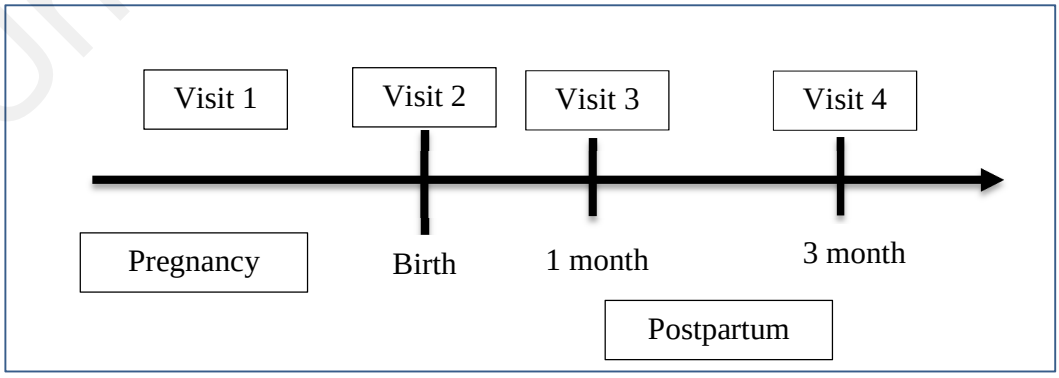

Figure 3.2: The time flow of the study

The design was selected to see the development of new disease or health outcomes differs between the group with or without exposure over a period of time. Respondents were defined according to their exposure status and followed over time to determine the incidence of health outcome /disease (Aschengrau & Seage, 2003). Health outcome referred in this study was postpartum depression that will answer the question on whether marital status (exposure) affect the mental health of mothers. Presence of the unexposed group (control) is important because the incidence of disease will be compared between the two groups (Friis & Sellers, 2009).

3.2.2 Study Sampling

The sample population was pregnant women who attended selected hospitals for birth delivery. These pregnant women gave birth at six hospitals and residents in six shelters home in Peninsular Malaysia, which were selected according to the inclusion criteria from February 2011 until June 2012.

In order to obtain test of association, a control group consisting of married pregnant women was included for the purpose of a comparison with the unmarried group. The married control group was selected based on their period of gestation of more than 31 weeks. The cut of point 31 weeks were taken considering premature birth definition and categories. According to WHO, premature birth defined as babies born alive before 37 weeks of pregnancy are completed. There are 3 sub-categories of preterm birth, based on gestational age: extremely preterm (<28 weeks), very preterm (28 to <32 weeks) and moderate to late preterm (32 to <37 weeks) (March of Dimes, PMNCH, Save the Chidlren, & World Health Organization, 2012).

3.2.2.1 Inclusion criteria

The inclusion criteria applied for all pregnant women with unmarried status at conception. For control group, inclusion criteria were pregnant women in the reproductive age who were married, pregnant more than 31 weeks of gestation regardless of their race, religion, education level and economic status who are willing to participate.

3.2.2.2 Exclusion criteria

The exclusion criteria were non-Malaysian. This is verified by the availability of the identification card numbers. Other exclusion criteria were women presenting with any definite debilitating physical /mental disease, or cerebral damage /disease, intravenous drug users, and woman who refused to be included in the study. Women undergoing court cases were also excluded in order to avoid repetition and interruption of the investigation.

3.2.3 Sample size determination

The sample size estimation for cohort study was calculated using Power and Sample Size Calculation (PS2) computer programme version 3, 2009 (Dupont & Plummer, 1990, 1998) based on the rate of a disease among those with and without risk factors. Rate of disease that was referred to was the rate of postpartum disease (Arifin et al., 2014).

This cohort study was planned using a ratio of one unexposed to one exposed. According to Arifin et al. (2014), the reported rate of postpartum depression among married respondents (no risk population) was 31.4%. The rate for unmarried respondents (at risk population) was 44.4%. Therefore, a total of 217 unmarried pregnant respondents and 217 married pregnant respondents was needed to be able to reject the null hypothesis that state the postpartum depression rates for unmarried and married respondents are equal with probability (power) 0.8. The Type I error probability associated with this test of this null hypothesis was 0.05.

This number (217) is for the desired precision, assuming that there is no problem with non-response or missing value. Taking into consideration of 20% dropout (43), sample size required in this study is 260 unmarried pregnant women and 260 married pregnant women, there was a total of 520 pregnant women needed.

3.2.4 Sampling Methods

There were two types of sampling method used in this study for those unmarried and married women, respectively. Universal sampling (Thompson, 2012) was used for unmarried women who sought services in these selected hospitals during regular antenatal check-up, referred cases, cases from medical social worker or emergency labour cases. All unmarried pregnant woman who were staying in the selected shelters at the time of study were invited to participate in this study.

Systematic sampling (Thompson, 2012) was carried out for married women in obstetrics and gynaecology (O&G) clinics in each selected hospital. Antenatal mothers who come for regular check-up at O&G clinic must register at the counter. The registration list was used as the sampling frame for sampling purpose. Sampling interval was determined based on the number of population attendees in all participated hospitals. Every fourth attendee on the registration list of the clinic was approached to the required sample size. All participants consented to the study (Appendix A).

3.2.5 Study Instruments

The instrument used to measure associated factors and outcomes of pregnancy in this study was a self-developed and standardized questionnaire.

3.2.5.1 **Questionnaire Development**

The questionnaire was designed based on the research questions, research hypotheses and objectives of the study. The development of the questionnaire was conducted in a few phases.

Firstly, relevant literature search was done on factors influencing unmarried pregnancy or premarital pregnancy among teenage and adult women. In addition, the instruments used to measure birth outcome in general were sought after. Secondly, the literature search for standard questionnaire measuring youth's risk taking behaviours and practices towards sexual and reproductive health was sought after. The standard questionnaire measuring health status in physical aspect, mental aspect and social aspect were also searched. Thirdly, the following questionnaires were identified and adapted to this study instrument or used with permission to suit this study's respondents, i.e. pregnant women.

The adapt and adopt method of questionnaire consisting of socio-demographic, family background, peer and community influence, partner profile, risky and sexual behaviour, pregnancy details, delivery details and other impacts of the pregnancy. It was first developed in English. It was given to experts to get their comments and suggestions, and to validate the contents. Amendments were made accordingly and the revised the questionnaire was back translated from English to Bahasa Malaysia, and vice versa to ensure the most accuracy from the respondents.

Six standardized questionnaires were chosen to measure health quality of life, mental health status, social support, postpartum depression and coping skill. The standardized questionnaire consisting of Short Form (SF)-12 Health Survey (Ware et al., 2009), 12 General Health Questionnaire (Goldberg et al., 1997), Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988), Medical Outcome Social Support

Survey (Sherbourne & Stewart, 1991), Edinburgh Postnatal Depression Syndrome (Cox, Holden, & Sagovsky, 1987) and Brief COPE scale (Carver, Scheier, & Weintraub, 1989). These standardized questionnaires were originally in English and have been validated in the local language Description of each standardized questionnaire is further elaborated in section 3.2.5.5.

These study instruments were tested for validity and reliability. Validity is the amount of systematic or built in error in measurement, and reliability indicates the accuracy or precision of the measuring instrument ().

3.2.5.2 **Face Validity**

Firstly, the questionnaire was tested for face validity to assess the clarity of the wording of the items. This process also aimed at checking the level of difficulty of the questions and knowing whether all questions are easily understood. To establish this process, a draft of the questionnaire was distributed to 20 women. These participants were not included as research respondents. Ten unmarried women were from private shelters and another ten married women were from a health clinic. Ten women with pregnancy (five unmarried and five married) were asked on questions focusing on their antenatal phase. The other ten women 4-8 weeks post-delivery (five unmarried and married) were asked on questions focusing on their postpartum phase.

Respondents were informed of the study objectives, participation was voluntary, being anonymous and all of them signed the consent form. The respondents' feedback and comments on the difficulties in understanding or ambiguous meaning of certain words or sentences were recorded. Based on the pre-test findings, the questionnaire was modified to improve the clarity of the items.

3.2.5.3 **Content Validity**

Content validity was performed prior to the pilot study. Initial draft of the questionnaire was given to six professionals; one psychologist, one medical doctor, two nursing academics, one midwife specialist, and one research officer. The experts commented on each item or domain and give response whether the content of the questionnaire was appropriate and relevant to the study purpose. The questionnaire was then revised based on their suggestions and comments.

3.2.5.4 **Pilot Testing**

The revised questionnaire was then finalized and the second round of pilot testing done among a group of 60 women; 33 pregnant women and 27 postnatal women. These women were not included in the actual data collection. The purpose of this process was to test the practicability, clarity of the questionnaire and the time taken for each interview to be completed. At this stage, the respondents were able to understand the questionnaire easily when interviewed as changes has been made based on their earlier comments.

The questionnaire was assessed for the reliability; internal consistency by using Cronbach's alpha calculation. One of the most widely used of internal consistency reliability for scale measurement is the coefficient α value. The Cronbach's alpha values for the scales used in this study varied from 0.70 to 0.90. As the alpha coefficient of at least 0.70 is considered a reasonable level (Pallant, 2010), we concluded that the study instrument used were acceptable (Table 3.3). The questionnaire used in the pilot test was used for the final questionnaire.

Table 3.3: Reliabilities of study instruments

Scale	Number of items	Cronbach's alpha
Parent child relationship scale	12	0.87
Parent strictness scale	16	0.92
Parental control scale	11	0.79
Physical impacts scale	6	0.70
Social support scale		
- MSPSS	12	0.91
- MOSSS	19	0.93
Mental health scale (GHQ12)	12	0.85
Depression scale (EPDS)	10	0.78
Coping scale (COPE)	28	0.86
Quality of life (SF-12)	12	0.78

3.2.5.5 **Final Questionnaire**

The final questionnaire consisted of two parts; adapt and adopt method questionnaires and standardized validated questionnaires are summarized in the Table 3.4. Summary of the questionnaires that were used during 4 times visit can be seen in Table 3.4. The details of these questionnaires are described in the subsequent sections.

Table 3.4: Summary components of questionnaires for each visit

	Component of Questionnaire	Visit 1	Visit 2	Visit 3	Visit 4
Self – devised questionnaire	a) Socio-demographic	√			
	b) Family background	√			
	c) Peer and community influences	√			
	d) Partner's profile	√			
	e) Risky behaviour	√			
	f) Pregnancy details	√			
	g) Delivery details		√		
	h) Physical and economic impacts			√	√
Standardized questionnaire	i) MSPSS	√			
	j) SF-12	√	√	√	√
	k) GHQ-12	√	√	√	√
	l) MOS Social Support Survey	√	√	√	√
	m) EPDS	√		√	
	n) Brief COPE Scale	√	√	√	√

(a) ***Socio-demography***

This section consists of questions on basic socio-demographic characteristics including respondent's age, ethnicity, religion, marital status, place of residence, educational level, employment status, living arrangement, and individual and household income.

(b) ***Family Background***

This section gathered information about demographic data of respondents' parent including age, educational level, employment status and marital status as well as number of siblings. We also asked about numbers of family members completed schooling and history of physical abuse in the family. The last part for this section assessed respondents'

relationship with their parent and their parent's parenting style with respect to the following two aspects; levels of strictness, and control of their child's behaviours, activities, or lifestyle.

(c) ***Peer and Community***

This section is about respondents' connection with friend, involvement in any community activities in organisation, club or religious activity. The respondents were asked to rank the people whom they preferred to confide about related issues. This section also assessed sexual and reproductive health knowledge and sources of the information.

(d) ***Partner's profile***

This section enquired about respondents' knowledge of the father of the baby, and details of their partner's socio-demographic data, current status of relationship with partner, and reaction of their partner towards this pregnancy.

(e) ***Risky and sexual behaviour***

This section consists of questions on respondents' high risk behaviours such as smoking, substance abuse, alcohol drink and premarital sexual activity. Details on sexual activity including the number of sexual partner, their first sexual encounter, and practice of contraceptive method, history of sexual abuse, and reasons for participation in risky sexual activity were also asked.

(f) ***Pregnancy details***

In this section, respondents were asked about their feelings and reactions towards the pregnancy as well as the support received during pregnancy. Information related to antenatal care and diseases related to pregnancy were also asked in this section.

(g) ***Delivery details***

The delivery details included medical information on pregnancy outcomes and delivery complications, collected from respondent's clinical records in the hospitals. The items related to delivery details were based on the Malaysian National Obstetric Registry.

(h) ***Physical and economic impacts of pregnancy***

This section examined the physical and economic consequences during and after the pregnancy. The physical consequences referred to perceive of physical fitness and appearance. The economic consequences referred to income, job, or studying status.

(i) ***Multidimensional Scale of Perceived Social Support (MSPSS)***

The MSPSS is one of the many scales designed to assess social support which specifically addressed the subjective assessment of social support adequacy. It assesses the perception of social support adequacy from three different sources of support: Family, Friends and Significant Other. These three sources from MSPSS generated three factor groups. The MSPSS consists of 12 items: 4 items inquire about family, 4 items inquire about friends and 4 items inquire about Significant Others. Each item was rated on a 7-point Likert-type Scale ranging from 'Very strongly disagree' (score one) to 'Very strongly agree' (score seven) (Zimet et al., 1988). The total social support is the sum of the scores from 12 items. The higher the sum of the 12 items, the higher the level of social support. It is self-explanatory, simple to understand, suitable for young population and can be quickly administered and scored for the measurement of subjective social support.

The original MSPSS in English is shown to be psychometrically sound, with good internal reliability, strong factorial validity and adequate construct validity across different samples (Zimet et al., 1988) (Lyons, Perrotta, & Hancher-Kvam, 1988) (Zimet et al., 1990) (Dahlem,

Zimet, & Walker, 1991) (Canty-Mitchell & Zimet, 2000). A study by Zimet et al. (1990) showed the internal reliability of this scale for pregnant women was high compared to other group; adolescent and resident group. Cronbach's coefficient alpha of the total score among pregnant women was 0.92, while for Significant Others, Family and Friends factor, the values were 0.90, 0.90 and 0.94 respectively. These values indicate good internal consistency for the scale. The test-retest reliabilities for the subscales (0.72, 0.85, 0.75) and whole scale (0.85) were also high, demonstrating adequate stability over the time period (Zimet et al., 1988).

The Malay version of the Multidimensional Scale Perceived Social Support used in this study was that of Ng et al. (2010). The translated Malay version of MSPSS is a reliable and valid instrument. Internal reliability of Malay version of MSPSS was high which coefficient α for the total MSPSS was 0.89. Meanwhile for the Significant Others, Friends and Family subscale showed 'α' were 0.94, 0.88 and 0.82, respectively. The test-retest reliability after a one week interval also showed high result indicating its remarkable stability. Total scores of MSPSS Malay version were positively correlated with MOS Social Support survey that demonstrated concurrent validity of the instrument with a MOS Social Support survey in Malaysia. It was also able to measure the different dimension of social support which were Family, Friends and Significant Others (Ng et al., 2010).

(j) ***SF-12 Health Survey version 2***

The Short Form (SF)-12 Health Survey is a 12-items multipurpose short-form quality of life instrument, a generic measure of health status for adult populations. It was developed to be a brief, much shorter and broad measure of eight aspects of health status that are considered important in describing individuals suffering from an illness. The 12 items in the SF-12 are a subset of those in the SF-36; which includes one or two items from each of the

eight SF-36 scales. The abbreviated instrument, SF-12 was later revised, resulting in the SF-12v2 during development of the SF-36v2 (Jenkinson et al., 1997; Ware, Kosinski, & Keller, 1996). This study used the SF-12v2 that measures eight scales; physical functioning, role limitations due to physical health problems (role-physical), bodily pain, general health, vitality (energy/fatigue), social functioning, role limitations due to emotional problems (role-emotional) and mental health (psychological distress and psychological well-being).

The two-item Physical Functioning (PF) scale represents levels and kinds of limitations the respondent experiences in climbing stairs and performing moderate activities due to his or her health. The PF items capture both the presence and extent of physical limitations using a three-level response continuum. Low scores indicate significant limitations in performing physical activities while high scores reflect little or no such limitations. The two-item Role Physical (RP) scale addresses physical health-related role limitations, including (a) limitations in the kind of work or other usual activities and (b) accomplishing less than the respondent would have liked. Low scores on scale reflect problems with work or other activities and high scores indicate little or no problems with work or other daily activities. The Bodily Pain (BP) scale consists of one item measuring the extent of interference with normal work activities due to pain. Low scores indicate high levels of pain that impacts normal activities while high scores indicate no pain and no impacts on normal activities. The one-item General Health (GH) scale asks the respondent to rate his or her health on a five-point rating scale, with response options ranging from excellent to poor. Low scores indicate evaluation of general health as poor and likely to get worse. High scores indicate that the respondent evaluates his or her health most favourably (Ware et al., 2009).

This one-item measure of vitality (VT) asks the respondent to rate his or her vitality on a five-point rating scale, with response options extending from all of the time to none of the

time. Low scores on the VT scale indicate feelings of energy none of the time, whereas high scores indicate feeling full of energy all or most of the time. The one-item Social Functioning (SF) scale assesses the frequency at which physical health or emotional problems interfere with normal social activities using a five-point rating scale; from all of the time to none of the time. The lowest score signifies frequent interference with normal social activities; the highest score indicates no interference with normal social activities due to physical or emotional problems (Ware et al., 2009).

The two-item Role Emotional (RE) scale assesses how much of the time emotional problems result in role limitations related to the amount of work or activities accomplished and the care with which work or other activities are performed. The RE scale utilizes a five-point rating scale, with response options ranging from all of the time to none of the time. Low scores on the scale reflect frequent problems with work or other activities and high scores reflect no limitations due to emotional problems. The two-item Mental Health (MH) scale includes two items measuring the frequency of the respondent's feeling (a) calm and peaceful and (b) downhearted and depressed. Using a five-point rating scale with response options extending from all of the time to none of the time, low scores on MH are indicative of frequent feelings of nervousness and depression, while high scores indicate feelings of peace, happiness, and calm all or most of the time (Ware et al., 2009).

Four domains (physical functioning, role-physical, bodily pain and general health) correlate most highly with the physical components and contribute to Physical Health Composite Scale (PCS) score. The four domains (mental-health, role-emotional, social functioning and vitality) mostly correlate highly with mental components and contribute to Mental Health Composite Scale (MCS) score (Ware et al., 2009). The PCS and MCS scores provide a summary of the respondent's health status from both a broad physical health

perspective and a broad mental health perspective. Score on PCS-12 and MCS-12 have been successfully used to discriminate between the presence and severity of the physical and mental disorders in clinically defined group of adults (Gill, Butterworth, Rodgers, & Mackinnon, 2007).

This study used a standard or 4-week recall which asks the respondents to answer the questions as they pertain to the way he or she felt or acted during the past 4 weeks. Scoring of the SF-12v2 were done through Quality Metric Health Outcomes Scoring Software 3.0 licensed by Quality Metric Incorporated. The translated and validated Malay version of Short Form (SF)-12 Health Survey was provided by Quality Metric Incorporated and MAPI Research Trust.

The psychometrics of the SF-12 have been examined and demonstrated to be reliable and valid in general and specific population. Among general US population, Ware et al. (2009) has reports internal consistency reliability estimates of 0.91 for the PCS measure and 0.87 for the MCS measure. Test-retest (2-week) correlations of 0.89 and 0.76 were observed for the 12-item PCS and the 12-item MCS (Ware et al., 1996). Among Chinese adolescents in China, scales composed of multiple items in SF-12 had acceptable internal reliability with Cronbach's alpha from 0.62 to 0 .82 (Fong et al., 2010). Lam, Tse, and Gandek (2005) in their study concluded that SF-12 was valid and equivalent for Chinese population. The SF-12 also shows good reproductions of the SF-36 summary measure in the nine European countries (Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Sweden and United Kingdom). There were correlations between the summary measures scored from the SF-36 and SF-12 Health survey and high degree of replication in the selection of 12 items of SF-12 in these European countries (Gandek et al., 1998). There is no reported validation

study on Malay version of SF-12 but our pilot test showed Cronbach alpha value was from <0.00 to 0.78.

(k) ***General Health Questionnaire (GHQ-12)***

The GHQ-12 is a shortened version of a 60-items screening tool developed by Goldberg in 1970 to detect general (non-psychotic) psychiatric morbidities such as depression in non-clinical settings (Goldberg et al., 1997). This scale focuses on breaks in normal functioning rather than on life-long traits. It has been recommended as an accurate 'case detector' in all clinical population, 'cases' being those identified by criterion score as experiencing probable non-psychotic psychiatric disturbance. GHQ-12 is simple, easy to understand, short and straightforward to complete.

It comprises 12 questions; six positive phrases and six negative phrases. Each question is scored by four responses options; 'not at all', 'no more than usual', 'rather more than usual' and 'much more than usual' for negative phrase and for the positive phrase the responses were 'more than usual', 'no more than usual', 'less than usual' and ' much less than usual'. Scoring the GHQ can be done by two methods. The first method is four point response scale (Likert method) by scoring it from 0 to 3 with least symptomatic answer score 0 and the most symptomatic answer score 3. The second method is two point response scale known as binary/GHQ method, score range from 0 to 1 (0-0-1-1); with two least symptomatic answer score 0 and the two most symptomatic answer score 1. For binary/GHQ method, the minimum GHQ-12 total score was 0 and the maximum total score was 12 (Goldberg et al., 1997).

The translated Malay version of 12-General Health Questionnaire was provided by Granada Learning Limited. GHQ-12 has good sensitivity and specificity in detecting more

common psychiatric disorder when optimal cut-off score were used (Navarro et al., 2007). Reliability coefficient of the questionnaire in various studies showed range from 0.78 to 0.95 while for validity (area under ROC curve), the value range from 0.83 to 0.95. Translated version of GHQ-12 into Bahasa Malayia has showed that the instrument had high internal consistency and reproducibility (Cronbach's alpha value was 0.85) (Yusoff, 2010; Yusoff, Rahim, & Yaacob, 2009). GHQ score at 3/4 have the optimum sensitivity and specificity which were 81.3% and 75.3%, respectively with positive predictive value of 62.9% and ROC curve more than 0.7. This reflected the ability of GHQ-12 Malay version to discriminate between distressed and non-distressed case (Muhamad Saiful Bahri Yusoff et al., 2009). This instrument has acceptable internal consistency for clinical screening tool among pregnant women with higher cut-off score e.g. 4/5 compared with 2/3 in general population (Shelton & Herrick, 2009; Wan Yim & Martin, 2006b).

The GHQ-12 usually screen only a single dimension of psychological health but few researches have shown that this scale is multidimensional with two or three factor structure (Gao et al., 2004; Hankins, 2008; Wan Yim & Martin, 2006a). Graetz (1991) found that 3-factor model gave the best fits which are anxiety and depression, social dysfunction, and loss of confidence. Zulkefly and Baharudin (2010) noted in their study that among Malaysian population, these factors are identified as psychological distresses, social and emotional dysfunction and cognitive disorder. Psychological distress was aimed to represent psychological problem faced by individuals. The social and emotional function dysfunction is a variable representing the inability of an individual to perform normal social and emotional function in life. Cognitive disorder was pooled to represent the inability of an individual to have a normal cognitive judgment regarding things that happen in life (Zulkefly & Baharudin, 2010). Analysis from this study showed that the Bartlett's test of Sphericity

was significant at alpha 0.01 and KMO value 0.80 which concluded that all variables had a factorability value.

(l) ***Medical Outcome Study (MOS) Social Support Survey***

Medical Outcome Study (MOS) Social Support Survey is a multidimensional, self-administered and brief instrument to measure the various functional dimensions of social support. It consists of one single item structural indicator of social support which measures the number of close friends and relative available to the respondents and total of 19 functional support items. The 19 items addresses five categories function of an interpersonal relationship aspects; emotional support, informational support, tangible support, affectionate support and positive social interaction (Sherbourne & Stewart, 1991).

Emotional support contains four items measuring the expression of positive effects, empathetic understanding and the encouragement of expressing of feelings. Information support has four items measuring the provision of advice, information, guidance and feedback. Tangible support consists of four items measuring the offering of material aid or behavioural assistance. Affectionate support has three items measuring the expression of love and affection. Positive social interaction contains four items measuring the availability of other persons to do fun things with you. The respondents were asked to indicate how often each kind of support was available to them if they needed it without regard of the source of support either the support came from family, friend, community or others. Response options were none of the time (1), a little of the time (2), some of the time (3), most of the time (4), and all of the time (5). The simple algebraic sums were computed for each scale and the scale scores were transformed into a scale of 0 to 100. A higher score for an individual scale or for the overall support index indicates better perception of social support.

MOS-Social Support Survey is developed for patients with chronic illnesses but has been validated and used in perinatal research among Asian Chinese population (Wan Mohd Rushidi et al., 2004). The original survey in English version showed high convergent and discriminant validity of items, all the items correlated highly with the hypothesized scale (>0.60). Item-scale correlations ranged from 0.72 to 0.87 for the tangible support scale, 0.80-0.86 for the affection scale, 0.82-0.90 for the emotional/informational scale and 0.87-0.88 for the positive social interaction scale. Internal consistency reliability estimation were high for all support measures, exceeding a 0.50 standard (Sherbourne & Stewart, 1991). Good reliability and validity were also demonstrated in the MOS-SS applied in Taiwanese adult people with two-factor model (tangible and emotional) instead of a five-factor model in Western countries (Shyu, Tang, Liang, & Weng, 2006).

The Malay version of the MOS-Social Support Survey was used in this study (Wan Mohd Rushidi et al., 2004). MOS Social Support Survey in Malay version showed good psychometric performance with high internal consistency (Cronbach alpha = 0.93), high reliability (Spearman's rho = 0.98; $p<0.01$) and test-retest reliability coefficient after 1-week was 0.97 demonstrating high stability. Factor analyses of 19 functional support items generated 3 dimensions (affection, instrumental and informational) with reliability of 0.83, 0.75 and 0.91 despite of 5 dimensions in the original survey. Findings from Wan Mohd Rushidi et al. (2004) strongly support that the MOS survey is useful for measuring social support among recently delivered Malay women as it was easy to understand and administer among Malay women.

(m) ***Edinburgh Postnatal Depression Scale (EPDS)***

The EPDS was developed in 1987 and used to screen the mother at risk of postnatal depression in outpatient, home visiting settings, or at the 6–8 week postpartum examination

(Cox et al., 1987). It has been validated and utilized among numerous populations in many countries. The EPDS contained of ten short statements of common depressive symptoms by selecting the answer that best describes her feeling over the past 7 days. The test can usually be completed in less than 5 minutes. Responses are in the Likert- format (4 point scale) with scores of 0, 1, 2, or 3 according to increased severity of the symptom. Items 3, 5, 6, 7, 8, 9 and10 are in the reverse score (i.e., 3, 2, 1, and 0). The total score is determined by adding together the scores for each of the ten items that is 30 as maximum score and 0 as minimum score.

From the validation studies in Australia, Morocco, South Africa, USA, Italy, UK, Norway, Sweden, Canada, France, Hong Kong, Taiwan and Thailand, this scale has a sensitivity of 59-100% and specificity of 49-96% (Adouard, Glangeaud-Freudenthal, & Golse, 2005; Limlomwongse & Liabsuetrakul, 2006; Pitanupong, Liabsuetrakul, & Vittayanont, 2007). Study from Wan Mohd Rushidi, Awang, and Mohamed (2003) in Malaysia showed that the overall performance of the instrument was good with the internal consistency and split half reliability were high (Cronbach alpha coefficient = 0.86; equal length Spearman split half coefficient = 0.83). This instrument also showed good psychometric properties in detecting depression among postpartum women in Malaysia.

Validation studies have utilized various threshold scores in determining which women were positive and in need of referral. Cut-off scores ranged from 8 to 13 points. Normally, a cut-off score of 12 or more is used in screening severe depression and score of 10 is helpful in providing early detection or ‘women at risk’. The original paper indicated that a 12.5 cut-off score accurately screened for major postpartum depression (Cox et al., 1987). Studies for Chinese and Thailand population have used cut-off point of 9/10 (Lee et al., 1998; Limlomwongse & Liabsuetrakul, 2006; Pitanupong et al., 2007) while Taiwan used 12/13 as

a cut-off point (Teng et al., 2005). In Malaysia, at the cut-off point of 11.5, this instrument was able to identify all the cases of major depression with a high sensitivity and specificity (Azidah et al., 2004; Wan Mohd Rushidi et al., 2003). EPDS is only a screening tool. It does not diagnose depression – that is done by appropriately licensed health care personnel. The Malay version of the Edinburgh Postnatal Depression Scale (Wan Mohd Rushidi et al., 2003) was used in this study.

(n) ***Brief COPE Scale***

The Brief COPE Scale was proposed to assess a broad scope of coping responses among adults for all conditions, illnesses and non-illnesses. It is an instrument that has demonstrated good psychometric properties as an assessment of dispositional as well as situational coping efforts (Carver, 1997). The Brief COPE contains only 28 items, which measure 14 dimensions of coping reactions. It has two items for every dimension. They are self-distraction, active coping, denial, substance use, use of emotional support, use of instrumental support, behavioural disengagement, venting, positive reframing, planning, humor, acceptance, religion and self-blame. The scale is rated by the four-point likert scale, which are "I haven't been doing this at all" (score one), "I've been doing this a little bit" (score two), "I've been doing this a medium amount" (score three) and "I have been doing this a lot" (score four). The higher score represents greater coping strategies used by the respondents. The Brief COPE provides researchers a way to assess potentially important coping responses quickly (Carver, 1997).

'Active coping' is the process of taking active steps to try to remove the stressor or to reorganize its effects. It involves initiating direct action, increasing one's effort and trying to perform a coping attempt in stepwise fashion. Meanwhile, the 'planning' is a process of thinking about how to handle a stressor, what action to take and how best to handle with the

situation. It usually comes out with the action strategies. Seeking 'instrumental support' means getting for advice, help or information. In the meantime, seeking 'emotional support' means getting moral support, compassion or understanding. 'Behavioural disengagement' is a dimension that reduces one's effort to deal with the stressor, even giving up the effort to achieve the goals with which the stressor is interfering. 'Positive reframing': coping aimed at managing distress emotions rather than at dealing with the stressor per se (Carver et al., 1989).

Another dimension such as denial response that every so often help in primary consideration, lowering distress and in that way ease coping. Coping dimension of denial is controversial as it can create serious problems later on and making more difficult to handle with the event. Acceptance is a functional coping reaction whereby individual who accept the reality of the events would give an effort to deal with the problem. Religion is another important dimension proposed in the scale as it serves as a source of emotional support. It is noted that one might turn to religion when under stress for varying reasons (Carver et al., 1989).

The original report of Brief COPE Scale (English) exhibited excellent internal consistencies for the dimension on Religion (α=0.82) and Substance Use (α=0.90). Meanwhile, the same report displayed the acceptable values of Cronbach's alpha for some domains i.e. Active coping (α=0.68), Planning (α=0.73), Positive Reframing (α=0.64), Acceptance (α=0.57), Humor (α=0.73), Using Emotional Support (α=0.71), Using Instrumental Support (α=0.64), Self-distraction (α=0.71), Denial (α=0.54), Venting (α=0.50), Behavioural disengagement (α=0.65) and Self-blame (α=0.69) (Carver, 1997).

The Malay version of Brief COPE Scale used in this study is from Yusoff, Low, and Yip (2009) as it is a reliable and valid instrument which could be applied in Malaysian population. The internal consistency indicated by the Cronbach's alpha values ranged from 0.51 to 0.99. The test-retest reliability assessed by Intraclass Correlation Coefficient ranged from <0.00 to 0.98. Most domains of the Malay version of Brief COPE Scale indicated fair internal consistency: Active coping (α=0.71), Planning (α=0.60), Positive Reframing (α=0.67), Acceptance (α=0.69), Humour (α=0.61), Using Emotional Support (α=0.57), Using Instrumental Support (α=0.69), Self-distraction (α=0.72), Denial (α=0.57), Venting (α=0.63), Behavioural disengagement (α=0.54), Religion (α=0.68), Substance Use (α=0.99) and Self-blame (α=0.51) (Nasir Yusoff et al., 2009).

3.2.6 Data Collection

Phase one of data collection was conducted over a period of 18 months from February 2011 to June 2012. The data collection procedures began with a briefing in the obstetric ward and clinic manager in each hospital, as well as wardens or persons-in-charge of the shelters home. Each location of study had one trained interviewer supervised by me as the main researcher.

In the recruitment of respondents, every unmarried pregnant woman who had registered in antenatal clinic for regular antenatal check-up was identified and was approached by the interviewer. Unmarried pregnant women who were admitted in the maternity ward either through emergency department or labour room (with any possible situation including unknown of pregnancy, not having antenatal booked, unknown disease related to pregnancy and birth before arrival) were approached by interviewers to be interviewed. First session of guided interview was performed in the hospital.

In the shelter homes, every unmarried woman with pregnancy who stayed at the shelters at the time of data collection was identified. Those who fulfilled the inclusion criteria were selected. The guided interviews were performed individually and upon completion of the questionnaire, related data from their antenatal red book were obtained.

For married pregnant women, respondents were selected in the antenatal clinics. In these hospitals, an appointment date was arranged for each patient to see the doctor. The clinic possessed a list of patients' names for the next appointment clinic. The list was used for estimation of sampling frame. During the clinic day, registration list was used for sample selection. Every fourth attendees in the registration list was approached by the interviewer and the guided interview carried out individually in the clinic for about 40-60 minutes. Since the antenatal clinic was run only in the morning, on average only three to four respondents were interviewed per day.

Respondents who were involved in this study were contacted for the second, third and fourth time. Second interview session was performed after these women delivered their baby; prior to discharge from the hospital if respondents was stable or before 5 days childbirth. Delivery details were obtained from patient's record and red book.

During third session or visit 3, which was at 1 month after childbirth; these women were interviewed using the same questionnaire including one additional part asking about physical impacts and questions for screening of postnatal depression. The interview was performed either at participant's home or at the district health clinic depending on the respondents.

The last interview session, which was visit 4, was performed 3 months after childbirth and this was done at the respondent's home or at the health clinic. The questionnaire that was used during this session was the same as visit 3 with the aim of monitoring changes in their

health status. Home visit was very useful for me in order to identify possible respondents for phase two of study. However, during the third and fourth visits, few alternative methods were used to interview respondents that were hard to reach. This usually happened when they went back to their hometown for confinement. Methods used were telephone interviews, by mail, or by email. The interviewer called the respondent and if the time is available, the interview were done by phone at that time. If the time is not available then respondent will gave another time for telephone interview. For the respondent who cannot response by phone, the questionnaire were sent by mail to the address given or email. The procedure for how data was collected is shown in the flow chart (Figure 3.3).

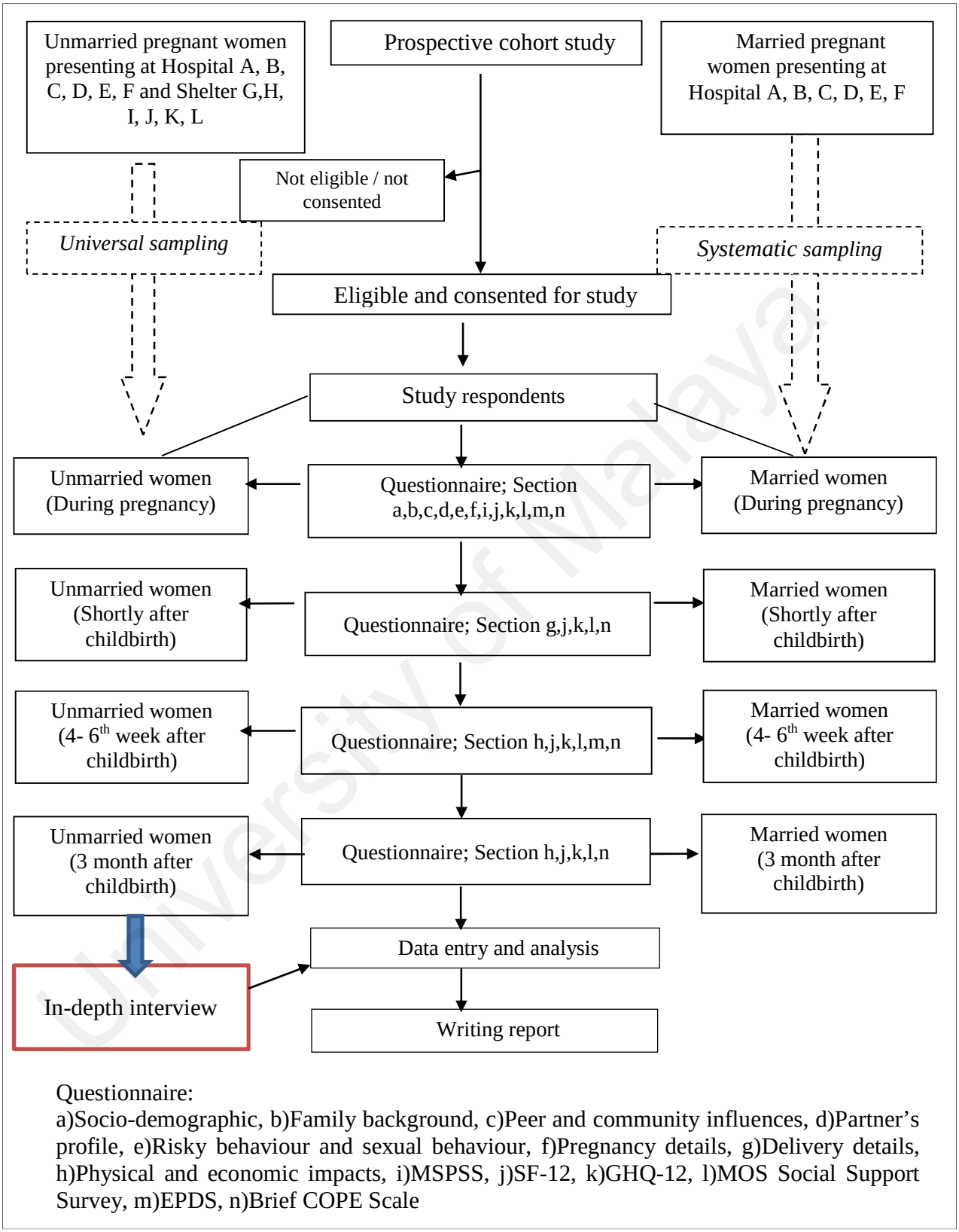

Figure 3.3: Flow chart of study procedure

3.2.6.1 Informed Consent

Both unmarried and married pregnant women who were approached were briefed on the procedure of the study, study objectives and voluntary of participation. All information gathered and analysed was subjected to the rules of confidentiality. An informed consent in written form was obtained from each woman who agreed to participate. Participants also were informed about their rights to withdraw from the study at any time. Those participants were provided with an accompanying letter describing researcher name, full address, phone number, e-mail address, purpose of study and confidential nature of the participant. The completed questionnaires were collected and were placed in sealed envelopes and sealed boxes to maintain the privacy of respondents.

3.2.7 Data Processing and Analyses

Data from the questionnaires were stored in the Statistical Package of Social Science software (SPSS Inc., Chicago) version 20. A descriptive analysis was initially utilized. Demographic characteristics of the respondents in the two groups of women (married and unmarried mothers) were tabulated and compared. The parameters of mean, standard deviation (SD), median, and range were used to describe continuous variables and parameters of frequency and percentages (%) for categorical variables. All numerical variables were tested for normal distribution with the Kolmogorov-Smirnov goodness-of-fit test. Most numerical variables were not normally distributed and were analysed with nonparametric tests. A Mann-Whitney U test was used to compare variable medians, and Chi-square test was used to determine the significant differences. The analyses were set at 95% confidence intervals and p value = 0.05.

In dealing with missing data, patterns and reasons of missing data were identified. The possible reasons of missing data was respondents' refusal ranged between 5 to 10% and were

completely at random. Thus pairwise deletion method (available cases analysis) were used where all cases in which the variables are present were analysed. In term of loss to follow up, >20% loss possess serious threat to validity and rate of 50-80% follow-up have been suggested as acceptable in epidemiological cohort (Dettori, 2011). In this study, loss of follow up were 12.7% from visit 1 to visit 2, 8.8% from visit 2 to visit 3 and 0% from visit 3 to visit 4.

Multiple Logistic Regressions test was used to analyse the relationship between different variables (predictors) on a dichotomous dependent variable (outcome). Significant variables from binary logistic regression were entered into a multivariate model and goodness of fit was assessed using the multicollinearity (MC) test, LR test for possible 2-way interaction, Hosmer-Lemeshow goodness-of-fit test, Classification table and the Receiver Operating Characteristic (ROC) curve.

The information from classification table shows the accuracy of the model to predict probability of the outcome. Area under ROC curve was used to assess the model discrimination with range from 0 to 1. Value near 1 means that the higher probability will be assigned to cases with the outcome compared to cases without the outcome. Hosmer-Lemeshow shows how closely the observed and predicted probabilities match. P-value >0.05 is expected which means the dataset relationship pattern is not significantly different from theoretical logistic model or the dataset fits well to the logistic model (Chan, 2004).

Five categorical dependent variables tested using logistic regression were; pregnancy status, birth outcome (i.e. preterm birth, birth weight, mode of birth delivery), postpartum depression, psychological well-being and social outcome of infant. Odd ratio (OR) and its 95% Confidence Interval (CI) were presented for all factors (Pallant, 2010).

In order to explore the relationship between one continuous dependent variable with a numbers of independent variable (predictors), a General Linear Regression test was used. Significant variables from simple linear regression were entered into a multivariate model and assessed fitness of model using the multicollinearity (MC) test, LR test for possible 2-way interaction, and model assumption check (i.e. Linearity, Independent sample, Normality, Equal variance, Individual linearity and Interaction between numerical independent variable and outcome). Three continuous dependent variables that were tested using linear regression were social support index, coping skill strategies and quality of life (SF-12).

Repeated measure analysis also used to examine the differences in quality of life, coping skill, social support index and psychological well-being of the respondents across the time series. A mixed between-within subject analysis of variances was conducted to assess the different of two groups (married and unmarried) on these outcome variables across four time period (antenatal, shortly after childbirth, 1 and 3 month after childbirth). Description of each dependent and independent variable that were tested in this study were spelled out in the next section.

3.2.8 Operational Definitions

All variables that were used in this study based on their operational definition are as follows. Dependent variables that were tested are; unmarried pregnancy, birth outcome, psychological outcome towards mother and adoption.

3.2.8.1 Dependent Variables

1. **Postpartum depression** : It was assessed by Edinburgh Postnatal Depression Scale (EPDS) with cut-off point 11/12 to identify major depression. It was categorised as have depression (score ≥12) and do not have depression (score <12). Details were described in section 3.2.5.5
2. **Psychological well-being of mothers:** It was assessed by General Health Questionnaire 12 (GHQ) with cut-off point 3/4 to identify poor psychological well-being. It was categorised as poor (score ≥4) and normal psychological well-being (score 0-3). Details were described in section 3.2.5.5.
3. **Birth outcomes**

The birth outcomes' information was obtained from medical record in the hospital:

2a. Gestation age : It was categorised as preterm birth (gestational age <37 weeks) and term birth (gestational age ≥37 weeks).

2b. Birth weight : It was categorised as low birth weight (<2.5 kilogram) and normal birth weight (≥2.5 kilogram).

2c. Mode of birth delivery : It was categorised as spontaneous vaginal delivery (SVD) and assisted delivery (i.e Cesarean section and assisted birth using forceps and vacuum).

2d. Apgar score : It was categorised as low Apgar score (< 7) and normal Apgar score (≥ 7).

2e. Intra-partum complication : It was categorised as Yes and No reflecting any complication to infant and mother during birth delivery as reported by doctor.

2f. Admission of infant to special care unit : It was categorised as Yes and No reflecting if infant was admitted to special care unit after delivery due to any intra-partum complication or medical problem.

2g. Birth defect : It was categorised as Yes and No referring to any abnormality to the infant that occurs while in utero.

4. **Quality of life :** It was assessed by Short Form 12 Health Survey (SF-12) in continuous scale representing two broad health's perspective; physical and mental. The higher score reflecting greater quality of life for physical and mental health. Details were described in section 3.2.5.5
5. **Coping skill :** It was assessed by Brief COPE scale in continuous scale representing coping skill strategies. The higher score reflecting greater coping strategies used by the respondents. Details were described in section 3.2.5.5.
6. **Physical impact :** This was assessed by respondents self-reported on their physical effect and changes resulted from the pregnancy based on 6 statements. Each statement was scaled as 1-Not at all, 2-A little, 3-Quite a bit and 4-Very much
7. **Economic impact :** It was assessed by four separate variables looking into effects of pregnancy on job or current education, effect to women's income, financial problem and living arrangement problem faced by the women. The answer was categorised as Yes and No for each variable.
8. **Adoption**

   This term is used at 3 months of follow up after delivery. There are five choices in which the unmarried mothers would choose; 1-give the infant up for adoption (adoption), 2-raise up by themselves (motherhood), 3-give the ifant up to any relative/family member to raise up the child (kinship fostering), 4-married to their partner and raise the child

together (parenthood) and 5-others (including death of the infant). For regression analysis, two option were used; adoption (option 1) and non-adoption (option 2,3,4,5).

9. **Unmarried pregnancy**

   The term also known as premarital pregnancy which referred to women who are pregnant/conceive before she is legally married by Malaysian law. Apart from interview, this information was checked for date of their marriage from marriage certificate and gestation weeks as well as reported by doctor in the patient record.

3.2.8.2 Independent Variables

a. <u>Socio-demographic Variables</u>

1. **Age :** Age measured in terms of completed years; date of data collection minus date of birth in years.

2. **Ethnicity :** This was categorised either as Malay, Chinese, Indian or others. For regression analysis, ethnic group was measured as either Malay or non-Malay.

3. **Religion :** This was categorised either as Islam, Christian, Buddha, Hindu and Others. For regression analysis, religion was measure as either Islam or Others

4. **Place of residence :** This variable was measured as either rural or urban based on Malaysian Department of Statistic. Specific name of respondent's place or address was asked for confirmation.

5. **Current marital status :** This was reported marital status either single, married, divorced, widowed, separated or cohabitation. Then it was categorised as single (single, divorced, widowed, separated and cohabitation) and married.

6. **Educational level :** This was measured as no-formal education, completed primary education, lower secondary education, upper secondary education, form 6/diploma/certificate or tertiary education. For regression analysis, the variable was categorised as either low (no-formal education, primary, lower secondary and upper secondary) or high education (form 6/diploma/certificate or tertiary education).

7. **Current employment status :** The variables measured either as working or not working.

8. **Employment status prior pregnancy** : The variables measured as working, studying or not working.

9. **Household income :** Average monthly family salary of respondents. For those who stay with parent, it refers to total parent's income and her income if she is working. For those married women, it refers to total husband's and wife's income.

10. **Current living arrangement :** It refers to staying with whom at the time of study. For the regression analysis, this was categorised as either staying with parent or without parent.

11. **Living arrangement prior pregnancy** : It refers to living arrangement prior pregnancy. For the regression analysis, it was categorised as either staying with parent or without parent.

b. Family Variables

1. **Age of mother (respondents' mother) :** Age of mother in completed years, did not include mother who had passed away.

2. **Age of father (respondents' father) :** Age of father in completed years, did not include mother who had passed away.

3. **Mother's level of education :** This was measured as no-formal education, primary education, secondary education or tertiary education. For regression analysis, this variable was categorised as low (no-formal education, primary and secondary education) or high (tertiary education).

4. **Father's level of education :** This was measured as no-formal education, primary education, secondary education or tertiary education. For regression analysis, this variable was categorised as low (no formal education, primary and secondary education) or high (tertiary education).

5. **Mother's working status :** This was categorised as either working or housewife.

6. **Father's working status :** This was categorised as either working or non-working.

7. **Parent's marital status :** This was measured as married, divorced, widowed, separated, never married and both died. For regression analysis, this variable was categorised as married and single (never married, divorced, widowed and separated). Both parent that were died were excluded from the regression analysis.

8. **Numbers of siblings :** Total number of siblings in numerical.

9. **Numbers of family member completed secondary school :** Total number of siblings including parent who had finished education until secondary school.

10. **History of physical abuse in the family :** Variable was measured through Yes or No for five statements about any current or past incidence of physical violence occurred in the family (see appendix D page 6 no.11).

11. **Relationship with parent :** This was measured by respondents self-reported on their relationship with father and mother in scale based on 6 statements for mother and 6 statements for father. Each statement was scaled as 1-strongly disagree (score 1), 2-disagree (score 2), 3-agree (score 3) and 4-strongly agree (score 4). Total score were calculated separately by given a score for each statement; mother (statement 1 to 6), father (statement 7 to 12) and parent (statement 1 to 12). Highest score that one would obtained for relationship with parent was 48, relationship with father was 24 and relationship with mother was also 24. High score indicates good relationship with parent, father or mother and low score indicates poor relationship (see appendix D page 7 no. 12).

12. **Parent's level of strictness :** The strictness level was measured by respondent self-reported on how strict their father and mother are in a scale based on 8 items/things/skills in respondents' life. Each matters was scaled as 1-not strict at all (score 1), 2-neutral (score 2), 3-strict (score 3), 4-very strict (score 4). Scores were given for each scale and total score were calculated separately for father, mother and parent. Highest score for parent's strictness was 64, father's strictness was 32 and

mother's strictness was also 32. High score indicates very strict and low score indicates less strict (see appendix D page 7 no. 13).

13. **Parent's level of control :** Level of control was measured by respondents' self-reported on how parent were involved and controlled in respondent's behaviour, activities, or lifestyle including their decision they have to make. There are 11 items/activities that were asked and parent's involvement was scaled as 0-not applicable (score 0), 1-don't ask permission (score 1), 2-let them know (score 2) and 3-ask for permission (score 3). Scores were given for each scale and total score were calculated. High score indicates high level of control and low score core indicate low level of control (see appendix D page 7 no. 14).

c. <u>Peer and Community Variables</u>

1. **Numbers of friends :** Numbers of friends that respondents have. Specifically referred to close friends who shared thoughts, feelings, problems and the one that she feels comfortable with.

2. **Frequency having interaction with friends :** It refers to how frequent the respondents meet, talk and have interaction with friends categorised as less frequent (at least once a month or never) and more frequent (every day /nearly every day or at least once a week).

3. **Having friends with risk behaviour :** It refers to who are their friends and measured Yes or No on a list of questions about friend(s), who are involved with social misconduct activity.

4. **Participation in any community group :** It was measured through Yes or No. Type of community group they are involved in and how frequent they met or participate in group activities.

5. **Involvement with religious activity :** It was measured through 1-Every day or nearly every day, 2-At least once a week, 3-At least once a month, 4-At least once or twice a year, and 4-Never. For regression analysis, it was categorised as either more frequent (answer 1, 2 and 3) or less frequent (answer 4 and 5).

6. **Perceived importance of religion :** It was measured by self-reported on role of religion in respondent's life through 1-extremely important, 2-fairly important or 3-not all important. This variable was categorised as more important (answer 1) or less important (answer 2 and 3).

d. Sexual health information

Variables were measured through Yes or No. It was assessed by asking if respondents had obtained information about reproductive and sexual health such as pregnancy /sexually transmitted disease/HIV/AIDS/family planning/sex education. Following questions were asked about sources of the information and frequency of information they received during their life time. Then questions on which specific topic about sexual /reproductive health that have been received by respondents through any health seminars, courses or classes.

e. Non-sexual and Sexual Behaviour Variables

1. **Cigarette use :** Categorized as either ever or never smoked.

2. **Alcohol use :** Categorized as either ever or never used.

3. **Drug abuse :** Categorized as either ever or never used.

4. **Exposure to pornographic material :** It refers to reading, watching or have access to pornographic materials such as video, magazine or website. This variable was measured either Yes or No.

5. **Age of menarche :** Respondent's age when she had her first menses.

6. **Age at first sexual intercourse :** Respondent's age when she first had sexual intercourse via vaginal with their partner.

7. **History of sexual abuse before this pregnancy** : This variable was measured either Yes or No.

f. Contraceptive use

This was assessed by the question 'Did you or your partner use any methods to prevent pregnancy when you had sexual intercourse'. Then they had to specify what type of contraceptive method they used and how frequent they practiced the contraceptive method. This variable was categorised as never used or ever used.

g. Social support

This was assessed by two instruments, Multidimensional Scale of Perceived Social Support (MSPSS) and Medical Outcome Study Social Support Survey (MOSSSS).

1. MSPSS assesses social support which specifically addressed the subjective assessment of social support adequacy. It assesses the perception of social support adequacy from three different sources of support: Family, Friends and Significant Other.

2. MOSSSS measures the various functional dimensions of social support. It was used to measure social support received across time series; during pregnancy, after childbirth and during post natal period.

h. Partner characteristics

1. **Age of partner :** Age of partner in completed years.

2. **Partner's level of education :** This was measured as no-formal education, primary education, secondary education or tertiary education. For regression analysis, it was categorised as low (no-formal education, primary and secondary education) or high (tertiary education).

3. **Partner's working status :** This was categorised as either working or non-working.

i. Obstetric factor variables

1. **Gravidity :** This was defined as the number of times that a respondent had been pregnant and it was categorised as primigravida (first pregnancy) and multigravida (had been pregnant more than once).

2. **Number of children :** Number of children that respondents have.

3. **Intention of pregnancy :** This is referring to pregnancy planning status which was determined as unplanned pregnancy or planned pregnancy.

4. **History of miscarriage/abortion :** It was measured either Yes or No.

5. **Pregnancy problems :** It refers to any disease related pregnancy experienced by respondents and it was measured through Yes or No.

6. **Antenatal depression :** This was assessed by PDS, with cut-off point of 11/12 to identify major depression (Wan Mohd Rushidi et al., 2003). It was categorised as have depression (score ≥12) and do not have depression (score <12) during pregnancy.

7. **Cigarette use during pregnancy :** It refers to cigarette used during this current pregnancy and was measured as ever or never smoked.

8. **Alcohol use during pregnancy :** It refers to alcohol use during pregnancy and was measured as Ever or Never.

9. **Drug abuse during pregnancy :** It refers to drug abuse during pregnancy and was measured as Ever or Never.

j. <u>Antenatal care</u>

1. **Received antenatal care :** It refers to visit that respondents had at any health centre for antenatal check-up. It was measured through Yes or No.

2. **Onset of antenatal care :** This is referring to time of first visit that respondents had at any health centre for antenatal check-up. It was categorised as at first trimester (Month 1 to 3), at second trimester (Month 4 to 6) and at third trimester (Month 7 to 9).

3. **Total number of antenatal visits :** Total numbers of visit for antenatal check-up that respondents had gone to during 9 month of their current pregnancy.

4. **Pregnancy support from partner :** It refers to instrumental support that respondents' partner gave during pregnancy. It was measured through Yes or No.

5. **Pregnancy support from family :** It refers to instrumental support that respondents' family gave during pregnancy. It was measured through Yes or No.

6. **Pregnancy support from friends :** It refers to instrumental support that respondents' friends gave during pregnancy. It was measured through Yes or No.

7. **Financial problem during pregnancy :** It refers to financial problem that respondents experienced during pregnancy and was measured through Yes or No.

3.3 Phase Two – Qualitative Approach

This section describes the research approach used in the exploratory part of this study. The second phase was carried out for the purpose to explore the women's life experiences of pregnancy before marriage including factors effecting the pregnancy and implication of the pregnancy which could not be captured in the questionnaire. Qualitative data for this study supplemented the quantitative data as qualitative data have the ability to identify themes that cannot be easily measured (). It aims to explore and understand the meaning individually ascribed to the unmarried pregnancy issue as well as empower individual to share their stories (Creswell, 2013; Ulin, Robinson, & Tolley, 2005). The section offers background on the qualitative theory used, describe the sampling method, outlined the data collection process, data analysis procedure and the role of researcher (reflexivity).

3.3.1 Theory and Study Design

In this study, vulnerable group of women were interviewed about their personal sexual behaviour and pregnancy experiences, a sensitive topic area to be discussed freely. Research is sensitive if it requires disclosure of behaviour and attitudes which would normally be kept private and personal (Liamputtong, 2007a). It might result in offending the respondents and lead to social censure or disapproval or cause the respondents discomfort to discuss. It can be a difficult topic that spawns reflection on the role of emotions in research and pose a substantial threat to respondent and researcher that involved in. Topic like sexual issues, sexual experiences, deviant behaviour, risk pregnancy or abortion may include within the definition of sensitive research (Liamputtong, 2007a).

Vulnerable individuals were defined as people who lacks the ability to make personal life choice, make personal decisions, maintain independence and self-determine (Liamputtong, 2007b). This group may experience potential harm, potential to be discriminated and rejected

by other societal members and sometime require safeguards in protecting their welfare. It includes children, elderly, ethnic minority, immigrants, homeless people, rape or domestic violence and those engage with illegal activities. These vulnerable groups are often silent and hidden in society (Liamputtong, 2007a).

The qualitative task involved the researcher in describing, understanding the meanings, interpretation and subjective experiences of vulnerable people before developing general theories and explanations (Devers & Frankel, 2000; Liamputtong, 2007a). Qualitative research designs are flexible and quite dynamic, have the ability to study a phenomenon which offers insights into social, emotional or experimental phenomena (Silverman, 2006). Among the five approaches of qualitative research, this study conducted based on phenomenological approach. Phenomenology describes the meaning for several individuals of their lived experiences of a concept or phenomenon and seeks to understand the essence of that experience (Creswell, 2013). The aim of phenomenology was to gain deeper understanding of the nature or meaning of everyday experiences (Patton, 2002).

Using phenomenology allowed women who had experienced pregnancy before marriage to talk freely about their experiences in their own words and in the way they understand what was happening in their lives. Information from each unmarried mothers through in-depth interview were gathered. In order to achieve rich information from these women, I as researcher must acknowledge the differences in their ways of life among these different people. I also has established a rapport with these women by four times visit during quantitative phase.

3.3.2 Qualitative Methods

There are four different form of qualitative data including observation, interviews, documents and audio-visual materials (Creswell, 2013). This study adopted in-depth interview using a topic guide. The in-depth interview was started in August 2011, right after four visit interviews for selected individual in phase one has completed.

Interviews are a systematic way of talking and listening to people and a way to collect data from individuals through conversations (Gill, Stewart, Treasure, & Chardwick, 2008). In-depth interview is an effective technique and tool in extracting data and getting women talk about their personal feelings, opinions, behaviours and experiences of unmarried pregnancy (Milena, Dainora, & Alin, 2008). It was designed to elicit information in order to achieve a holistic understanding of the women's point of view about this issue. It can also be used to explore new or silence issues of unmarried pregnancy for further investigation.

The semi-structured interview approach was utilized to ensure the same general areas of information were collected from each respondent but still allows some freedom and adaptability in getting information (Morse & Richards, 2002; Turner, 2010). This approach allowed researcher to freely explore by asking respondents open-ended questions, and probing wherever necessary to obtain data deemed useful. This is supported by Gray (2004), this type of interview gives the researcher opportunities to probe for views and opinions of the respondent. Probing is a way for the researcher to explore new paths which were not initially considered.

3.3.3 Sampling Strategies

Purposive sampling was employed in this qualitative method as the respondents were purposely selected for the in-depth interview to enhance understandings of selected

individual's experiences in developing concepts or theory (Devers & Frankel, 2000). The sampling was based on the theoretical sampling following the analysis of quantitative data. Kemper, Stringfield, and Teddlie (2003) supported this strategy, as they mentioned that purposive sampling technique in qualitative research will become logic and power by intentionally selecting information-rich cases and focus to specific case that will provide most information for the research question. In contrast to external statistical generalization in quantitative research, purposively sampling is applied to qualitative research to obtain insight into a phenomenon (Onwuegbuzie & Leech, 2007). In this study, respondents for the in-depth interview were chosen based on some characteristics and information rich cases in exploring the pregnancy and childbirth experience as well as decision making experience. To ensure they were willing to share their experiences of being pregnant before marriage, participation was on a voluntary basis.

Respondents who were involved in the qualitative study were the unmarried mothers who participated in quantitative survey (phase one) and had completed four visits with the researcher. Women who were willing to express their emotions in sharing their views and experiences were gathered. Respondents from different age groups, different living arrangement settings and different life stories were included. Using a diverse group of respondents may increase the credibility of research (Marshall, 1996). In the first step of sampling strategies, respondents based on different age group; adolescent group (under age 18) and adult group (age 18 and above) were chosen. Secondly, respondents were selected from different shelters to get variety of backgrounds and cases of unmarried pregnancy. These women showed more ability to share insights and understanding during the quantitative survey.

According to Patton (2002), in qualitative inquiry there are no rules for sample size. It depends on what you want to know, the purpose of the inquiry, what will be useful, what will have credibility and what can be done with available time and resources. However, in the previous years, Marshall (1996) stated that the number of sample required depends on the study progress, as new categories or themes stopped emerging from the data (data saturation). This study followed general rules on sample size for qualitative interview which is when the same stories, themes, issues, and topics emerged from the respondents, then a sufficient sample size has been reached (Boyce & Neale, 2006). Walker (2012) defined saturation as redundancy of the data in a study. According to Morse (2005), there are two types of saturation: data saturation and theoretical saturation. Data saturation involves continual sampling within a study until repetition of the data set has occurred without any new information. Theoretical saturation occurs when no new themes and new concept contributing to the theory have been identified within the data. In this study, saturation was reached after 14 interviews, when experiences of a phenomenon start to become repetitive or same stories began to come out.

3.3.4 Study Instruments

Devers and Frankel (2000) stated that the researcher is the research instrument in qualitative design. Almost all qualitative research approaches require the development, maintenance, and eventual closure of relationships with respondents and sites. Developing and maintaining good relationships are important for effective sampling and for the credibility of the research. When conducting the interview, researcher can use any type of instrument based on purpose of the study, the extent of existing knowledge about the subject, and resources available.

Creswell (2013) stressed that researchers must "position themselves" in a qualitative research study. This means that researchers convey their background (e.g., work experiences or history), how it informs their interpretation of the information in a study, and what they have to gain from the study.

Following in-depth interview strategy given by Devers and Frankel (2000), a semi structured interviews were undertaken to allow flexibility of the respondents' interpretation of their pregnancy experience. A semi structured interview was chosen because it allows 'thick' data in which participants are the collaborators in the research process (Gray, 2004). Probes and follow-up questions were used to ensure specific dimensions are explored in all interviews and allowing fuller explication of topics of interest (Kelly, 2010; Rubin & Rubin, 2005).

At the start of each interview, the respondents was asked to tell the story from the point when she noticed their pregnancy and how the pregnancy occurred. The researcher may then ask for clarification or expansion of some of the issue arose, before using a set of additional semi-structured questions (appendix B) and prompts to explore about the following topics:

a) Feelings and psychological reaction towards pregnancy.
b) Experience of being a pregnant unmarried mother.
c) Experiences in getting access to antenatal care.
d) Feelings and plan after the pregnancy

Audio recording is another important instrument used in this study to document the interview (Gray, 2004) and it had helped me as the interviewer to concentrate on my listening skills, interpreting the conversation or interview and helped in focusing on my interview.

3.3.5 Recruitment and Data Collection

All respondents who agreed to be interviewed for qualitative part were given an appointment date and time. The venue for an interview was selected by the respondents that included respondent's house or shelters home. Close area like a room with some privacy and quiet areas were chosen to prevent respondents from feeling uncomfortable in sharing their stories. Researcher personally conducted all the in-depth interviews on a one-on-one basis. The interview was started by briefing them about the objectives, protocol for interview and obtained their written consent. They were ensured that information are confidential in the study. They were given opportunity to ask questions before signing the document prior to the interview.

Interviews were conducted in Bahasa Melayu, to allow the participant ease in communicating. All interviews were recorded using an audio recorder. Each session of the interview lasted between 45 minutes to one and half hour. A brief summary and a reflection of the salient points of the interview were documented within 24 hours. The interviews and whole conversation were then transcribed verbatim from the audio recorder by myself or paid transcriptionist. The transcribed data was then checked by me and my assistant. Respondents were identified by pseudonyms only in the transcription and any specific identifying information were changed to protect the confidentiality of the respondents during data analysis and final results. Any missing information were double-checked and updated. If words were unclear after transcribing, it was clarified with the respondents to ensure their experiences/information were accurate and in the appropriate context. The transcripts were entered in computer software, NVIVO version 9.

3.3.6 Data Coding and Analyses

Thematic analysis were employed in analysing the data. Thematic analysis in qualitative study is a process of encoding information. It focuses on examining themes within data which require both explicit or implicit ideas (Boyatzis, 1998). According to Guest, MacQueen, and Namey (2011), this flexible method of analysis emphasizes organisation and rich description of the data set. In this study, thematic analysis focuses on the human experience subjectively.

In thematic analysis, theme were identified at manifest level or at the latent level – semantic or latent (Boyatzis, 1998). Semantic themes attempt to identify the explicit and surface meanings of the data. There was no intention to look beyond the organized data and thus, some depth and complexity is lost but a rich description of the entire data set is presented. In latent themes, the analysis identified underlying ideas, patterns, and assumptions which required much interpretation of the data. Following Braun and Clarke (2006) guidance of six-phases process in conducting thematic analysis, :

(1) Familiarisation with the data: It involves reading and re-reading the data, to become immersed and intimately familiar with its content. I read the transcript several times to familiarize with the information and understand their stories. Through this step, I was able to understand the women's lived experiences of conceiving.

(2) Coding: This phase involved generating label or codes that identified important features of the data that were relevant in answering the research questions. It involved coding the entire dataset, and after that, collating all the codes and all relevant data extracts, for later stages of analysis. The coding process was not considered to be linear process, but a cyclical process in which codes emerged throughout the research process. My preliminary coding framework was derived from the first five transcripts. Initial codes

were constantly compared with those that emerged from subsequent transcripts to facilitate the development of conceptual categories. Open coding was followed by axial coding which is more specific.

(3) Searching for themes: During this phase, the codes and collated data were examined to identify significant broader patterns of meaning or themes. It involved collating data relevant to each theme, so that I worked with the data and reviewed the viability of each theme. The formulated meanings needs to reflect the statements underlying information without distorting the original description (Boyatzis, 1998).

(4) Reviewing themes: The themes were checked against the dataset, to determine that they tell a convincing story of the data, and one that answers the research question. In this phase, themes were typically refined, which sometimes involves them being split, combined, or discarded.

(5) Defining and naming themes: This phase involved developing a detailed analysis of each theme, working out the scope and focus of each theme, determining the 'story' of each. It involved deciding on an informative name for each theme.

(6) Writing up: This final phase involved weaving together the analytic narrative and data extracts, and contextualising the analysis in relation to existing literature. The findings of qualitative aspect on life experiences of unmarried women pregnancies were presented in Chapter 5.

3.3.6.1 **Rigour**

Validation is a judgment of the trustworthiness or goodness of a piece of research. Creswell had proposed eight procedures of validation strategies in qualitative inquiry (Creswell, 2013), however, he recommends that researcher engage in at least two of these strategies. In this qualitative part, several general methods of validation were used: peer

review, member checking and rich thick description. I accomplished peer review by discussing with my supervisors to advocate and review about the methods and interpretation of the data. I solicited member checks both after transcription of the interview and after constructions of the themes. Rich-thick descriptions were used within this report to describe data collection, the analysis and the findings.

3.4 Ethical Approval and Considerations

The study was approved by the Medical Ethics Committee of the University of Malaya Medical Centre, Kuala Lumpur [PPUM/MDU/300/04/03(800.3)], Research Ethic Committee (Human) of Universiti Sains Malaysia, Kubang Kerian [USMKK/PPP/JEPeM [233.4.(1.1)] and Medical Research and Ethic Committee Ministry of Health Malaysia [NMRR-10-901-6800] (Appendix A). Ethical consideration and letter of permission were obtained from Director of six hospitals and six shelters home involving Social Welfare Department, Jabatan Agama Islam Negeri and relevant NGO (Appendix E). All head of the relevant institutions including department of obstetrics and gynaecology each hospital were given an information sheet and the details of the project were explained to them.

Written informed consent was also obtained from all respondents. Verbal consent from parents or guardian was obtained for respondents who were under age of consent (below 16 years old). Those written informed consent take into account any future uses of data, how data will be stored, and preservation and used in the long-term. Confidentiality were maintained by removing direct identifier (name) and replace with pseudonym in term of reporting, sharing and publication purpose. For the in-depth interview, the respondents were asked to choose any preferred nickname to be used in the interview. In term of compiling and safe keeping data, data from the questionnaire will be stored in digital version for long-term preservation. Data were stored in two different form of storage; on CD and on hard drive

with clearly labelled. Addition to that one support system has been prepared in order to handle issues of respondent suffering from psychological distress reflecting sensitive questions in this study. The potential respondent will be refer to the psychiatrist from hospitals or registered counsellor from shelters home.

The study was funded by a University of Malaya, Kuala Lumpur, Malaysia through (Postgraduate Research Fund (PPP) No. PV090/2011B; and the Fundamental Research Grant Scheme (FRGS) No. FP068/2010B (Appendix F).

3.5 Chapter Summary

This chapter explained in detail how the study was carried out. The first part of this chapter discussed the study setting. The second part then deliberated on the study design, sampling, and data collection procedures for operational definitions. The section was followed by discussion on the qualitative method which also include study design, sampling, data collection, and data analysis. Outcomes of this process are described in the next two chapters. Chapter 4 presents the findings of quantitative aspect and Chapter 5 presents the findings of qualitative aspect.

CHAPTER 4: PART ONE - QUANTITATIVE FINDINGS

The quantitative findings of this study are covered in this chapter. The results of the study are divided into 5 parts: 1. Analyses looking into the impact of unmarried pregnancy in 5 aspects; postpartum depression, psychological well-being, birth outcomes, quality of life, physical and economic. 2. Description of social support and coping strategies among women. 3. Description of accessibility towards antenatal care among unmarried pregnant women. 4. Descriptive statistics on the profile or characteristics of unmarried mothers; and 5. Univariable and multivariable analyses examining factors influencing unmarried pregnancy.

4.1 Descriptive Statistics

4.1.1 Background Profile of Respondents

Respondents for this study were recruited from the four states in Peninsular Malaysia, covering six tertiary hospitals and six shelter homes. These hospitals are referral centres for many cases related to high risk pregnancies and sexual violence from all over the country. These shelters provide services to help women from different socio-demographic backgrounds from all over the country including Sabah and Sarawak.

A total of 554 pregnant women who were eligible from February 2011 to June 2012 were approached. However 48 women (9.5%) refused to participate in the study due to following reasons: busy (n=16), had a family problem (n=10), not feeling well (n=10), emotional reason (n=5) and parents did not allow (n=7). In total, the 506 participants (261 unmarried women vs 245 married women) were recruited and included in this study. Therefore, the response rate of this study was 91.3% as presented in the Table 4.1.

Table 4.1: Response rates of respondents by study location at baseline

Recruitment Centre	Unmarried women			Married women		
	Number Refused	Number Consented	**Response Rate (%)**	Number Refused	Number Consented	**Response Rate (%)**
Klang Valley (Hospital A and E)	5	30	**85.7**	4	86	**95.6**
Kuantan (Hospital B)	8	11	**57.9**	6	58	**90.6**
Kota Bharu (Hospital C and F)	10	45	**81.8**	3	60	**95.3**
Kuala Terengganu (Hospital D)	4	22	**84.6**	3	41	**93.2**
Shelters (6 centres)	5	153	**96.8**	NA	NA	**NA**
Total all locations	**32**	**261**	**89.1**	**16**	**245**	**93.9**

NA= not applicable

In order to determine acceptable response rates, the researcher and 3 enumerators established rapport with the respondents to make them more likely to respond and considered their availability. We avoided busy periods, the allowed respondents had enough time to be interviewed and confidentiality and privacy was also assured. In addition, the researcher also offered incentives such as, a small hamper of baby stuff as a token of appreciation to them.

Researchers had made an effort to visit the respondents in their houses if possible during the 3rd and 4th follow up session. Those women that were not contactable during a follow up or had gone back to their hometowns for confinement were interviewed by phone or post by mail (see page 100). At the final phase, the 403 respondents out of 506 respondents (response rate 79.7%) managed to be followed up. Response rate and number lost to follow up for each stage were mentioned in the Figure 4.1. Those women that were lost to follow up were due to changes in their phone numbers (n=33, 32.0%), changes addresses (n=10, 9.7%) and some respondents did not respond to the calls at all (n=60, 58.3%).

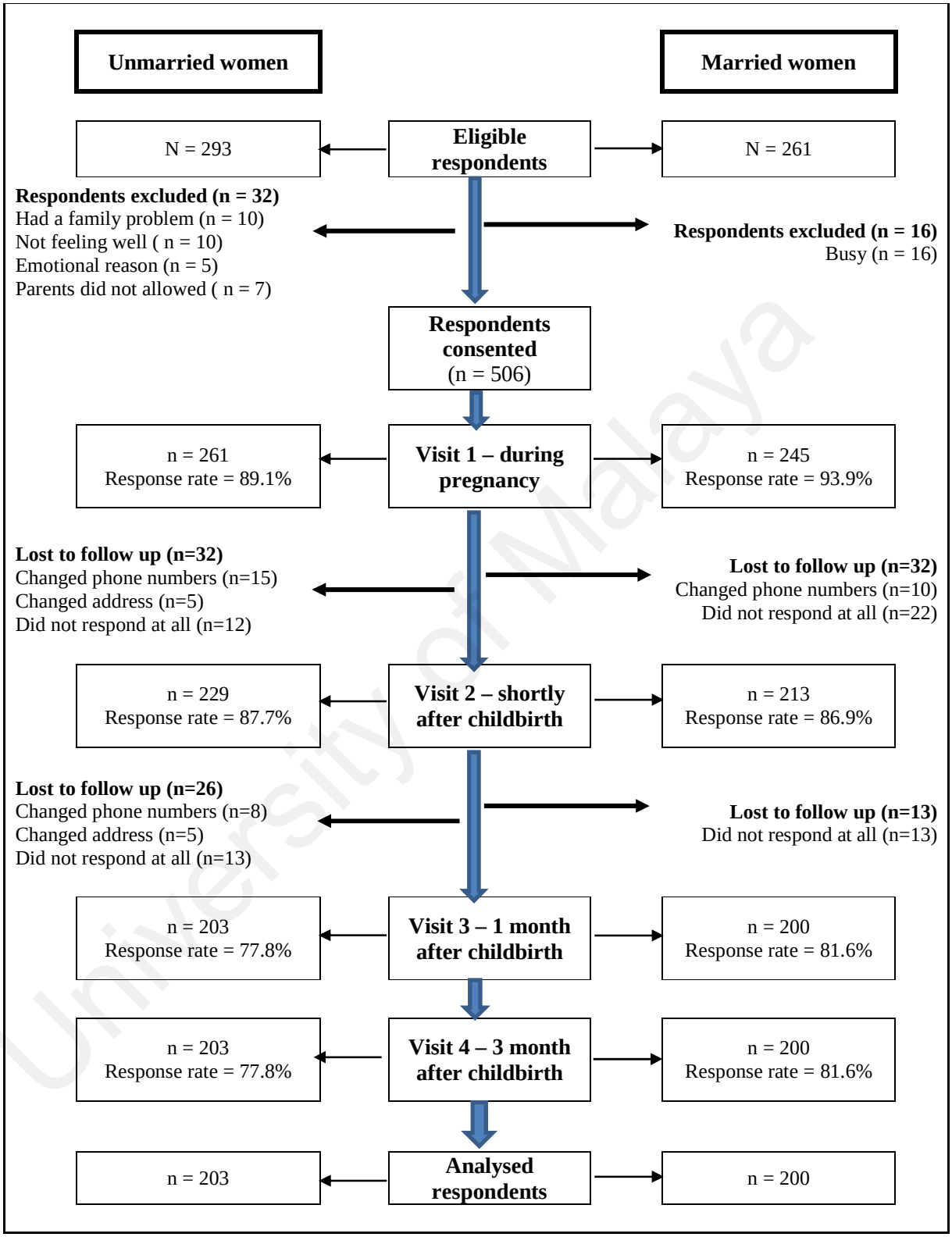

Figure 4.1: Number of respondents by time flow

In term of missing data, the specific question or variables that were missing were identify and percentage of missing data were calculated. The percentage of missing data were 10%, completely at random and the possible reason was respondents' refusal. Thus pairwise deletion method (available cases analysis) were used where all cases in which the variables are present were analysed.

During the phase of recruitment (N=506), 2.8% (n=14) of the pregnant women conceived prior to a marriage, 1.2% (n=6) were divorced, 0.6% (n=2) were widowed, 0.8% (n=4) were cohabiting, 46.4% (n=235) were single and 48.2% (n=245) were married. Those 1.8% (divorced and widowed) was found pregnant with the other men's baby, which were not their ex-husbands. In total, 51.6% (n=261) of those women was grouped as being pregnant without marriage, while 48.4% (n=245) was grouped as being pregnant within a marriage. The profile and characteristics of the study's respondents in this chapter were classified into the two groups; unmarried pregnancy and married pregnancy. Looking at a proportion of consented or non-consented sexual contact leading to current pregnancy among unmarried women, majority of them (78.5%, n=205) were pregnant as a result of a consensual sexual intercourse, 8.4% (n=22) were being raped, and 13.0% (n=34) were classified as being statutorily raped.

Table 4.2: Distribution of marital status upon conceiving and during pregnancy

Current marital status	Unmarried pregnancy		Married pregnancy	
	n	%	n	%
Married	14	5.4	245	100
Single	235	90.0	0	0
Divorced /separated	6	2.3	0	0
Widow	3	0.8	0	0
Cohabitation	4	1.5	0	0
Total	**261**	**100**	**245**	**100**

4.1.2 Socio-demographic Background of Respondents

As shown in Table 4.3, the median age of the unmarried group was 18.0 years, ranging from 13 to 37 years, whereas the median age of the married group was 29.0 years with a range of 15 to 47 years. These age differences were statistically significant based on the Mann-U Whitney test ($p<0.001$). The age distribution of the unmarried pregnant women revealed that 62.8% were in their adolescent category (10 to 19 years old), followed by 29.5% young adulthood (20 to 24 years old). Only 7.7% of the unmarried pregnant women were in an adult category (more than 25 years old). Compared to the married pregnant women, 87.0% were adult, 12.2% were young adulthood and only two respondents (0.8%) were adolescents.

Both groups of unmarried and married mothers had a majority of Malay respondents; 95.0% and 97.6%, respectively. There were only two Indians (0.4%), five Chinese (1.0%) and 12 (2.4%) aborigines. The majority of the respondents were Muslims (96.9% and 98.8% in both groups, respectively). There was no statistically significant difference between religion ($p=0.396$) and ethnicity ($p=0.182$) distribution among the unmarried and married group based on the Chi-square test.

Regarding the respondent' place of residence, the results showed that a majority of the women from both groups lived in the urban areas (62.8% vs 75.5%) compared to only 37.2% vs 24.5% that lived in the rural areas. This small difference in place of residence was significantly based on the Chi-square test ($p=0.002$).

In terms of the respondents' level of education, the percentage of unmarried women who had finished their secondary education (41.0%) was almost the same as those who had finished their primary education (41.4%). Only one woman (0.4%) did not receive any formal education, while the remaining 17.2% had tertiary education. On the other hand, most of the

married women in this study had tertiary education (60.4%), 33.5% had finished secondary education and only 6.1% had primary education. Based on the Chi-square test, the level of education was found to be statistically and significantly different between the groups ($p<0.001$).

Table 4.3: Socio-demographic characteristics of respondents by pregnancy group

Characteristics	n	Unmarried group		Married group		p-value
		n	%	n	%	
Age (years)	506					
Mean (SD)		19.2 (3.9)		29.4 (4.9)		<0.001[a]*
Median (IQR)		18.0 (13-37)		29.0 (15-47)		
Adolescent (10-19 years)		164	62.8	2	0.8	<0.001[b]*
Young adulthood (20-24 years)		77	29.5	30	12.2	
Adult (>25 years)		20	7.7	213	87.0	
Ethnicity	506					
Malay		248	95.0	239	97.6	0.182[b]
Chinese		2	0.8	3	1.2	
Indian		2	0.8	0	0	
Others		9	3.4	3	1.2	
Religion	506					
Islam		253	96.9	242	98.8	0.396[b]
Christianity		3	1.1	0	0	
Buddhism		2	0.8	2	0.8	
Hinduism		2	0.8	1	0.4	
Others		1	0.4	0	0	
Place of residence	506					
Urban		164	62.8	185	75.5	0.002[b]*
Rural		97	37.2	60	24.5	
Education level	506					
None		1	0.4	0	0	<0.001[b]*
Primary education		108	41.4	15	6.1	
Secondary education		107	41.0	82	33.5	
Tertiary education		45	17.2	148	60.4	

* Significant difference at $p<0.05$; Statistical test – [a]Mann-U Whitney test, [b]Chi-Square test, RM= Ringgit Malaysia (1 US Dollar = RM 3.1)

Table 4.3: (CONTINUED)

Characteristics	n	Unmarried group		Married group		p-value
		n	%	n	%	
Studying status	506					
Yes		126	48.3	2	0.8	<0.001[b]*
No, finished study		97	37.2	228	93.1	
No, stopped study		38	14.6	15	6.1	
Current working status	506					
Yes		15	5.7	164	66.9	<0.001[b]*
No		246	94.3	81	33.1	
Working status prior pregnancy	506					
Yes		99	37.9	179	73.1	<0.001[b]*
No		162	62.9	66	26.9	
Currently living with:	506					
Shelter		181	69.3	0	0	<0.001[b]*
Parents		28	10.7	0	0	
Partner/husband		21	8.0	245	100.0	
Siblings		7	2.7	0	0	
Relatives		8	3.1	0	0	
Friends		5	1.9	0	0	
Alone		4	1.5	0	0	
Other		7	2.7	0	0	
Living arrangement prior pregnancy	506					
With parents		182	69.7	10	4.1	<0.001[b]*
With partner		14	5.4	224	91.4	
With others		65	24.9	11	4.5	
Household salary per month (RM)	495					
Mean (SD)		1677.5 (1583.6)		3388.0 (2330.02)		<0.001[a]*
Median		1000.0		3000.0		
IQR		200-10000		300-12000		
Low (< RM1000)		133	53.2	48	19.6	<0.001[b]*
Middle (RM1001-RM3000)		91	36.4	86	35.1	
High (> RM3001)		26	10.4	111	45.3	

* Significant difference at p<0.05; Statistical test – [a]Mann-U Whitney test, [b]Chi-Square test, RM= Ringgit Malaysia (1 US Dollar = RM 3.1)

Almost half (48.2%) of the unmarried women were still studying compared to the married women, where a majority (93.1%) had finished their studies. With regard to the current employment status, the working mothers dominated the married group (65.7%) and only 15 unmarried women (5.7%) were employed. However, when they were asked about their employment status prior to pregnancy, 99 unmarried women (37.9%) and 179 married women (73.9%) were found to be employed. There was statistically significant difference between studying the status ($p<0.001$) and employment status ($p<0.001$) in the unmarried and married group based on the Chi-square test.

The majority of the unmarried pregnant women stayed in shelters (69.3%), 10.7% stayed with their parents, 8.0% with partner and 11.9% with the others at the recruitment of this study. Therefore, with regard to the living arrangements in the past 12 months prior to the current pregnancy, 69.7% unmarried women lived with their parents, 24.9% lived with the others included siblings, relatives, friends, at a hostel or alone and remaining 5.4% lived with their partners (cohabitate). While for married women, 91.4% of them were living with their husbands, 4.1% with their parents and 4.5% with the others.

Data on an average household income showed that 36.4% of unmarried women and 35.1% of married women reported that their household incomes were between RM 1000 to RM 3000. Half of the unmarried women (53.2%) were from a low economic group (with total household income less than RM1000) in contrast with the married women, about half (45.3%) were from a high economic group (with household income more than RM 3000). There was statistically significant difference in the household incomes between the groups based on the Chi-square test ($p<0.001$).

4.1.3 Pregnancy Data

For 90.8% of the unmarried women, it was their first pregnancy compared to 25.6% of the married women. Gravida among the unmarried and married group were statistically different based on the Chi-square test ($p<0.001$). However, with regard to the numbers of children, there was no significant difference between the two groups, as a majority of women in this study had ≤ 2 children (79.2% and 78.7%, respectively).

Of the 506 pregnancies, only 5.0% of the unmarried women had planned their pregnancies and 95.0% were unplanned, while for the married women; 55.5% were planned and 44.5% were unplanned. There was statistically significant difference in the intention of pregnancy among the two groups. Four out of the 24 unmarried women (16.7%) had an abortion in the past and 4 (16.7%) had previous miscarriages. Among the married women, 49 out of 183 (26.8%) had previous miscarriages. The difference was statistically significant ($p<0.001$) as shown in Table 4.4.

A high proportion of the married women had pregnancy related problems (56.7%) including pre-existing medical illness. In contrast to the unmarried women, a high proportion of them had no pregnancy problems (57.1%) and about 6.1% did not know their health status during pregnancy. There was a significant association between the presence of pregnancy related problems and pregnancy status. Details of the illnesses are listed in Table 4.4. The commonest pregnancy related problems among the unmarried women was anaemia (20.4%), while among the married women, was diabetes (17.8%). The other problems related to pregnancy reported in the two groups were urinary tract infection, poor weight gain, ante-partum haemorrhage, hypertensive disorder and decreased foetal movement.

Table 4.4: Distribution of respondents by marital status on pregnancy details

Pregnancy detail	n	Unmarried mothers		Married mothers		p-value
		n	%	n	%	
Gravida	506					
Primigravida (1)		237	90.8	63	25.6	<0.001[b]*
Multigravida (2-4)		20	7.7	153	62.2	
Grandmultigravida (>5)		4	1.5	30	12.2	
Numbers of living children	207					
≤ 2 children		19	79.2	144	78.7	0.957[b]
> 2 children		5	20.8	39	21.3	
Mean (SD)		1 (1)		2 (2)		
Median (IQR)		1 (0-6)		2 (0-7)		
Was this pregnancy planned	506					
Yes		13	5.0	136	55.5	<0.001[b]*
No		248	95.0	109	44.5	
History of abortion/miscarriage	207					
Yes		8	33.3	49	26.8	<0.001[b]*
Never		16	66.7	134	73.2	
Problems during pregnancy	506					
Yes		96	36.8	139	56.7	<0.001[b]*
No		149	57.1	106	43.3	
Do not know		16	6.1	0	0	
Types of problems during pregnancy	490					
Ante Partum Haemorrhage		14	5.7	28	11.4	0.024[b]*
Intra Uterine Growth Retardation		3	1.2	4	1.6	0.725[b]
Diabetes		7	2.9	44	17.8	<0.001[b]*
Hypertensive disorder of pregnancy		13	5.3	17	6.9	0.451[b]
Decreased foetal movement		13	5.3	8	3.3	0.265[b]
Multiple pregnancies		3	1.1	10	4.1	0.049[b]*
Anaemia		50	20.4	38	15.5	0.158[b]
Urinary Tract Infection		16	6.5	23	9.3	0.243[b]
Sexual Transmitted Infection		2	0.8	1	0.4	0.624[b]
Poor weight gain		15	6.1	22	9.0	0.231[b]
Others		6	2.3	16	6.5	

* Significant difference at p<0.05; Statistical test – [b]Chi-square test

4.2 Outcomes of Pregnancy

4.2.1 Psychological Impact: Postpartum Depression

In order to examine the impact of unmarried pregnancy towards postpartum depression, the dependent variables, namely postpartum depression were measured using the Edinburgh Postnatal Depression Scale (EPDS). The women were classified as having a depression or did not have depression based on their scores on the EPDS, with those scoring 12 and more were classified as having a depression syndrome. The scoring was based on the recommended EPDS cut-off score of 11/12 to determine a depressive symptomatology (Wan Mohd Rushidi et al., 2003). The independent variable was marital status upon pregnancy, categorised into two; unmarried or married. The same EPDS questionnaire was also asked during pregnancy to examine a depressive mood disorder during pregnancy.

Figure 4.2 shows that 25.1% of the total women had postpartum depression syndrome. The majority of those who had postpartum depression were unmarried women (84.2) compared to the women with married status (15.8%). There was a statistically significant association between marital status and depression group ($p<0.001$).

In terms of depressive mood disorder during pregnancy, almost half proportion of the women in this study had depression (41.3%), a higher incidence as compared to during postnatal (25.1%). There was a significant difference in marital status in the depressed group at antenatal period. It means that marital status influenced the pregnant women and postpartum women in the mental state.

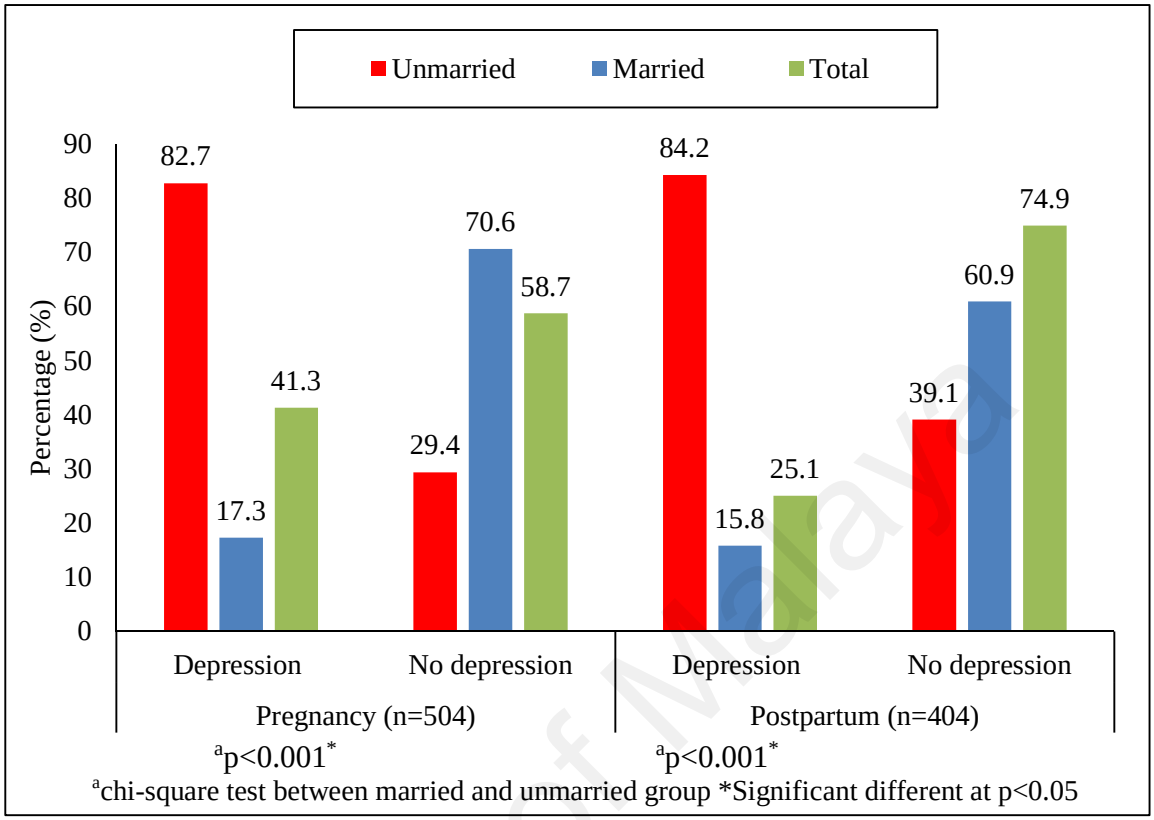

Figure 4.2**:** Depressive mood disorder (EPDS score) and marital status by time series

The simple logistic regression test shows that women who were unmarried upon pregnancy were 8.28 times (95% CI 4.63-14.83) more likely to have postpartum depression than the married women. After one month of childbirth, the 16 unmarried women got married to their partners. Current marital status of the respondents was tested and found to be significantly associated with postpartum depression (OR 8.22; 95% CI 4.73-14.28). The analysis also found that depression during pregnancy was significantly associated with postpartum depression. The pregnant women who had depression were 5.80 times (95% CI 3.52-9.56) more likely to have postpartum depression compared to the pregnant women who were not depressed.

Other predictive factors for postpartum depression are shown in Table 4.5 and these consisted of socio-demographic factors, obstetric factors, social support factors, and psychological factors. When all the factors were controlled and adjusted in the multiple logistic regression analysis, current marital status (at 1 month after childbirth) influenced pregnant women to have postpartum depression (OR 3.04; 95% CI 1.29-7.18). Other factors associated with postpartum depression were living arrangements (OR 2.19; 95% CI 1.04-4.60)), intention of pregnancy (OR 3.40; 95% CI 1.30-8.85), psychological well-being (OR 11.03; 6.01-20.23) and coping skill (OR 1.05; 1.01-1.08) (Table 4.6).

Table 4.5: Associated factors of postpartum depression analysed with Simple Logistic Regression

Variable	Have depression	No depression	Simple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	p-value
Marital status					
Married	16 (15.8)	184 (60.9)	0	8.28 (4.63,14.83)	<0.001
Unmarried	85 (84.2)	118 (39.1)	2.114		
Marital status at 1 month after childbirth					
Married	19 (18.8)	198 (65.6)	0	8.22 (4.73,14.28)	<0.001
Unmarried	82 (81.2)	104 (34.4)	2.106		
Age (mean, SD) (years)	20.8 (5.3)	25.3 (6.8)	-0.117	0.89(0.85,0.93)	<0.001
Education level					
Higher	27 (26.7)	134 (44.4)	0		
Lower	74 (73.3)	168 (55.6)	0.782	2.19(1.33,3.59)	0.002
Employment at 1 month after childbirth					
Stayed at home	31 (30.7)	185 (61.3)	0	6.66 (3.90,11.35)	<0.001
Stayed in shelters	58 (57.4)	62 (17.2)	1.896	1.10 (0.53,2.27)	0.793
Back to work/study	12 (11.9)	65 (21.5)	0.097		
Living arrangement at 1 month after childbirth					
Non-shelter	40 (39.6)	250 (82.8)	0	7.33 (4.46,12.07)	<0.001
Shelter	61 (60.4)	52 (17.2)	1.992		
Parity					
Multigravida;	18 (17.8)	148 (49.2)	0		
Primigravida	83 (82.2)	153 (50.8)	1.495	4.46(2.55,7.80)	<0.001
Number of children	1 (1)	2 (1)	-0.408	0.67 (0.52,0.86)	0.002
Total number of antenatal visit	8.6 (6.2)	12.5 (8.4)	-0.073	0.93(0.90,0.96)	<0.001
Intention of pregnancy					
Planned	8 (7.9)	107 (35.4)	0		
Unplanned	93 (92.1)	195 (64.6)	1.853	6.38 (2.98,13.64)	<0.001
Timing of antenatal care initiation					
Early	34 (33.7)	175 (57.9)	0		
Late/no	67 (66.3)	127 (42.1)	0.999	2.72 (1.69,4.35)	<0.001

* Significant difference at $p<0.05$

Table 4.5: (CONTINUED)

Variable	Have depression	No depression	Simple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	p-value
Prenatal depression					
No	28 (27.7)	207 (69.0)	0		
Yes	73 (72.3)	93 (31.0)	1.758	5.80 (3.52,9.56)	<0.001
Mode of birth delivery					
Non-vaginal	86 (85.1)	224 (74.2)	0		
Vaginal	15 (14.9)	78 (25.8)	0.691	2.00(1.09,3.66)	0.025
Have financial problem					
No	87 (86.1)	277 (91.7)	0		
Yes	14 (13.9)	25 (8.3)	1.296	3.66(1.83,7.29)	<0.001
Social support during pregnancy (mean, SD)	73.2 (14.0)	67.4 (16.8)	-0.025	0.98 (0.96,0.99)	0.004
Social support at 1 month after childbirth (mean, SD)	74.2 (13.6)	66.6 (16.8)	-0.034	0.97 (0.95,0.98)	<0.001
COPE skill (mean, SD)	72.0 (11.0)	69.6 (10.4)	0.022	1.02 (1.00,1.05)	0.046
Child status					
Non-adoption	55 (54.5)	259 (85.8)	0		
Adoption	46 (45.5)	43 (14.2)	1.617	5.04 (3.03,8.37)	<0.001
Psychological well-being					
Normal	186 (61.6)	25 (24.8)	0		
Poor	116 (38.4)	76 (75.2)	1.584	4.82 (2.93,8.10)	<0.001
Psychological well-being					
Normal	256 (84.8)	32 (31.7)	0		
Poor	46 (15.2)	69 (68.3	2.485	12.0(7.11,20.26)	<0.001

* Significant difference at p<0.05

Table 4.6: Risk factors influencing postpartum depression (analysed using Multiple Logistic Regression)

Variable	Regression coefficient (b)	Odds ratio (OR)	95% CI	p-value
Marital status at 1 month after childbirth (Married=0, Unmarried=1)	1.112	3.04	(1.29,7.18)	0.011
Living arrangement at 1 month after childbirth (Non-shelter=0, Shelter=1)	0.783	2.19	(1.04,4.60)	0.039
Intention of pregnancy (Planned=0, Unplanned=1)	1.222	3.40	(1.30,8.85)	0.013
COPE skill (mean, SD)	0.048	1.05	(1.01,1.08)	0.001
Psychological well-being at 1 month after childbirth (Normal=0, Poor=1)	2.401	11.03	(6.01,20.23)	<0.001

* Forward multiple logistic regression model was applied with (0) as reference, multicollinearity and interaction terms were checked and none were found, Hosmer-Lemeshow test, (p=0.688), classification table (overall correctly classified percentage=84.9%) and area under the ROC curve (88.0%)

4.2.2 Psychological Impact: Psychological well-being

Psychological well-being, as a dependent variable was measured using the General Health Questionnaire 12 (GHQ 12). Based on the GHQ 12 score, the women were classified as poor or normal psychological well-being, with those scoring less than 4 were classified as poor psychological well-being (Muhamad Saiful Bahri Yusoff et al., 2009). The marital status upon pregnancy was an independent variable categorised into the two groups; unmarried or married.

Overall, the incidence of a poor psychological well-being decreased across time. About 45.8% women in this study had a poor psychological well-being in pregnancy, 40.2% women at shortly after delivery, 28.5% at 1 month of childbirth and decreased to 19.9% at 3 months after childbirth. However, looking at marital status, a proportion of the unmarried women who had the poor psychological well-being was higher at 3 months after childbirth (80.0%), followed shortly after childbirth (76.8%) and during pregnancy (74.1%). The lower proportion was at 1 month after childbirth (73.9%) in contrast to the married women, where a high proportion of poor psychological well-being was seen at this time (26.1%).

Analysis showed that there was a significant association between marital status and psychological well-being, which means marital status did influence the psychological well-being of the pregnant women and postpartum women. The simple logistic regression test showed that the unmarried pregnant women were 5.96 times (95% CI 4.04-8.78) more likely to have a poor psychological well-being than the married women. Postpartum women who were unmarried were more likely to have a poor psychological well-being than the married women at shortly after childbirth (OR 6.17; 95% CI 4.01-9.49), at 1 month after childbirth (OR 4.08; 95% CI 2.53-6.58), and at 3 months after childbirth (OR 5.30; 95% CI 2.93-9.56) as shown in Table 4.7.

When all the factors were controlled and adjusted in the multiple logistic regression analysis, marital status only influenced the postpartum women to become a poor psychological well-being shortly after childbirth. The unmarried women were 2.47 times (95% CI 1.47-4.16) more likely to become a poor psychological well-being compared to the married women. However, during pregnancy, at 1 month and 3 months after childbirth, marital status did not influence the pregnant women and postpartum women on psychological well-being. Based on the multiple logistic regressions factors associated with a poor psychological well-being among women in this study are shown in Table 4.8.

Table 4.7: Psychological well-being (GHQ Score) and marital status across the four time periods

	Psychological well-being (GHQ12)							
Time	**Antenatal (n=506)**		**Shortly after childbirth (n=440)**		**1 month of childbirth (n= 403)**		**3 months of childbirth (n= 403)**	
	Normal	**Poor**	**Normal**	**Poor**	**Normal**	**Poor**	**Normal**	**Poor**
Marital status								
Married	185 (67.5)	60 (25.9)	171 (65.0)	41 (23.2)	170 (59.0)	30 (26.1)	184 (57.0)	16 (20.0)
Unmarried	89 (32.5)	172 (74.1)	92 (35.0)	136 (76.8)	118 (41.0)	85 (73.9)	139 (43.0)	64 (80.0)
Total	274 (54.2)	232 (45.8)	263 (59.8)	177 (40.2)	288 (71.5)	115 (28.5)	323 (80.1)	80 (19.9)
Wald test	81.43[a] (1)		68.27[a] (1)		33.28 [a] (1)		30.61 [a] (1)	
b	1.785		1.819		1.407		1.667	
OR (95% CI)	5.96 (4.04, 8.78)		6.17 (4.01,9.49)		4.08 (2.53, 6.58)		5.30 (2.93, 9.56)	
Sig value	<0.001		<0.001		<0.001		<0.001	

* Significant difference at p<0.05; Statistical test – [a]Simple logistic regression,

Table 4.8: Factors associated with psychological well-being of the respondents by time period using Multiple Logistic Regressions

Time	**Antenatal (n=506)**		**Shortly after childbirth (n=440)**		**1 month after childbirth (n=403)**		**3 months after childbirth (n=403)**	
	b	**OR (95% CI)**	**b**	**OR (95% CI)**	**b**	**OR (95% CI)**	**b**	**OR (95% CI)**
Marital status Married (0); Unmarried (1)			0.905	2.47(1.47,4.16)				
Living arrangement Non-shelter (0); Shelter (1)	0.840	2.32 (1.44, 3.72)					1.106	3.02(1.65,5.53)
Prenatal depression No (0); Depressed (1)	2.091	8.09 (5.11,12.82)	1.490	4.44(2.73,7.21)				
Financial problem No (0); Yes (1)	1.075	2.93 (1.28,6.71)						
Social support; score of MOSSSS			-0.025	0.98(0.96,0.99)	-0.024	0.98 (0.96,0.99)	-0.037	0.96(0.95,0.98)
Age (years)					-0.065	0.94 (0.90,0.98)		
Education level Higher (0); Lower (1)							1.099	3.00(1.45,6.21)
Postpartum depression No (0); Depressed (1)					2.186	8.90(5.17,15.33)	1.376	3.96(2.18,7.19)
	Forward multiple logistic regression model was applied with (0) as reference, multicollinearity and interaction terms were checked and none were found.							
	Hosmer-Lemeshow test, (p=0.376), classification table (overall correctly classified =77.8%) and the area under the ROC curve (80.6%)		Hosmer-Lemeshow test, (p=0.642), classification table (overall correctly classified=75.1%) and the area under the ROC curve (79.6%)		Hosmer-Lemeshow test, (p=0.906), classification table (overall correctly classified =80.6%) and the area under the ROC curve (82.7%)		Hosmer-Lemeshow test, (p=0.400), classification table (overall correctly classified=82.9%) and the area under the ROC curve (83.8%)	

4.2.3 Birth Outcomes

Table 4.9 illustrates the delivery characteristics and perinatal outcomes of the two groups of respondents. The majority (88.6%) of the unmarried women in this study had vaginal delivery, which was much higher compared to the married women (64.8%). Only 26 (11.4%) had delivered via Caesarean section and assisted birth. With regards to the place of birth in both the groups, the babies were delivered at government hospitals. About 5.2% of the babies in the unmarried group were delivered in private hospitals and 1.3% were delivered at home. There was a significant association between pregnancy status and the type of birth delivery ($p<0.001$) but no association was found in place of birth delivery ($p=0.103$).

Only one infant in the unmarried group died after delivery. The mean gestation weeks of the unmarried women (38.0 ± 2.2) were found similar to that of the married women (38.5 ± 1.5). However, in terms of preterm delivery, the percentage was higher among the unmarried women (31.0%) compared to the married women (19.7%) and there was a significant association between pregnancy status and gestation weeks based on the Chi-square test ($p=0.007$).

There were significant associations between pregnancy status and birth weight ($p<0.001$). The mean infant's birth weight for the unmarried group was $2.7\text{kg} \pm 0.4$ lower than infant from the married group ($3.1\text{kg} \pm 0.5$). More infant from the unmarried mothers (28.8%) were in the category of low birth weight (less than 2.5kg) compared to married mothers (12.2%). Majority infant from both groups had high Apgar score (>7) at 1 minute and 5 minutes, but no significant association was found in this outcome ($p=0.191$ and $p=0.287$).

Table 4.9: Comparison of the respondents by pregnancy groups on medical outcomes of pregnancies

Medical outcome	n	Unmarried mothers	Married mothers	p-value
		n (%)	n (%)	
Types of delivery	442			
Vaginal		203 (88.6)	138 (64.8)	<0.001[b]*
Non-Vaginal		26 (11.4)	75 (35.2)	
Place of delivery	442			
Government Hospital /Clinic		214 (93.4)	207 (97.2)	0.103[b]
Private Hospital		12 (5.2)	6 (2.8)	
Home		3 (1.3)	0	
Outcome of pregnancy	442			
Alive		228 (99.6)	213 (100.0)	0.334[b]
Dead		1 (0.4)	0	
Period of gestation	429			
Less than 37 weeks (preterm)		67 (31.0)	42 (19.7)	0.007[b]*
37 weeks and more (term)		149 (69.0)	171 (80.3)	
Birth weight	442			
Less than 2.50 kg		66 (28.8)	26 (12.2)	<0.001[b]*
2.50 kg and more		163 (71.2)	187 (87.8)	
Apgar Score at 1 min	442			
Less than 7 (low)		19 (8.3)	11 (5.2)	0.191[b]
7 and more		210 (91.7)	202 (94.8)	
Apgar Score at 5 min	442			
Less than 7 (low)		6 (2.6)	2 (0.9)	0.287[b]
7 and more		223 (97.4)	211 (99.1)	
Infant admitted to special care unit	442			
Yes		42 (18.3)	28 (13.1)	0.135[b]
No		187 (81.7)	185 (86.9)	
Intra-partum complications	442			
Yes		18 (7.9)	27 (12.7)	0.094[b]
No		211 (92.1)	186 (87.3)	
Infant have abnormalities	442			
Yes		3 (1.3)	1 (0.5)	0.624[b]*
No		226 (98.7)	212 (99.5)	
Duration of stay in postpartum ward (days)	442			
Mean (SD)		3.66 (2.45)	3.40 (1.92)	0.705[a]
Median (IQR)		3 (1-16)	3 (1-11)	

* Significant difference at p<0.05; Statistical test – [a] Mann-U Whitney test, [b]Chi-square test

Table 4.9: (CONTINUED)

Medical outcome	n	Unmarried mothers n (%)	Married mothers n (%)	p-value
Admission to ward during pregnancy (days)	442			
Yes		45 (19.7)	38 (17.8)	0.626[b]
No		184 (80.3)	175 (82.2)	
Admitted due to:	**83**	**45**	**38**	
False labour	14	9	5	NA
Premature contraction	13	9	4	
Decreased foetal movement	11	6	5	
Hypertension	10	3	7	
Urinary tract infection	11	8	3	
PV bleeding	8	3	5	
Fever	2	2	0	
Gestational diabetes mellitus	2	0	2	
PPROM	2	0	2	
Anaemia	2	1	1	
Breech presentation	2	0	2	
Others	6	4	2	

* Significant difference at $p<0.05$; Statistical test – [a] Mann-U Whitney test, [b]Chi-square test

About 18.3% babies of the unmarried women and 13.1% babies from married group were admitted to the special care unit soon after delivery. The three babies of unmarried mothers and only one infant of married mother had abnormalities. The difference for both variables was not statistically significant based on the Chi-square test (p=0. 135 and p=0. 624 respectively).

With regards to intra-partum complication, the percentage of the married women who had intra-partum complications (n=27, 12.7%) was higher compared to the unmarried women (n=18, 7.9%). There was no significant association between intra-partum complication and pregnancy status (p=0.094). The commonest intra-partum complications were foetal distress (n=11, 22.0%) followed by asphyxia (n=7, 14.0%), retained placenta (n=6, 12.0%), meconium aspiration syndrome (n=4, 8.0%), prolonged

labour (n=4, 8.0%), and others (n=18, 36.0%). Other complications include intra-partum haemorrhage, cord problem, breech, pyrexia, anaemia and high blood pressure.

In terms of the duration of hospitalization at postpartum ward following delivery, the median days were 3 for the both groups, but no significant difference was found (p=0.705) between the two groups. The percentage of the women in this study who were admitted to the hospital during pregnancy were almost the same (19.7% and 17.8%) in both groups (p=0. 626).

Looking at the problems that caused 83 women to be admitted during pregnancy, false labour/contraction, leading the list (n=14, 16.9%), followed by premature contraction (n=13, 15.7%) and decreased foetal movement (n=11, 13.3%). About 10 women were admitted due to hypertension, 11 women due to urinary tract infection and 8 women because of per-vagina bleeding. Other problems leading to an admission in hospital during pregnancy were gestational diabetes mellitus (n=2), anaemia (n=2), breech presentation (n=2), premature rupture of membrane (n=2), fever (n=2) and others (n=6) such as, small baby, hyperemesis gravidarum, demoid cyst, vulva varicosities, asthma and heart disease. In comparing both the two groups, the unmarried women had more problems except for gestational diabetes, hypertension and PV bleeding, which occurred more in the married women.

In order to assess an impact of pregnancy status towards these medical outcomes, a simple logistic regression analysis was used for each variables. The outcomes that were tested were gestation age, birth weight, mode of birth delivery, Apgar score, birth complication to mothers and babies, admission of infant to the special care unit and admission of mothers to hospital during pregnancy is presented in the subsequent section

4.2.3.1 Association between marital status and preterm birth

The dependent variable was a gestation age, which was categorised into two; birth at less than 37 weeks (preterm birth) and birth at 37 weeks and more (term birth). Marital status was considered as marital status upon pregnancy, which was categorised into unmarried and married. About 61.5% of preterm births were among women with unmarried status compared to term birth, 46.6% were unmarried.

From the simple logistic regression analysis, marital status upon pregnancy was associated with preterm birth (OR=1. 83), i.e. marital status influenced women delivering preterm babies. When the other factors were controlled for and adjusted in multiple logistic regression models, the unmarried women were 1.75 times more likely to experience preterm birth than those who were married. Other factors that were associated with preterm birth in this study were antenatal care; 4.92 the odds of having a preterm birth than women who had a single pregnancy (Table 4.10).

Table 4.10: Associated factors of preterm birth by Simple and Multiple Logistic Regression model

Variable	Preterm (< 37 weeks)	Term (≥ 37 weeks)	Simple logistic regression			Multiple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	Sig	b	Adjusted OR (95% CI)	Sig
Marital status								
Married	42 (38.5)	171 (53.4)	0			0		
Unmarried	67 (61.5)	149 (46.6)	0.605	1.83 (1.18,2.85)	0.008	0.505	1.66 (1.05,2.61)	0.029
Prenatal care								
Yes	101 (92.7)	316 (98.8)	0			0		
No	8 (7.3)	4 (1.3)	1.834	6.26 (1.85,21.22)	0.003	1.592	4.92 (1.43, 16.95)	0.012
Antenatal depression								
Not depressed	55 (50.5)	197 (61.9)	0					
Depressed	54 (49.5)	121 (38.1)	0.469	1.60 (1.03,2.48)	0.036			

Forward multiple logistic regression model was applied with (0) as reference, multicollinearity and interaction terms were checked and none were found, classification table (overall correctly classified percentage=75.5%) and the area under the ROC curve (58.8%)

4.2.3.2 Association between marital status and birth weight of babies.

Birth weight as the dependent variable was categorised into two; less than 2.5kg (low birth weight) and 2.5kg and more (normal weight). A high proportion of low birth weight infant was from unmarried status mothers (71.7%) compared to normal weight infant mostly from married mothers (53.4%). Mothers who were unmarried upon pregnancy were 1.07 times more likely to get low birth weight infant than the married mother based on the simple logistic regression test (Table 4.11).

When the other factors were controlled for and adjusted in multiple logistic regression analysis, marital status resulted in the deliveries of low birth weight babies. The women who were unmarried upon pregnancy were 2.65 times more likely to have low birth weight babies than those who were married. Another factor that was associated with preterm birth in the final model was drug abuse (p=0. 038) as shown in Table 4.11. The women who had ever been involved with drug abuse were 10.39 times more likely to have low birth weight babies than those who had never been involved with drug abuse.

Table 4.11: Associated factors of low birth weight by Simple and Multiple Logistic Regression model

Variable	Low (< 2.50kg)	Normal (≥ 2.50kg)	Simple logistic regression			Multiple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	Sig	b	Adjusted OR (95% CI)	Sig
Marital status								
Married	26 (28.3)	187 (53.4)	0			0		
Unmarried	66 (71.7)	163 (46.6)	1.069	2.91(1.77,4.80)	<0.001	1.024	2.79 (1.68,4.61)	<0.001
Drug use								
Never	88 (95.7)	349 (99.7)	0			0		
Ever	4 (4.5)	1 (0.3)	2.764	15.86 (1.75,143.71)	0.014	2.341	10.39 (1.14,94.76)	0.038
Age (mean, SD)	21.7 (6.4)	24.7 (6.8)	-0.075	0.93(0.89,0.96)	<0.001			
Education level								
Higher education	24 (26.1)	148 (42.3)	0					
Lower education	68 (73.9)	202 (57.7)	0.730	2.08(1.25,3.46)	0.005			
Living arrangement								
Family	40 (43.5)	224 (64.0)	0					
Shelters	44 (47.8)	113 (32.3)	0.780	2.18(1.34,3.54)	0.002			
Others	8 (8.7)	13 (3.7)	1.237	3.45(1.34,8.85)	0.010			
Household salary (mean, SD)	2063.3 (2152.7)	2640.6 (2208.5)	0.000	0.99985(0.99973,0.99998)	0.022			
Cigarette use during pregnancy								
Never	86 (93.5)	343 (98.0)	0					
Ever	6 (6.5)	7 (2.0)	1.23	3.42 (1.12,90.43)	0.031			
Support from partner								
Yes	57 (62.0)	266 (76.0)	0					
No	35 (38.0)	84 (24.0)	0.665	1.94(1.20,3.17)	0.007			

Table 4.11 : (CONTINUED)

Variable	Low (< 2.50kg)	Normal (≥ 2.50kg)	Simple logistic regression			Multiple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	Sig	b	Adjusted OR (95% CI)	Sig
Parity								
Multipara	20 (21.7)	160 (45.8)	0					
Primipara	72 (78.3)	189 (54.2)	1.114	3.05(1.78,5.22)	<0.001			
Intention of pregnancy								
Planned	14 (15.2)	110 (31.4)	0					
Unplanned	78 (84.8)	240 (68.6)	0.937	2.55(1.39,4.71)	0.003			
Prenatal care								
Yes	82 (89.1)	339 (96.9)	0					
No	10 (10.9)	11 (3.1)	1.324	3.76(1.54,9.15)	0.004			
Total number of antenatal visit (mean, SD)	8.8 (6.9)	12.0(8.2)	-0.058	0.94(0.91,0.98)	0.001			
Prenatal depression								
No	38 (41.8)	218 (62.5)	0					
Yes	53 (58.2)	131 (37.5)	0.842	2.32(1.45,3.71)	<0.001			
Mental Component Score of SF-12 (mean, SD)	39.6 (8.1)	42.1 (9.2)	-0.030	0.97 (0.94,0.99)	0.032			

* Forward multiple logistic regression model was applied with (0) as reference, multicollinearity and interaction terms were checked and none were found, classification table (overall correctly classified percentage=79.9%) and the area under the ROC curve (63.6%)

4.2.3.3 Association between marital status and mode of birth delivery.

The dependent variable was modes of birth delivery, which were categorised into two; spontaneous vaginal delivery and assisted delivery (include LSCS and assisted birth using forceps or vacuum). There were 101 (22.8%) women out of 442 total women who delivered via non-spontaneous vaginal in this study. Only 25.7% of the women that delivered via non-spontaneous vaginal were unmarried, while 74.3% were married. It means that the unmarried women were more likely to deliver their babies via the spontaneous vagina.

Simple logistic regression reported that married women had 4.24 odds in delivering their babies via assisted delivery compared to the unmarried women. However, when other possible factors were controlled in the multiple logistic regression analysis, marital status was not significantly associated with a mode of birth delivery. The significant factors were age and number of antenatal visits, as an increase in 1 year of age and 1 antenatal visit were 1.12 times and 1.03 more likely to deliver their babies via non-spontaneous vagina.

Table 4.12: Associated factors of mode of birth delivery by the Simple and Multiple Logistic Regression model

Variable	Non vaginal	Vaginal	Simple logistic regression			Multiple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	p-value	b	Adjusted OR (95% CI)	p-value
Marital status								
Unmarried	26 (25.7)	203 (59.5)	0					
Married	75 (74.3)	138 (40.5)	1.445	4.24(2.59,6.97)	<0.001			
Age (mean, SD)	14.9 (9.0)	10.1 (7.5)	0.124	1.03(1.09,1.17)	<0.001	0.109	1.12(1.07,1.16)	<0.000
Total number of antenatal visit	28.5 (6.8)	22.8 (6.3)	0.069	1.07(1.04,1.10)	<0.001	0.033	1.03 (1.00,1.07)	0.038
Education level								
Lower education	51 (50.5)	219 (64.2)	0					
Higher education	50 (49.5)	122 (35.8)	0.565	1.76(1.12,2.76)	0.014			
Living arrangement								
Family	85 (84.2)	179 (52.5)	0					
Shelters	16 (15.8)	141 (41.3)	-1.431	0.24(0.13,0.43)	<0.001			
Others	0 (0)	21 (6.2)	-2.046	0.000 (0.000, -)	0.998			
Employment status								
Unemployed	59 (58.4)	187 (54.8)	0					
Employed	42 (41.6)	154 (45.2)	0.534	1.71(1.09,2.67)	0.020			
Parity								
Primipara	39 (38.6)	222 (65.1)	0					
Multipara	62 (61.4)	118 (34.7)	1.096	2.99(1.89,4.73)	<0.001			

Table 4.12 (CONTINUED)

Variable	Non vaginal	Vaginal	Simple logistic regression			Multiple logistic regression		
	n (%)	n (%)	b	Crude OR (95% CI)	p-value	b	Adjusted OR (95% CI)	p-value
Intention of pregnancy								
Unplanned	62 (61.4)	256 (75.1)	0					
Planned	39 (38.6)	85 (24.9)	0.639	1.89(1.18,3.03)	0.008			
Timing of antenatal care initiation								
Early	71 (70.3)	156 (45.7)	0					
Late/no	23 (29.7)	185 (54.3)	-1.032	0.36 (0.22,0.57)	<0.001			
Pregnancy problem								
No	37 (38.1)	188 (57.0)	0					
Yes	60 (61.9)	142 (43.0)	0.764	2.15(1.35,3.42)	0.001			
Psychological well-being (GHQ score)								
Poor (≥4)	28 (30.1)	152 (50.0)	0					
Normal (0-3)	65 (69.9)	152 (50.0)	0.840	2.32 (1.41,3.82)	0.001			
Support from partner								
No	12 (11.9)	107 (31.4)	0					
Yes	89 (88.1)	234 (68.6)	1.221	3.39(1.78,6.46)	<0.001			
Support from friends								
No	29 (28.7)	135 (39.6)	0					
Yes	72 (71.3)	206 (60.4)	0.487	1.63(1.00,2.64)	0.048			

* Forward multiple logistic regression model was applied with (0) as reference, multicollinearity and interaction terms were checked and none were found, Hosmer-Lemeshow test, (p=0.79), classification table (overall correctly classified percentage=78.9%) and the area under the ROC curve (74.5%)

4.2.3.4 Association between marital status and other medical outcomes.

The dependent variable is Apgar score, which was categorised into the two; low Apgar score (less than 7) and normal Apgar score (7 and more). Of the 442 birth deliveries, most low Apgar score babies were from the unmarried women (63.3%), while for normal Apgar score babies, 51.0% were from the unmarried women and 48.4% were from the married women. The simple logistic regression analysis yielded that marital status was not significantly associated with the Apgar score as shown in Table 4.13.

Table 4.13; Association between marital status and Apgar score.

Variable	Apgar Score		Simple logistic regression		
	7 and more n (%)	Less than 7 n (%)	b	Crude OR (95% CI)	p-value
Married	202 (48.4)	11 (36.7)	0		
Unmarried	210 (51.0)	19 (63.3)	0.508	1.66(0.77,3.58)	0.195
Total	412 (93.2)	30 (6.8)			

Significant difference at $p<0.05$; (0) as reference group

The Intra-partum complication, as a dependent variable was measured as Yes or No. Out of the 442 birth deliveries, most of the women who experienced intra-partum complications were married (60.0%) whereas, only 40.0% were unmarried. The two hundred and ten unmarried women did not experience any intra-partum complications. The simple logistic regression analysis yielded that marital status was not significantly associated with birth complications to mothers as shown in Table 4.14.

Table 4.14: Association between marital status and intra-partum complication.

Variable	Intra-partum complication		Simple logistic regression		
	No n (%)	Yes n (%)	b	Crude OR (95% CI)	p-value
Married	187 (47.1)	27 (60.0)	0		
Unmarried	210 (52.9)	18 (40.0)	-0.512	0.59 (0.32,1.11)	0.104
Total	397 (89.8)	45 (10.2)			

Significant different at p<0.05; (0) as reference group

In terms of infant's admission to the special care unit after delivery, overall, only 70 (15.9%) infant out of 442 infant were admitted to the special care unit following birth. A majority of the infant who were admitted to the special care unit were from the unmarried women (60.0%) compared to only 40% of the married women. Simple logistic regression analysis showed that marital status was not significantly associated with an admission of infant to the special care unit as shown in Table 4.15.

Table 4.15 Association between marital status and admission of baby to special unit

Variable	Admission to special unit		Simple logistic regression		
	No n (%)	Yes n (%)	b	Crude OR (95% CI)	p-value
Married	185 (49.7)	28 (40.0)	0		
Unmarried	187 (50.3)	42 (60.0)	0.395	1.48 (0.88,2.50)	0.137
Total	372 (84.1)	70 (15.9)			

Significant difference at p<0.05; (0) as reference group

The last medical outcome that was examined in this section was infants' abnormalities. Only four (0.9%) infants born in this study had abnormalities; 3 (75.0%) infants of unmarried women and 1 (25.0%) infant of married women. As shown in Table 4.16, marital status was not significantly associated with the infant's abnormality based on the simple logistic regression analysis.

Table 4.16: Association between marital status and abnormality in infant

Variable	**Infant have an abnormality**		**Simple logistic regression**		
	No n (%)	**Yes n (%)**	**b**	**Crude OR (95% CI)**	**p-value**
Married	212 (48.4)	1 (25.0)	0		
Unmarried	226 (51.6)	3 (75.0)	1.035	2.81 (0.29,27.26)	0.372
Total	438 (99.1)	4 (0.9)			

Significant difference at $p<0.05$; (0) as reference group

4.2.4 Impact on Quality of Life

The 12-Short Form Survey was used to measure a quality of life from the two broad health perspectives; physical and mental health among women. It was assessed as a continuous scale, where the higher score reflects better quality of life. The respondents among the unmarried group had relatively higher scores on the Physical Health Composite Score and lower scores on the Mental Health Composite Score than those in the married group (see Table 4.17).

A mixed between-within subject analysis of variances was conducted to assess the difference in the two groups (married and unmarried) on SF12 physical and mental composite scores, across the four time periods (antenatal, shortly after a childbirth, 1 and 3 months after a childbirth).

Looking at the Physical Composite Score across time, the mean scores of the unmarried group was 38.40 during pregnancy, which decreased shortly after childbirth (35.28), and then increased within 1 month (37.75) and 3 months after childbirth (39.20). This pattern was similar in the married group as, the lowest score of quality of life was shortly after childbirth (31.31).

There was a significant interaction between group and time for the Physical Composite Score, Wilk Lambda = 0.96, F (3,397) = 5.76, p = 0.001, partial eta squared = 0.042. The substantial main effect for time, Wilk's Lambda, = 0.63, F (3,397) = 79.56, $p < 0.001$, partial eta squared = 0.375, with both groups showing difference in SF12 physical component score across the four time periods. The main effect comparing the two groups was significant, F (1,399) = 35.21 $p < 0.001$, partial eta squared = 0.81, suggesting that there are differences in the physical component of the quality of life between the two groups (Table 4.17).

In terms of the Mental Composite Score across time, the mean score for the unmarried group was 40.10 during pregnancy, which increased shortly after childbirth (42.09), decreased after a month (39.68) and then increased after the 3 months of childbirth (39.95). This was different from the married group as, the score increased from 42.67 at pregnancy stage to 47.56 shortly after childbirth. Then, the score decreased after a month (45.36) and 3 months after childbirth (44.72).

There was a significant interaction between the groups and time for Mental Composite Score, Wilk Lambda = 0.97, F (3,397) = 3.88 p = 0.009, partial eta squared = 0.029. There was a substantial main effect for time, Wilk's Lambda, = 0.86, F (3,397) = 21.44, $p < 0.001$, partial eta squared = 0.139, with both groups showing difference in SF12 Mental Component Score across the four time periods. The main effect comparing the two groups was significant, F (1,399) = 59.56, $p < 0.001$, partial eta squared = 0.130, suggesting there was a difference in the mental component of the quality of life between the two groups.

Based on the simple linear regression test, there was a significant association between marital status and quality of life in physical and mental domain. The unmarried pregnant women were 2.42 times more likely to have good physical domain and 3.33 times more likely to have a poor mental domain than the married pregnant women. At postpartum stage, the unmarried women were more likely to have better physical domain than the married women at shortly after childbirth (4.12), at 1 month after childbirth (1.40), and at 3 months after childbirth (1.22). However, the unmarried women were more likely to have a poor mental domain than the married women at shortly after childbirth (5.77), at 1 month after childbirth (5.66), and at 3 months after childbirth (4.77) as shown in Table 4.17.

When all the factors were controlled and adjusted in the multiple linear regression analysis, marital status influenced the women to have a poor physical domain at shortly after childbirth (2.25) and poor mental domain during pregnancy (3.75). Based on the multiple linear regressions, the factors associated with a poor quality of life among the women in this study are shown in Table 4.18 and 4.19.

Table 4.17: Quality of life (SF12 score) between marital status and time series

Variable	Time period	Unmarried group (n = 203)	Married group (n= 198)	b	(95% CI)	Sig value[a]
		Mean (SD)	Mean (SD)			
SF12 Physical Component Score	Antenatal	38.40 (7.44)	36.15 (6.70)	2.425	(1.19, 3.66)	<0.001*
	Shortly after childbirth	35.28 (6.21)	31.31 (5.33)	4.117	(3.02, 5.22)	<0.001*
	1 month after childbirth	37.75 (6.22)	36.37 (4.98)	1.401	(0.30, 2.51)	0.013 *
	3 month after childbirth	39.20 (6.10)	37.98 (4.20)	1.224	(0.19,2.26)	0.020*
SF12 Mental Component Score	Antenatal	40.10 (10.13)	42.67 (7.42)	-3.318	(-4.89, -1.75)	<0.001*
	Shortly after childbirth	42.09 (8.78)	47.56 (8.82)	-5.772	(-7.41, -4.04)	<0.001*
	1 month after childbirth	39.68 (7.82)	45.36 (7.10)	-5.663	(-7.13, -4.20)	<0.001*
	3 month after childbirth	39.95 (7.75)	44.72 (6.61)	-4.772	(-6.19, -3.36)	<0.001*

* Significant difference at p<0.05; Statistical test – [a] Simple Linear Regression test

Table 4.18: Factors associated with SF12 Physical Component Score using Multiple Linear Regression

Time	**Antenatal (n=506)**		**Shortly after childbirth (n=440)**		**1 month after childbirth (n=403)**		**3 month after childbirth (n=403)**	
	b (95% CI)	**Sig**	**b (95% CI)**	**Sig**	**b (95% CI)**	**Sig**	**b (95% CI)**	**Sig**
Marital status Married (0); Unmarried (1)			2.253 (0.96,3.55)	0.001				
Ethnicity Non-Malay (0); Malay (1)	-5.488 (-8.59, -2.38)	0.001						
Living arrangement Non-shelter (0); Shelter (1)	-2.237 (-3.57,-0.905)	0.001						
Psychological well-being Normal (0); Poor (1)	3.250 (1.97, 4.53)	<0.001	2.222 (0.95,3.49)	0.001				
Prenatal depression No (0); Yes (1)			1.864 (0.51,3.22)	0.007				
Postpartum depression No (0); Yes (1)					1.877 (0.62,3.14)	0.004		
Type of delivery Vaginal (0); Non-Vaginal (1)					-2.108 (-3.40,-0.81)	0.002	-1.718 (-2.93,-0.51)	0.006
Residential Urban (0); Rural (1)							1.455 (0.36,2.53)	0.009

* Significant different at p<0.05

Table 4.19: Factors associated with SF12 Mental Component Score using Multiple Linear Regression.

Time	Antenatal (n=506)		Shortly after childbirth (n=440)		1 month after childbirth (n=403)		3 month after childbirth (n=403)	
	b (95% CI)	Sig	b (95% CI)	Sig	b (95% CI)	Sig	b (95% CI)	Sig
Marital status Married (0); Unmarried (1)	3.758 (1.37,6.15)	0.002						
Psychological well-being Normal (0); Poor (1)	-2.826 (-4.58,-1.07)	0.002	-5.288 (-7.12,-3.46)	<0.001			-5.059 (-6.81,-3.31)	<0.001
Employment status Employed (0); Unemployed (1)	1.628 (0.09,3.16)	0.038						
Living arrangement Non-shelter (0); Shelter (1)	4.445 (2.10,6.79)	<0.001			3.864 (2.05,5.68)	<0.001		
Prenatal depression No (0); Yes (1)	-4.352 (-6.27,-2.43)	<0.001	-4.583 (-6.46,-2.71)	<0.001				
COPE score	-0.131 (-0.19,-0.07)	<0.001	-0.115 (-0.19,-0.04)	0.004			-0.098 (-0.16,-0.03)	0.003
Ethnicity Non-Malay (0); Malay (1)			6.298 (1.65,10.95)	0.008	5.929 (1.41,10.45)	0.010	4.822 (0.59,9.05)	0.026
Total number of antenatal visit			-0.112 (-0.22,-0.01)	0.034	-0.255 (-0.36,-0.16)	<0.001	-0.103 (-0.19,-0.02)	0.024
Residential Urban (0); Rural (1)							-2.144 (-3.50,-0.79)	0.002
Age (years)					0.275 (0.15,0.40)	<0.001	0.232 (0.12,0.34)	<0.001
Postpartum depression No (0); Yes (1)					-4.697 (-6.43,-2.96)	<0.001	-3.878 (-5.48,-2.27)	<0.001
Type of delivery Vagina (0); Non-Vagina (1)					2.215 (0.45,3.99)	0.014		
Problem during pregnancy No (0); Yes (1)					1.582 (0.15,3.01)	0.030		

* Significant different at p<0.05

4.2.5 Physical Impact

The women were asked about their complications faced during pregnancy and physical effect or changes they felt. These questions were asked at 1 month and 3 months after childbirth. In terms of health/medical complications after 1 month childbirth, only eleven (5.4%) unmarried women claimed to have problems, which is a lower proportion than the married women (8.5%). There was no significant association between marital status upon pregnancy and health problem after 1 month of childbirth (p=0. 224). The common health problems reported by the women after 1 month of childbirth were anaemia, fever, high blood pressure, bleeding, backache, rashes and pain in the pelvic area.

Similar findings were obtained at 3 months after childbirth; there were only 4.4% unmarried women and 4.5% married women who reported to have health problems related to pregnancy and childbirth. There was no significant difference in health problems after 3 months of childbirth between the two groups (p=0. 974). The health problems were fever, oedema, backache, joint pain, pain in the pelvic area and blood clot.

Table 4.20 and 4.21 summarized the percent distribution of physical impact felt by the women in this study. Among the unmarried women, the majority of them stated that they felt a little less physically attractive (46.8%), felt not at all less sexually attractive (51.2%), felt a little less energetic (42.9%), felt a quite bit more energetic (39.9%), felt a little dissatisfied with their body and appearance (36.9%) and all felt that the pregnancy had caused an imperfect body (55.2%). Whereas, for the married women, the majority of them stated they not at all felt less physically attractive (49.5%), not at all felt less sexually attractive (57.5%), felt a little less energetic (55.5%), felt a quite bit more energetic (47.5%), not at all felt dissatisfied with body and appearance (46.0%) and did not at all felt pregnancy cause with

their body and appearance (50.0%) and did not feel pregnancy had caused an imperfect body (71.5%) after 1 month of childbirth.

There was a significant difference in feeling less sexually attractive (p=0. 005), less energetic (p=0. 035), dissatisfied with body and appearance (p<0.001) and felt pregnancy caused an imperfect body (p<0.001) between the unmarried and married group at 1 month after childbirth. However, the feelings of more energetic and less physically attractive were not significantly different (p=0. 259 and p=0. 098) between the two groups.

Different distribution was seen at 3 months after childbirth between the two groups. For the unmarried women, a high proportion of them stated that they felt a little less physically attractive (45.8%), did not feel less sexually attractive (51.7%), felt a little less energetic (46.8%), felt a quite bit more energetic (41.4%), did not feel dissatisfied with their body and appearance (39.9%) and did not feel that pregnancy has left less whole body (58.1%). Among the married women, the majority of them stated that they did not feel less physically attractive (55.0%), did not feel less sexually attractive (61.5%), did not feel less energetic (44.0%), felt a quite bit more energetic (48.0%), did not feel dissatisfied with their body and appearance (50.0%) and did not feel pregnancy had caused an imperfect body (73.5%) after 3 months of childbirth.

There was a significant difference in feeling less physically attractive (p<0.001), less sexually attractive (p=0. 024), dissatisfied with body and appearance (p=0. 002) and felt pregnancy caused an imperfect body (p<0.001) among the unmarried and married group after 3 months of delivery. However, the feeling of less energetic (p=0. 391) and more energetic (p=0. 524) was not significantly different based on the Chi-square test.

Table 4.20: Percent distribution of physical impact felt by respondents at 1 month after childbirth

	Unmarried mothers				Married mothers				Test[c] (df)	p-value
	Not at all	A little	Quite a bit	Very much	Not at all	A little	Quite a bit	Very much		
Less physically attractive	38.9	46.8	10.3	3.9	49.5	41.5	7.5	1.5	6.31 (3)	0.098
Less sexually attractive	51.2	30.5	12.3	5.9	57.5	35.5	6.0	1.0	12.85 (3)	0.005*
Less energetic	37.4	42.9	16.7	3.0	27.0	55.5	16.5	1.0	8.63 (3)	0.035*
More energetic	11.8	35.5	39.9	12.8	12.5	26.5	47.5	13.5	4.02 (3)	0.259
Dissatisfied with body and appearance	36.5	36.9	11.3	15.3	46.0	41.0	11.0	2.0	23.09 (3)	<0.001*
Felt pregnancy cause an imperfect body	55.2	30.0	8.9	5.9	71.5	25.0	3.0	0.5	20.15 (3)	<0.001*

* Significant difference at p<0.05; Statistical test –[c]Chi-square test

Table 4.21: Percent distribution of physical impact felt by respondents at 3 months after childbirth

	Unmarried mothers				Married mothers				Test[c] (df)	p-value
	Not at all	A little	Quite a bit	Very much	Not at all	A little	Quite a bit	Very much		
Less physically attractive	37.9	45.8	13.3	3.0	55.0	39.0	3.5	2.5	18.97 (3)	<0.001*
Less sexually attractive	51.7	33.5	9.9	4.9	61.5	32.5	4.5	1.5	9.41 (3)	0.024*
Less energetic	37.4	46.8	14.8	1.0	44.0	42.5	11.5	2.0	3.00 (3)	0.391
More energetic	10.8	29.1	41.4	18.7	11.5	24.5	48.0	16.0	2.24 (3)	0.524
Dissatisfied with body and appearance	39.9	36.5	13.3	10.3	50.0	39.5	8.0	2.5	14.80 (3)	0.002*
Felt pregnancy cause an imperfect body	58.1	28.1	8.4	5.4	73.5	23.5	2.5	0.5	18.99 (3)	<0.001*

* Significant difference at p<0.05; Statistical test –[c]Chi-square test

4.2.6 Economic Impact

The four variables explored in this section were effects of pregnancy on job or current education, effects of pregnancy on women's income, financial problems faced by the women due to pregnancy and living arrangement problems. During pregnancy, 80.2% of the unmarried women reported that their pregnancies affected their jobs/study, whereas, 19.8% married women had problems with their jobs/studies due to pregnancy. Out of the 162 unmarried women who stated that their jobs/studies were affected, 40.7% said they had to delay their studies for a period of time, 34.0% said they had lost their jobs, 17.3% had stopped studying, and 4.3% had to change to another college. For the married women, most of them stated that their pregnancies affected their quality of work (65.0%) and 25.0% had lost their jobs.

After 1 month and 3 months of childbirth, the percentage of women reported that their jobs/studies were affected by their pregnancies or childbirth decreased as shown in Table 4.22. Similar to how pregnancy affected their job/study, the percentage of the unmarried women also decreased for a delay in their studies for a period of time (39.5% to 33.3%), lost their job (29.4% to 24.8%) and stopped studying (17.6% to 24.8%). Based on the chi-square test, there was a significant association between marital status and impact of pregnancy on job/study ($p<0.001$).

Table 4.22: Impact of pregnancy on job or education by marital status across time

Time	Antenatal (n=506)		1 month of childbirth (n= 403)		3 months of childbirth (n= 403)	
	Yes	No	Yes	No	Yes	No
Marital status						
Married	40 (19.8)	205 (67.4)	13 (9.8)	187 (69.0)	16 (13.2)	184 (65.2)
Unmarried	162 (80.2)	99 (32.6)	119 (90.2)	84 (31.0)	105 (86.8)	98 (34.8)
Total	202 (39.9)	304 (60.1)	132 (32.7)	271 (67.2)	121 (30.0)	282 (70.0)
Test	10.25[a] (1)		124.25 [a] (1)		91.67 [a] (1)	
Sig value	<0.001*		<0.001*		<0.001*	

* Significant difference at p<0.05; Statistical test –[c]Chi-square test

Table 4.23: How pregnancy impacted their jobs or studies

Impact	Antenatal		1 month of childbirth		3 months of childbirth	
	Unmarried mothers	Married mothers	Unmarried mothers	Married mothers	Unmarried mothers	Married mothers
Lost job/stop working	55 (34.0)	10 (25.0)	35 (29.4)	5 (38.4)	26 (24.8)	3 (18.7)
Change to another workplace	0	2 (5.0)	5 (4.2)	1 (7.7)	8 (7.6)	1 (6.3)
Stop studying	28 (17.3)	0	21 (17.6)	0	18 (17.1)	0
Change to another college	7 (4.3)	0	8 (6.7)	0	14 (13.3)	0
Delay of study for a period of time	66 (40.7)	2 (5.0)	47 (39.5)	1 (7.7)	35 (33.3)	1 (6.3)
Others	6 (3.7)	26 (65.0)	3 (2.5)	6 (46.2)	4 (3.9)	11 (68.7)
Total	**162 (100)**	**40 (100)**	**114 (100)**	**13 (100)**	**105 (100)**	**16 (100)**

The second variable was about the effects of pregnancy on the women's income, 72.9% unmarried women claimed that this pregnancy affected their income; as compared to 27.1% married women. The percentage of the unmarried women who reported that their pregnancies affected their income decreased to 61.9% after 1 month of childbirth and decreased to 54.5% after 3 months. There was a significant association between marital status and impact of pregnancy to women's income during pregnancy ($p<0.001$) but not significant at 1 month and 3 months after childbirth (Table 4.24).

Table 4.24: Impact on income by marital status across time

Time	**Antenatal (n=506)**		**1 month of childbirth (n= 403)**		**3 months of childbirth (n= 403)**	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
Marital status						
Married	16 (27.1)	229 (51.2)	16 (38.1)	184 (51.0)	15 (45.5)	185 (50.0)
Unmarried	43 (72.9)	218 (48.8)	26 (61.9)	177 (49.0)	18 (54.5)	185 (50.0)
Total	59 (11.7)	447 (88.3)	42 (10.4)	361 (89.6)	33 (8.1)	370 (91.9)
Test	12.13[a] (1)		2.49 [a] (1)		0.25 [a] (1)	
Sig value	<0.000*		0.114		0.617	

* Significant difference at $p<0.05$; Statistical test –[c]Chi-square test

When asked whether they faced any financial problems due to the pregnancy, 83.3% of the pregnant women from the unmarried group said so and about 64.1% and 57.4% stated that at 1 month and 3 months after childbirth. The significant association was found between marital status and financial problem during pregnancy stage, however, no significant associations were found at 1 month and 3 months after childbirth (Table 4.25).

Table 4.25: Impact of financial problem by marital status across time period

Time	Antenatal (n=506)		1 month of childbirth (n= 403)		3 months of childbirth (n= 403)	
	Yes	No	Yes	No	Yes	No
Marital status						
Married	8 (16.7)	237 (51.7)	14 (35.9)	186 (51.0)	20 (42.6)	180 (50.6)
Unmarried	40 (83.3)	221 (48.3)	25 (64.1)	178 (48.9)	27 (57.4)	176 (49.4)
Total	48 (9.5)	458 (90.5)	39 (9.8)	364 (90.3)	47 (11.7)	356 (88.3)
Test	21.41[a] (1)		3.26 [a] (1)		1.07 [a] (1)	
Sig value	<0.000*		0.071		0.302	

* Significant difference at p<0.05; Statistical test –[c]Chi-square test

In terms of living arrangement among the unmarried women, shelters leading the list (69.3%), followed by family members (14.3%), non-family members (8.8%), partners (4.2%) and relatives (3.1%). This was similar with living arrangement of the women shortly after childbirth. Looking at 1 month after childbirth, the unmarried women staying with family members doubled (29.6%). Then at 3 months after childbirth, 48.8% stayed in shelters, 35.5% stayed with family members as shown in Figure 4.3.

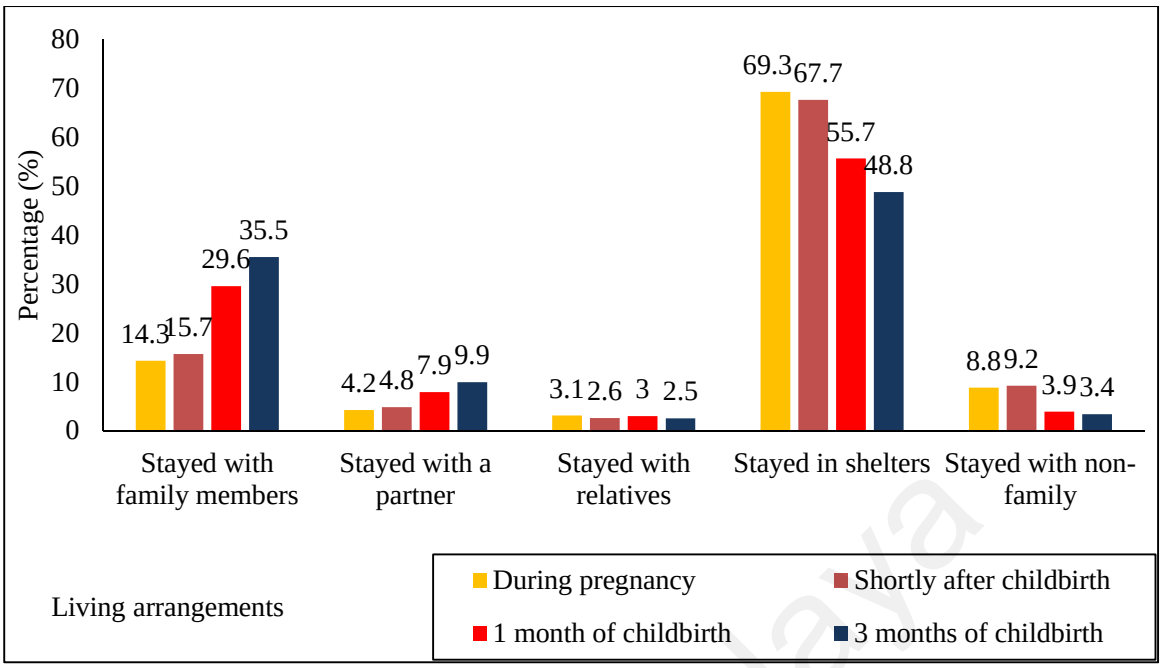

Figure 4.3: Distribution of living arrangement among the unmarried mothers across four time periods

4.2.7 Social Outcomes of the Infant

Table 4.26 summarizes the plan and decision of the unmarried women about their infant across the time periods. At the pregnancy stage, about 30.7% of the 261 unmarried women planned to give their infant for adoption, 27.6% planned to raise their infant by themselves, 17.2% did not know what to do with the infant, 6.9% planned to give the infant to family/relatives and about 13.4% stated other plans. This included planning to get married with a partner. Eleven (4.2%) women who were unmarried upon conceiving were now married to their partners during pregnancy.

The women's plan changed shortly after childbirth where only 15 (6.6%) women did not exactly know their plans for the infant, 39 (17.0%) women wanted to give their infant to family/relatives and 10.9% stated other plans. No difference was seen in percentage of women's plan to raise up their infant on their own, and adoption choice during this time compared to prior childbirth. At 1 month after childbirth, most women (43.8%) gave their infant for adoption, 31.0% took care of their infant by themselves, 15.8% gave their infant to the family/relatives and 16 (7.9%) women got married with the partners.

At 3 months after childbirth, among the 203 women that were unmarried upon conceiving, 43.8% had given their infant for adoption, 27.1% had decided to take care of their infant by themselves with the family's help (motherhood), and 17.7% had chosen kinship fostering, which means that they gave their infant to family members/relatives. Twenty women (9.9%) got married to their partners (parenthood), one woman had lost her infant (died) and the 2 women stated other choices. Among the 36 women who chose kinship fostering at the third month after childbirth, the infant were fostered by brothers (n=2; 5.5%), aunties (n=6; 16.7%), parents (n=26; 72.2%), sisters (n=1; 2.8%) and friends (n=1; 2.8%)

Table 4.26: Planning by the unmarried mothers about their infant

Decision	Unmarried mothers [n (%)]			
	Antenatal	**After childbirth**	**1 month after childbirth**	**3 months after childbirth**
Took care of their own infant	72 (27.6)	58 (25.3)	63 (31.0)	55 (27.1)
Gave to family/relatives to raise up the infant	18 (6.9)	39 (17.0)	32 (15.8)	36 (17.7)
Gave the infant up for adoption	80 (30.7)	81 (35.4)	89 (43.8)	89 (43.8)
Got married and raise the infant together	11 (4.2)	11 (4.8)	16 (7.9)	20 (9.9)
Did not know	45 (17.2)	15 (6.6)	0	0
Others	35 (13.4)	25 (10.9)	3 (1.5)	3 (1.5)
Total	**261 (100)**	**229 (100)**	**203 (100)**	**203 (100)**

Based on 3 months after childbirth data on the infant's fate, binary choices were developed for a social outcome of the infant; adoption or non-adoption. Those who gave their infant for adoption were categorised into adoption and those who chose motherhood, kinship fostering, parenthood and others were categorised into non-adoption. Out of 203 women that were unmarried upon conceiving in this study, 89 (43.8%) women had decided to give their infant for adoption and 114 (56.2%) women had decided not to give their infant to the other families.

The simple logistic regression analysis found that the eleven variables were significantly associated with a decision of infant's fate, out of the 46 predictor factors. The factors were socio-demographic factors, social support factors and partner's factor as shown in Table 4.27.

Table 4.27: Factors significantly associated with adoption choice among the unmarried mothers

Variables	Adoption n (%)	Non Adoption n (%)	Odds Ratio (95% CI)	p-value
Studying status				
Finished/stopped	36 (40.4)	70 (61.9)	0	
Studying	53 (59.6)	43 (38.1)	2.40 (1.36, 4.32)	0.003*
Working status prior pregnancy				
Working	24 (27.0)	54 (47.8)	0	
Not working	65 (73.0)	59 (52.2)	2.48 (1.37, 4.50)	0.003*
Living arrangement prior pregnancy				
Stayed without parents	16 (18.0)	41 (36.3)	0	
Stayed with parents	73 (82.0)	72 (63.7)	2.60 (1.34, 5.04)	0.005*
Living arrangement during pregnancy				
Stayed with family	3 (3.4)	38 (33.6)	0	
Stayed with non-family	86 (96.6)	75 (66.4)	14.52 (4.31,48.98)	<0.001*
Age of partner [years (mean, SD)]	21.8 (4.8)	23.6 (5.9)	0.93(0.87, 0.99)	0.032*
Reaction of partner towards infant				
Wanted the infant	45 (67.2)	81 (81.8)	0	
Did not want the infant	22 (32.8)	18 (18.2)	2.20 (1.07,4.53)	0.032*
Current status of relationship with partner				
Sill in contact	29 (32.6)	64 (56.6)	0	
No contact	60 (67.4)	49 (43.4)	2.07 (1.52,4.82)	0.001*
Physically abused by partner for having sex				
No	45 (50.6)	80 (70.8)	0	
Yes	44 (49.4)	33 929.2)	2.37 (1.33, 4.24)	0.004*
Support from partner				
Yes	27 (30.3)	69 (61.1)	0	
No	62 (69.7)	44 (38.9)	3.60 (2.00, 6.49)	<0.001*
Financial support from partner				
Yes	21 (23.6)	58 (51.3)	0	
No	68 (76.4)	55 (48.7)	3.42 (1.85,6.30)	<0.001*
Social support 3 months after childbirth (MOSSS score)	45.15 (15.59)	51.45 (16.56)	0.98 (0.96,0.99)	0.007*

* Significant difference at p<0.05

The preliminary main effect model was obtained by the automatic variable selection methods utilizing the backward procedure. There were three independent variables that significantly contributed to the preliminary model. The variance-inflation-factors (VIF) of these variables were less than 10 and were considered not to have multicollinearity. The LR test found no 2-way interaction between the significant variables. No confounding effects were determined and the preliminary final model was tested for its fitness before it was accepted. The Hosmer-Lemeshow Goodness-of-fit statistics revealed the Chi-square of 0.67, df 4 and a p value of 0.955. The classification table showed 85.0% specificity, 47.0% sensitivity and overall correctly classified percentage were 68.3%. The ROC curve revealed area under the curve was 0.753. These values were considered as nearly a perfect fit.

The factors influencing adoption choice among the unmarried mothers were living arrangement during pregnancy, working status during pregnancy and support from partners. Unmarried women who were stayed with other than their family during pregnancy were 2.66 times (95% CI 1.36-5.22) more likely to choose for adoption compared to those who stayed with family. Unmarried women who were not working during pregnancy and had no support from partners were 9.03 times (95% CI 2.58-31.61) and 2.87 times (95% CI 1.48-5.57) respectively more likely to choose for adoption.

Table 4.28: Factors influencing adoption choice among the unmarried mothers (Analysed using Multiple Logistic Regression)

Variables	**b**	**Adjusted OR**	**(95% CI)**	**Sig**
Living arrangement during pregnancy				
Stayed with family	0			
Stayed with non-family	2.200	2.66	(1.36, 5.22)	0.004*
Working status prior pregnancy				
Working	0			
Not working	0.978	9.03	(2.58,31.61)	0.001*
Support from partner				
Yes	0			
No	1.055	2.88	(1.48,5.57)	0.002*

Backward multiple logistic regression model was applied with (0) as reference, Multicollinearity and interaction terms were checked and not found, Hosmer-Lemeshow test, (p=0. 955), the classification table (overall correctly classified percentage=68. 3%) and area under the ROC curve (75.3%) were applied to check the model fitness

* Significant difference at $p<0.05$

4.3 Social Support and Coping Strategies

4.3.1 Association between marital status and social support

There were two different social support measured using a standard scale in this study. First was on perceived social support in their lifetime related to youth involvement with unmarried pregnancy and the other one was current social support women received during pregnancy, childbirth, and after childbirth.

Perceived social support was measured using the Multidimensional Scale of Perceived Social Support. Table 4.29 presents a comparison of means between the unmarried and married group on social support scale items. Looking at items 1 to 4 for support from Significant Others, the mean score of the married pregnant women was higher than the unmarried pregnant women. It was same in items 8 to 12 for Friends' support; the unmarried women had a lower mean score compared to the married women. But in Family support, which are items 5 to 8, the mean score between the two groups has a small difference and items 5 showed no differences. The Mann-U Whitney test showed that the mean score for MSPSS items was significantly associated with a pregnancy status except for items number 5.

The overall mean score of MSPSS was 62.5 ± 10.6 points in the unmarried women and 68.1 ± 8.8 points in the married women. There was a significant difference between the pregnancy groups and the perception of a social support based on the Mann-U Whitney test ($p<0.001$). The mean scores of the various subgroups (family, friends, and special person), which constituted the core of social support are shown in Figure 4.4. The married women reported significantly greater perception of social support from the significant others, friends and family compared to the unmarried women.

Table 4.29: Comparison of the married versus unmarried mothers on MSPSS items

MSPSS Items	Unmarried pregnancy (n=261) Mean (SD)	Married pregnancy (n=245) Mean (SD)	p-value[a]
1. There is a special person who is around when I am in need.	5.2 (1.4)	5.8 (1.0)	<0.001*
2. There is a special person with whom I can share my joys and sorrows.	5.4 (1.3)	5.8 (1.0)	<0.001*
3. I have a special person who is a real source of comfort to me.	5.3 (1.4)	5.9 (1.0)	<0.001*
4. There is a special person in my life that cares about my feelings.	5.6 (1.2)	6.0 (0.9)	0.001*
5. My family really tries to help me	5.9 (1.2)	5.9 (0.9)	0.371
6. I get the emotional help and support I need from my family.	5.6 (1.3)	5.9 (0.9)	0.023*
7. I can talk about my problems with my family.	5.3 (1.4)	5.9 (0.9)	<0.001*
8. My family is willing to help me to make decisions.	5.5 (1.4)	5.8 (0.9)	0.039*
9. My friends really try to help me.	4.6 (1.4)	5.4 (1.0)	<0.001*
10. I can count on my friends when things go wrong.	4.2 (1.4)	5.0 (1.1)	<0.001*
11. I have friends with whom I can share my joys and sorrows.	5.0 (1.3)	5.4 (1.0)	0.006*
12. I can talk about my problem with my friends.	4.7 (1.37)	5.3 (0.9)	<0.001*

* Significant difference at p<0.05; Statistical test – [a]Mann-U Whitney test,

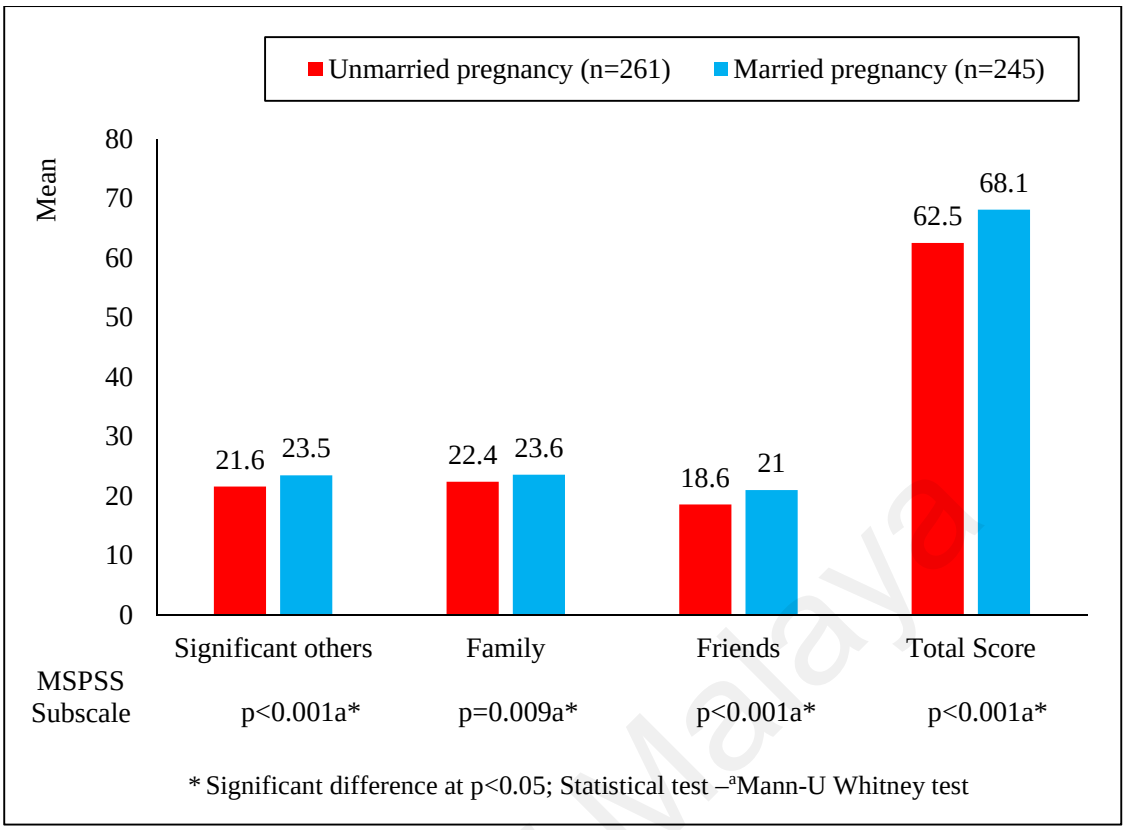

Figure 4.4: Comparison of married versus unmarried mothers on MSPSS subscales

Current social support was measured using the Medical Outcome Study Social Support Survey. A higher score for an overall support index indicates better social support. Item 1 in the questionnaire was about how many close friends and relatives, the respondents had, whom they feel at ease and can confide in. The results showed that the median number of friends were similar in both the two groups and across time; 3 friends. About 9 to 13 women (3.9% to 6.5%) did not have anyone at all to talk to and this number was low among the married group which was about 3-4 women (1.4% to 1.6%). The median value was found significantly different during pregnancy ($p<0.001$) and at 1 month after childbirth ($p=0.040$), but was not significantly different at shortly after childbirth ($p=0.059$) and 3 months later ($p=0.057$) between the two groups (Table 4.30).

In terms of an overall support index, the women in the unmarried group had a lower median score than the married group (Table 4.30). The Mann-U Whitney test showed a statistically significant difference in terms of an overall support index between the unmarried and married pregnant women. Similar findings were found on comparing the score for each of the components of the MOS Social Support Survey namely emotional/informational support, tangible support, affectionate support or positive social interactions. The median score was lower in the unmarried group compared to the married group. There were significant differences noted in all the components of social support based on the Mann-U Whitney test.

Looking at a social support index across time, mean scores of the unmarried group were 66.68 during pregnancy, which decreased shortly after childbirth (65.38), and then increased 1 month (66.89) and 3 months after childbirth (67.77). This was different from the married group as, the highest social support they received was shortly after a childbirth (78.31) compared to during pregnancy (76.89), and then decreased after a month (77.75) and 3 months after childbirth (77.60).

A mixed between-within subject analysis of variances was conducted to assess the difference in the two groups (married and unmarried) on the MOS Social Support scores, across the four time periods (antenatal, shortly after childbirth, 1 and 3 months after childbirth). There was a significant interaction between the groups and time, Wilk Lambda = 0.97, F (3,399) = 4.08, p =0.007, partial eta squared = 0.030. There was no substantial main effect for time, Wilk's Lambda, = 0.99, F (3,399) = 1.007, p =0.390, partial eta squared = 0.008, with both groups showing no difference in the MOS social support score across the four time periods. The main effect comparing the two groups was significant, F (1,401) = 80.36, $p < 0.001$, partial eta squared = 0.167, suggesting there were differences in a social support received by the two groups.

Table 4.30: Social Support (MOSSS score) and marital status across the four time periods

Scale	Time period	Unmarried group (n=203)		Married group (n=200)		p-value[a]
		Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	
Total number of friends	Antenatal	4 (3)	3 (0-20)	4 (3)	3 (0-15)	0.020*
	Shortly after childbirth	4 (3)	3 (0-17)	4 (3)	3 (0-20)	0.059
	1 month after childbirth	4 (3)	3 (0-30)	4 (3)	3 (0-25)	0.040*
	3 months after childbirth	5 (4)	3 (0-33)	4 (4)	3 (0-30)	0.057
Total MOSSS score	Antenatal	66.68 (16.29)	67 (25-95)	76.89 (12.44)	76(41-95)	<0.001*
	Shortly after childbirth	65.38 (15.81)	65 (25-95)	78.31 (10.70)	77(48-95)	<0.001*
	1 month after childbirth	66.89 (15.81)	69 (30-95)	77.75 (11.38)	76(46-95)	<0.001*
	3 months after childbirth	67.77 (16.42)	69 (30-95)	77.60 (10.96	76(44-95)	<0.001*
Emotional/ Informational support	Antenatal	27.03 (7.30)	27 (9-40)	31.11 (5.95)	32 (16-40)	<0.001*
	Shortly after childbirth	26.30 (7.24)	25 (11-40)	31.74 (5.52)	32 (17-40)	<0.001*
	1 month after childbirth	26.89 (7.31)	27 (10-40)	31.74 (5.42)	32 (18-40)	<0.001*
	3 months after childbirth	27.56 (7.27)	27 (12-40)	31.70 (5.33)	32 (13-40)	<0.001*

* Significant difference at $p<0.05$; Statistical test – [a]Mann-U Whitney test

Table 4.30: (Continued)

Scale	Time period	Unmarried group (n=203)		Married group (n=200)		p-value[a]
		Mean (SD)	Median (IQR)	Mean (SD)	Median (IQR)	
Tangible support	Antenatal	13.93 (4.00)	14 (4-20)	16.33 (3.10)	16 (6-20)	<0.001*
	Shortly after childbirth	13.97 (3.75)	14 (4-20)	16.47 (2.66)	16 (6-20)	<0.001*
	1 month after childbirth	14.25 (4.03)	14 (4-20)	16.32 (2.75)	16 (6-20)	<0.001*
	3 months after childbirth	14.31 (4.10)	15 (4-20)	16.25 (2.81)	16 (6-20)	<0.001*
Affectionate support	Antenatal	11.11 (3.25)	12 (3-15)	12.82 (2.23)	12 (5-15)	<0.001*
	Shortly after childbirth	10.98 (3.12)	12 (3-15)	13.03 (1.84)	13 (7-15)	<0.001*
	1 month after childbirth	10.91 (3.30)	12 (3-15)	12.86 (2.13)	12 (5-15)	<0.001*
	3 months after childbirth	11.00 (3.35)	12 (3-15)	12.77 (2.01)	12 (6-15)	<0.001*
Positive social interaction	Antenatal	14.62 (4.15)	16 (4-20)	16.62 (3.03)	16 (8-20)	<0.001*
	Shortly after childbirth	14.14 (4.03)	15 (4-20)	17.08 (2.54)	16 (9-20)	<0.001*
	1 month after childbirth	14.84 (3.83)	16 (5-20)	16.83 (2.83)	16 (8-20)	<0.001*
	3 months after childbirth	14.92 (4.00)	16 (4-20)	16.89 (2.57)	16 (9-20)	<0.001*

* Significant difference at $p<0.05$; Statistical test – [a]Mann-U Whitney test

4.3.2 Association between marital status and coping strategies

The most frequently used problem-focused coping strategies found to be similar in both unmarried and married group included: religion, acceptance, using instrumental support, active coping, planning, positive reframing, and using emotional support. However, the most used emotional coping strategies between the unmarried and married group were different. Self-distraction, self-blame, venting and denial were mostly used by the unmarried women, while self-distraction and venting were mostly used by the married women. This difference can be seen in Table 4.31.

The respondents in the unmarried group had relatively higher scores on the emotional-focused strategies and lower scores on the problem-focused strategies than those in the married group. There were significant differences in the emotional-focused strategies score and the problem-focused strategies score between the unmarried and married women in these four time points (Table 4.32).

In terms of an overall coping skill score, the women in the unmarried group had a lower mean score than the unmarried group. The difference in COPE score between the unmarried and married women was significant during pregnancy and shortly after childbirth. But the differences in COPE scores between the unmarried and married women at 1 month and 3 months after childbirth were not significant. The mean coping scores of the unmarried group were 68.67 during pregnancy, decreased at shortly after childbirth (68.18), and then increased at 1 month (69.24) and at 3 months after childbirth (69.22). This was different from the married group as, their scores were high on pregnancy stage (71.94) and decreased to 70.76 shortly after childbirth. Then, the score increased at 1 month (71.12) and decreased after the 3 months of childbirth (70.79).

A mixed between-within subject analysis of variances was conducted to assess the difference in the two groups (married and unmarried) on the coping strategies score, across the four time periods (antenatal, shortly after childbirth, 1 and 3 months after childbirth). There was no significant interaction between group and time, Wilk Lambda = 0.99, F (3,399) = 0.79, p =0.498, partial eta squared = 0.006. There was no substantial main effect for time, Wilk's Lambda, = 0.99, F (3,399) = 1.76, p =0.155, partial eta squared = 0.013, with both groups showing no difference in coping strategies score across the four time periods. The main effect comparing the two groups was significant, F (1,401) = 6.91, p = 0.009, partial eta squared = 0.017, suggesting there were differences in the coping strategies of the two groups.

Based on the simple linear regression test, the unmarried women have 2.54 points less coping score than the married women (95% CI: -4.55, -0.55) during pregnancy. The unmarried women have 2.20 points less coping score than the married women shortly after childbirth (95% CI: -4.14, -0.27). When all the factors were controlled and adjusted in the multiple linear regression analysis, marital status upon pregnancy did not influence coping skill among women. The factors associated with coping skills among women in this study are shown in Table 4.33.

Table 4.31: Means and standard deviations of coping strategies of respondent by marital groups

	Antenatal (n=506)		**Shortly after childbirth (n=440)**		**1 month after childbirth (n=403)**		**3 months after childbirth (n=403)**	
	Unmarried women	Married women	Unmarried women	Married women	Unmarried women	Married women	Unmarried women	Married women
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Acceptance	5.99 (1.59)	6.20 (1.25)	6.04 (1.52)	6.24 (1.12)	6.10 (1.43)	6.34 (1.16)	6.11 (1.41)	6.31 (1.13)
Religion	6.21 (1.63)	7.10 (1.13)	6.20 (1.68)	7.22 (1.04)	6.38 (1.55)	7.27 (1.03)	6.43 (1.57)	7.27 (1.00)
Planning	5.57 (1.63)	6.24 (1.31)	5.69 (1.56)	6.29 (1.11)	5.71 (1.48)	6.32 (1.13)	5.70 (1.44)	6.39 (1.08)
Positive reframing	5.36 (1.68)	6.16 (1.33)	5.36 (1.57)	6.21 (1.22)	5.49 (1.56)	6.28 (1.16)	5.53 (1.43)	6.33 (1.21)
Use of emotional support	5.30 (1.61)	6.06 (1.30)	5.18 (1.46)	6.09 (1.25)	5.44 (1.42)	6.03 (1.29)	5.90 (1.36)	6.26 (1.21)
Use of instrumental support	5.59 (1.60)	6.20 (1.26)	5.78 (1.51)	6.24 (1.15)	5.49 (1.41)	6.04 (1.34)	5.99 (1.30)	6.16 (1.21)
Active coping	5.60 (1.49)	6.18 (1.30)	5.57 (1.37)	6.18 (1.12)	5.52 (1.37)	6.10 (1.21)	5.63 (1.32)	6.19 (1.24)
Humour	4.10 (1.43)	4.96 (1.49)	4.14 (1.43)	4.82 (1.43)	4.39 (1.39)	4.96 (1.46)	4.33 (1.26)	4.91 (1.48)
Self-distraction	5.25 (1.70)	5.54 (1.44)	5.37 (1.61)	5.44 (1.44)	5.32 (1.53)	5.48 (1.46)	5.39 (1.42)	5.42 (1.43)
Venting	4.54 (1.66)	4.31 (1.43)	4.49 (1.52)	4.02 (1.51)	4.46 (1.47)	4.04 (1.55)	4.47 (1.49)	4.07 (1.56)
Self-blame	4.72 (1.69)	3.41 (1.37)	4.53 (1.62)	3.24 (1.27)	4.39 (1.56)	3.30 (1.34)	4.38 (1.46)	3.24 (1.39)
Behavioural disengagement	4.02 (1.62)	3.09 (1.34)	3.78 (1.51)	3.16 (1.54)	3.72 (1.45)	3.01 (1.39)	3.56 (1.48)	2.92 (1.29)
Denial	4.36 (1.78)	3.97 (1.64)	4.29 (1.61)	3.71 (1.56)	4.13 (1.50)	3.68 (1.53)	3.99 (1.52)	3.50 (1.44)
Substance use	2.31 (1.04)	2.05 (0.32)	2.28 (0.93)	2.00 (0.07)	2.21 (0.83)	2.04 (0.30)	2.22 (0.81)	2.04 (0.39)

Table 4.32: Coping strategies (COPE Scale scores) and marital status across the four time periods

Variable	Time period	Unmarried group (n=203)	Married group (n=200)	Sig value[a]	Simple linear regression	
		Mean (SD)/median	Mean (SD)/median		b	(95% CI)
Total COPE score	Antenatal	68.67 (12.79) /68.5	71.94 (9.97) /72.0	0.010*	-2.542	(-4.55, -0.56)
	Shortly after childbirth	68.18 (11.11) /67.5	70.76 (9.38) /70.0	0.020*	-2.204	(-4.14, -0.27)
	1 month after childbirth	69.24(11.17) /68.0	71.12 (9.98) /71.0	0.076	-1.889	(-3.96, -0.19)
	3 month after childbirth	69.22 (10.32) /69.0	70.79 (9.49) /70.0	0.141	-1.568	(-3.51,-0.37)
Problem focused coping strategies	Antenatal	43.59 (9.34) /43.0	49.33 (7.57) /48.0	<0.001*	-5.374	(-6.87,-3.88)
	Shortly after childbirth	43.63 (8.50) /43.0	49.21 (6.66) /48.0	<0.001*	-5.328	(-6.78,-3.88)
	1 month after childbirth	44.94 (8.32) /44.0	49.58 (7.03) /49.0	<0.001*	-4.639	(-6.15,-3.13)
	3 month after childbirth	45.21 (7.85) /44.0	49.60 (6.80) /48.0	<0.001*	-4.388	(-5.83,-2.95)
Emotion focused coping strategies	Antenatal	25.08 (5.87) /24.0	22.61 (5.04) /22.0	<0.001*	2.832	(1.88,3.790
	Shortly after childbirth	24.55 (5.05) /24.5	21.51 (5.06) /21.0	<0.001*	3.170	(2.23,4.12)
	1 month after childbirth	24.27 (5.07) /24.0	21.54 (5.09) /21.0	<0.001*	2.726	(1.73,3.72)
	3 month after childbirth	24.01 (5.17) /23.0	21.19 (5.00) /21.0	<0.001*	2.820	(1.82,3.82)

* Significant difference at p<0.05; Statistical test – [a] Mann-U Whitney test

Table 4.33**:** Factors associated with coping strategies of respondents by time period using General Linear Regressions

	Antenatal (n=461)		**Shortly after childbirth (n=440)**		**1 month after childbirth (n=403)**		**3 month after childbirth (n=403)**	
	b (95% CI)	**Sig**	**b (95% CI)**	**Sig**	**b (95% CI)**	**Sig**	**b (95% CI)**	**Sig**
Religion					-11.514 (-19.94,-3.09)	<0.001	-13.916 (-22.63,-5.21)	0.004
Household income					0.000 (0.000,0.001)	0.030	0.000 (0.000,0.001)	0.037
Information about reproductive health	-4.515 (-7.41,-1.59)	0.003						
Postpartum depression					4.507 (2.27,6.74)	<0.001		
Social support	0.300 (0.23,0.37)	<0.001	0.269 (0.21,0.33)	<0.001	0.291 (0.22,0.36)	<0.001	0.257 (0.17,0.31)	

* Significant different at p<0.05

4.4 Accessibility to Antenatal Care

In this section, the information about accessibility towards antenatal care among the unmarried and married women was presented. The majority (91.6%) of the unmarried pregnant women had some form of antenatal care at the health centres, leaving 8.4% who had no antenatal care. All the married women in this study had received antenatal care services provided by the health centres.

With regards to the places where women had their antenatal care, 78.7% of the unmarried women obtained the services from government health clinics, 17.6% from private clinics, 2.9% from government hospitals and 0.8% from private hospitals. In comparison to the married women, about half (57.1%) of them received regular antenatal care services from government health clinics, but they were referred to government hospitals due to pregnancy complications. Some 0.8% and 3.3% of the married women who had antenatal care in private hospitals and private clinics and 38.8% of them obtained antenatal care from government hospitals.

Among the unmarried pregnant women who sought antenatal care, most of them (49.0 %) had their first antenatal visit in their second trimester, with 22.2% and 28.9% having theirs in the third and first trimester respectively. Compared to the married women, 80.0% of them had their first antenatal visits in their first trimester, 18.8% in their second trimester and only 1.2% had their third trimester. The first antenatal visit was considered either when women had antenatal booking or when women first saw a physician to confirm their pregnancy. Time for the first antenatal visit was found to have a statistically significant difference among the unmarried and married women based on the Chi-square test ($p<0.001$) (Table 4.34).

Table 4.34: Distribution of the respondents by marital status on antenatal care

	N	Unmarried mothers		Married mothers		p-value
		n	%	n	%	
Received antenatal care	506					
Yes		239	91.6	245	100.0	<0.001[b]*
No		22	8.4	0	0	
Place respondents received antenatal care	484					
Government Hospital		7	2.9	95	38.8	<0.001[b]*
Health Clinic		188	78.7	140	57.1	
Private Hospital		2	0.8	2	0.8	
Private Clinic		42	17.6	8	3.3	
Time of first antenatal visit	484					
Month 1 to 3 (first trimester)		69	28.9	196	80.0	<0.001[b]*
Month 4 to 6 (second trimester)		117	49.0	46	18.8	
Month 7 to 9 (third trimester)		53	22.2	3	1.2	
Place of first antenatal visit	484					
Government Hospital		24	10.0	56	22.9	<0.001[b]*
Health Clinic		90	37.7	116	47.3	
Private Hospital		2	0.8	11	4.5	
Private Clinic		123	51.5	62	25.3	
Who accompanied respondents for the first antenatal visit	484					
Alone		17	7.1	68	27.8	<0.001[b]*
Family members		104	43.5	10	4.1	
Partner/spouse		49	20.5	165	67.3	
Relatives		12	5.0	0	0	
Friends		22	9.2	1	0.4	
Warden of shelter home		26	10.9	0	0	
Others		9	3.8	1	0.4	
Who accompanied respondents during every antenatal visit	484					
Alone		10	4.2	106	43.3	<0.001[b]*
Family members		7	2.9	8	3.3	
Partner/spouse		30	12.6	131	53.5	
Relatives		7	2.9	0	0	
Friends		2	0.8	0	0	
Warden of shelter home		179	74.9	0	0	
Others		4	1.7	0	0	
Number of visits for antenatal care	431					
Mean (SD)		7 (5)		16 (8)		<0.001[a]*
Median (IQR)		6 (0-33)		15 (3-40)		

22 mothers did not attend antenatal care;

* Significant difference at p<0.05; Statistical test –[a]Mann-U Whitney test, [b]Chi-Square test

As to the places for the first antenatal visit, private clinics headed the list in the unmarried group accounting for 51.5%, followed by health clinics (37.6%), government hospitals (10.0%), and private hospitals (0.8%). Within the married group, about half of them had their first antenatal visits at health clinics (47.3%) and another half had visits at private clinics (25.3%), government hospitals (22.9%), and private hospitals (4.5%). The difference was statistically significant between the two groups based on the Chi-square test ($p<0.001$).

When asked about who accompanied them to see the doctor during their first antenatal visits, family members (43.5%) and partners (20.5%) were the most reported among the unmarried group. Other people were wardens of shelter homes (10.9%), friends (9.2%), relatives (5.0%), and others (3.8%), which included partner's parents, teachers and neighbours. About 7.1% of the unmarried women stated they went for their first antenatal visit alone. While among the married group, it was significantly different, as the person reported were partners (67.3%) and family members (4.1%), also 27.8% stated nobody accompanied them for their first visit.

In every antenatal visit, a majority of the unmarried women was accompanied by the wardens of shelter homes (74.9%), followed with partners (12.6%), alone (4.2%), family members (2.9%), relatives (2.9%), friends (0.8%) and other people (1.7%). In contrast to the married women, 43.3% went alone, 53.5% accompanied by partners and 3.3% were accompanied by their family members.

The median number of visits to antenatal clinic was found to be significantly different ($p<0.001$) between the two groups, as more visits were experienced by the married women

(15 with IQR 3 up to 40 times). The median number of the total antenatal visits among the unmarried group was 6 times (ranges from no visit at all up to 33 times).

Reasons for not attending antenatal care among the 22 unmarried women included embarrassment of being pregnant (65.2%), fear of being scolded by doctors and nurses (34.8%), had no advice on antenatal care (13.0%), no assistance in attending the antenatal care (8.7%) and some 8.7% were unaware that they were pregnant (Figure 4.5).

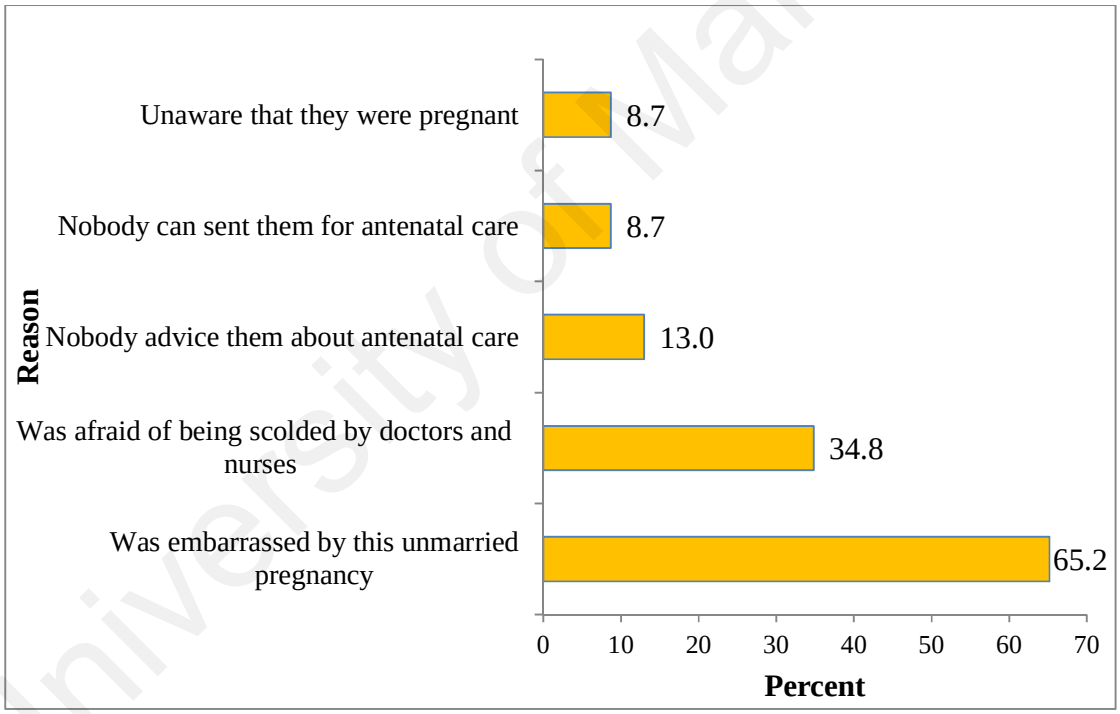

Figure 4.5: Reasons for not attending antenatal care among the unmarried mothers (N=22)

4.5 Profile of Women with Unmarried Pregnancy

4.5.1 Family Background

The mean age of respondents' mothers showed significant difference between the unmarried and married group which were 47 ± 7.1 years and 57.2 ± 7.1 years, respectively. More than half of the respondents' mothers in the unmarried group had secondary education (56.1%) compared to only 40.4% respondents' mothers in the married group. Most of the unmarried women in this study had mothers with tertiary education (14.3%) and only 5.3% had mothers with no formal education. In contrast with the married women, 14.9% had mothers with no formal education and only 5.8% had mothers with tertiary education. The Chi-square test showed a statistically significant difference in the age of respondents' mother and education level between the two pregnancy groups (Table 4.35).

In terms of employment status of the respondents' mothers, both groups had more housewife mothers (59.5% and 80.0%, respectively). There was a statistically significant difference between the employment status of the respondents' mothers ($p<0.001$), with the unmarried women having high numbers of working mothers.

The mean age of the respondents' fathers was significantly different between the unmarried and married group which was 51 ± 7.8 years and 61.7 ± 7.4 years respectively. More than half of the unmarried women had fathers with secondary education (55.6%), followed by the fathers that had primary education (23.1%), tertiary education (18.9%) and only 2.4% had fathers with no formal education. Among the married women group, there was a small gap between those who had fathers with secondary education and primary education (45.3% and 34.9%, respectively) and a small gap between the fathers with tertiary education and no formal education (11.9% and 8.9%, respectively).

Table 4.35: Distribution of respondent by marital status and family background

Family background	n	Unmarried mothers		Married mothers		p-value
		n	%	n	%	
Age of respondents' mother (years)	472					
Mean (SD)		47.0 (7.1)		57.2 (7.1)		<0.001[a]*
Median (IQR)		46 (30-69)		56 (40-80)		
Education level of respondents' mother	397					
No formal education						
Primary education		10	5.3	31	14.9	<0.001[b]*
Secondary education		46	24.3	81	38.9	
Tertiary education		106	56.1	84	40.4	
		27	14.3	12	5.8	
Employment status of respondents' mother	472					
Working		102	40.5	44	20.0	<0.001[b]*
Housewife		150	59.5	176	80.0	
Age of respondents' father (years)	414					
Mean (SD)		51.0 (7.8)		61.7 (7.4)		<0.001[c]*
Median (IQR)		50 (30-75)		61 (43-85)		
Education level of respondents' father	341					
No formal education		4	2.4	14	8.1	0.003[b]*
Primary education		39	23.1	60	34.9	
Secondary education		94	55.6	78	45.3	
Tertiary education		32	18.9	20	11.6	
Employment status of respondents' father	411					
Working		198	88.4	108	57.8	<0.001[b]*
Not working		4	1.8	0	0	
Retired		22	9.8	79	42.2	
Marital status of respondents' parents	506					
Married		188	72.0	165	67.3	<0.001[b]*
Divorce /Separated		43	16.5	7	2.9	
Widow/widower		27	10.3	62	25.3	
Both died		3	1.1	11	4.5	
Numbers of siblings	506					
Mean (SD)		5 (2)		6 (3)		<0.001[a]*
Median (IQR)		5 (1-13)		6 (1-14)		
Numbers of close family member that finished secondary school	506					<0.000[a]*
Mean (SD)		3 (2)		6 (3)		
Median (IQR)		3 (0-13)		6 (0-14)		

* Significant difference at p<0.05; Statistical test – [a]Mann-U Whitney test, [b]Chi-Square test, [c]Independent t-test

The majority of the respondents' fathers among the group of unmarried women were working (88.4%), few were retired (9.8%) and 1.8% did not have any job. Among the married women group, about half (57.8%) of the respondents' fathers was working and another half (42.2%) was retired. This difference in employment status of the respondents' fathers was differed significantly based on the Chi-square test.

In this part, total number for each variable about the respondents' fathers and mothers was not consistent because of missing data. Some respondents did not know the status of their parents because of parental marital status factor. Fourteen (1.1% of unmarried group and 4.5% of married group) respondents' parents in this study passed away. About 72.0% of the unmarried women were from both parent family structures (married) and 26.8% were from a single parent family structure (divorced/separated/widow/widower). Compared to the married women, 67.3% of their parents were married and 28.2% were single parented. The Chi-square test showed a significant association between the marital status of the respondents' parents and pregnancy groups.

The median number of siblings was high among the married group with 6 people (IQR from 1 to 14) compared to the unmarried group, consisting of 5 people (IQR from 1 to 13). This is also similar to the numbers of close family member that finished secondary education, the median number was higher among the married, compared to the unmarried group as shown in Table 4.34. The difference in numbers of siblings and number of family members who finished secondary education was statistically significant based on the Mann-U Whitney test.

Looking at the history of any physical violence in the families, twenty-seven women reported to have experienced physical abuse; 9.6% among the unmarried women and 0.8% among the married women. In specific, many of the unmarried women reported being physically abused by their fathers (6.1%), followed by 4.6% who had experienced their fathers abusing their mothers, while 3.4% had experienced their fathers abusing other siblings, 1.9% reported being abused by their mothers and 1.1% had experienced their mothers abusing other siblings. Among married women, only one person (0.4%) had experienced abuse by her father or other siblings, as shown in Figure 4.6.

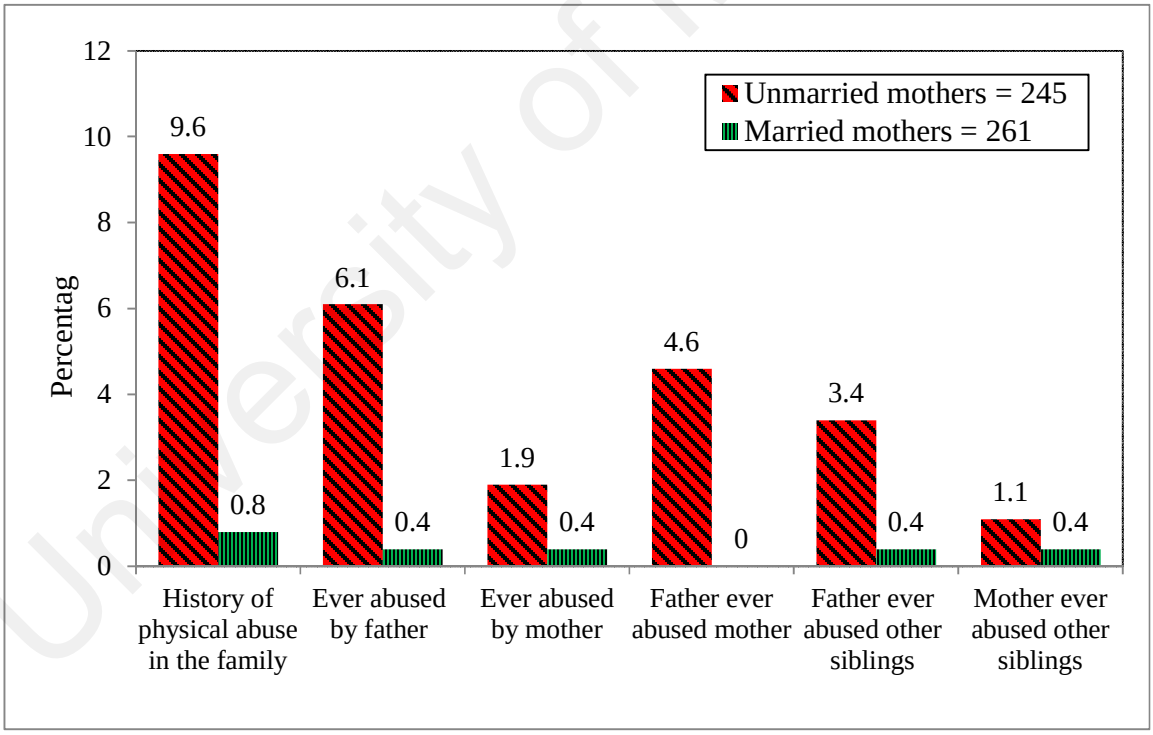

Figure 4.6: Distribution of respondents by marital status and history of physical violence in the family

Besides the characteristics of family background, the respondents were asked to assess their relationships with the parents and their parent's parenting style. The twelve statements were used to measure this relationship and it was divided into the three sub-factors; relationship with fathers, mothers and parents. The highest score indicates a good relationship and lowest score indicates a poor relationship.

The median score of relationship with parents (40 with IQR 12 to 48), relationship with mothers (21 with IQR 6 to 24), and relationship with fathers (18 with IQR 6 to 24) for the unmarried group was low compared to the married group. This indicates that unmarried pregnant women did not have good relationships with their parents as compared to the married pregnant women. The Mann-U Whitney test showed a significant difference in relationships with parents, mothers and fathers among the two groups (Table 4.36).

In terms of parents' strictness, eight questions were asked about how the respondents perceived and judged their parents' strictness towards their behaviours, activities or lifestyles. A total score of strictness for each sub-factor; father, mother and parents were calculated separately. The highest score indicates a high level of strictness and lowest score indicates less strictness.

There was only a small difference in a median score of the fathers' strictness between the unmarried and married group and these differences showed statistical significance based on the Mann-U Whitney test. In terms of the mother's strictness, the median scores were same between the two groups, but the Mann-U Whitney test found that there was a statistically significant difference ($p<0.001$). The unmarried women had parents that practiced less strict parenting style, as it was found that a median score of the parents' strictness was low among

the unmarried group with 45 (IQR from 27 to 64) compared to the married group, 48 (IQR from 30 to 46). There was a significant association between the parents' strictness between the two groups ($p<0.001$).

With regard to parental control, eleven questions were used to measure how respondents' parents were involved in their daily activities. A score was allocated for each question. The highest score indicates that parents were more controlling and low score indicates that parents were less controlling. Based on the Mann-U Whitney test, there was a statistically significant difference between the two groups. The median score for parental control was low; 24 (IQR from 6 to 33) for the unmarried women as compared to 26 (IQR from 6 to 33) for the married women ($p<0.001$).

Table 4.36: Distribution of the respondents by marital status and other family variables

Family variables	n	Unmarried mothers	Married mothers	p-value[a]
Score of relationship with parents	477			
Mean (SD)		38.9 (6.5)	42.4 (5.2)	<0.001*
Median (IQR)		40 (12-48)	42 (26-48)	
Score of relationship with mothers	503			
Mean (SD)		20.4 (3.3)	22.1 (2.6)	<0.001*
Median (IQR)		21 (6-24)	24 (13-24)	
Score of relationship with fathers	480			
Mean (SD)		18.4 (4.4)	20.2 (3.4)	<0.001*
Median (IQR)		18 (6-24)	20 (12-24)	
Score of parent's strictness	463			
Mean (SD)		45.4 (8.3)	47.2 (9.2)	<0.001*
Median (IQR)		45 (27-64)	48 (30-64)	
Score of mother's strictness	498			
Mean (SD)		22.6 (4.8)	23.4 (4.9)	<0.001*
Median (IQR)		23 (8-32)	23 (15-32)	
Score of father's strictness	469			
Mean (SD)		22.8 (4.6)	23.6 (4.9)	<0.001*
Median (IQR)		23 (8-32)	24 (14-32)	
Score of parental control	506			
Mean (SD)		24.1 (5.8)	25.1 (5.6)	<0.001*
Median (IQR)		24 (6-33)	26 (6-33)	

* Significant difference at $p<0.05$; Statistical test – [a]Mann-U Whitney test

4.5.2 Community and Peers Profile

Characteristics of the respondent's friends and community were measured and compared in this section (Table 4.37). The mean and median numbers of friends among the unmarried women and married women were almost similar and showed no statistically significant difference based on the Mann-U Whitney test. The minimum number of friends was 0, which means there were 6.5% of the women in this study did not have close friends or one that they feel comfortable with to share their thoughts, feelings and problems.

This percentage explained that the 20 unmarried women and 13 married women never had an interaction with friends. More than half (57.1%) of the unmarried women had an interaction with friends every day or nearly every day, 26.4% had an interaction at least once a week with friends and only 8.8% had an interaction at least once in a month. Among the married women, the distribution was not much different; 37.1% had interactions with friends every day or nearly every day, 30.2% at least once a week and 27.3% at least once a month. There was a significant association between a frequency of having interaction with friends and pregnancy group based on the Chi-square test ($p<0.001$).

Regarding the characteristics of friends, the respondents were asked whether they have friends involved with risky behaviours such as drug abuse, glue sniffing, cigarette use, alcohol use, watching/reading pornography, and premarital sexual activity involvement or had friends being pregnant outside marriage. Fifty-one percent of the unmarried women had friends involved in these activities compared to 6.1% married women. Among the married women, 5.3% of them smoked cigarettes whereas, the friends of unmarried women were involved in premarital sexual activities (33.0%), smoked cigarette (29.9%), had pregnancy outside marriage (22.6%) and watched pornographic videos (20.7%).

Table 4.37: Distribution of respondents by marital status and community variable

Community variables	Unmarried mothers (n=261)		Married mothers (n=245)		p-value
	n	%	n	%	
Numbers of friends					
Mean (SD)	3 (2)		3 (3)		0.115[a]
Median (IQR)	2 (0-20)		2 (0-20)		
Frequency of having interaction with friends					
Every day or nearly every day	149	57.1	91	37.1	<0.001[b]*
At least once a week	69	26.4	74	30.2	
At least once a month	23	8.8	67	27.3	
Never	20	7.7	13	5.3	
Have friends involved with risky behaviour	133	51.0	15	6.1	<0.001[b]*
Taking drugs	21	8.0	3	1.2	<0.001[b]*
Sniffing glue	9	3.4	1	0.4	0.021[b]*
Smoking cigarettes	78	29.9	13	5.3	<0.001[b]*
Consume alcohol	24	9.2	2	0.8	<0.001[b]*
Watching pornographic film	54	20.7	1	0.4	<0.001[b]*
Premarital sexual activity	86	33.0	2	0.8	<0.001[b]*
Unmarried pregnancy	59	22.6	1	0.4	<0.001[b]*
Person confided when having problems					
Friends	64	24.5	3	1.2	<0.001[b]*
Parents	98	37.5	32	13.1	
Siblings	42	16.1	28	11.4	
Partner/spouse	48	18.4	179	73.1	
Others	9	3.4	3	1.2	
Participation in any community group/organisation/association activities					
Yes	27	10.3	37	15.1	0.108[b]
No	234	88.9	208	84.9	
Frequency of attending religious activities					
Every day or nearly every day	7	2.7	2	0.8	<0.001[b]*
At least once a week	43	16.5	46	18.8	
At least once a month	61	23.4	85	34.7	
At least once or twice a year	94	36.0	93	38.0	
Never	56	21.5	19	7.8	

* Significant difference at p<0.05; Statistical test – [a]Mann-U Whitney test, [b]Chi-Square test

Table 4.37: (CONTINUED)

Community variables	Unmarried mothers (n=261)		Married mothers (n=245)		p-value
	n	%	n	%	
Perceived importance of religion					
Extremely important	189	72.4	242	98.8	<0.001[b]*
Fairly important	67	25.7	3	1.2	
Not at all important	5	1.9	0	0	
Perceived own sexual attitudes affected by religious belief					
A great deal	54	20.7	206	84.1	<0.001[b]*
Sometimes	134	51.3	28	11.4	
Not at all	73	28.0	11	4.5	

* Significant difference at p<0.05; Statistical test – [a]Mann-U Whitney test, [b]Chi-Square test

In terms of what the respondents confided in when they had problems, the unmarried women stated parents (37.5%), friends (24.5%), partner (18.4%), siblings (16.4%) and others (3.4%). Compared to the married women, a majority of them stated partner (73.1%), followed by parents (13.15), siblings (11.4%), friends (1.2%) and others (1.2%). These two groups showed statistically significant difference (p<0.001) in persons they confided in.

The majority of the unmarried women and married women (88.9% and 84.9%, respectively) did not participate in any community group/organisation/association, and no significant difference was found between the groups.

However, in terms of involvement in religious activities, the frequency of attending religious activities was asked. Almost the same proportion of women from the married and unmarried groups involved in religious activities at least once or twice a year (36.0% and 38.0%) and at least once a month (23.4% and 34.7%). The difference was that the 21.5% of

the unmarried women had never been involved in any religious activities compared to 7.8% of the married women. The involvement with religious activities was significantly different between unmarried and married women based on the Chi-square test ($p<0.001$).

Other questions asked about religiosity were "perceived importance of a religion" and "how the respondents' own sexual attitude was affected by a religion". As shown in Table 4.39, the majority of the married women perceived religion to be extremely important and their sexual attitude was strongly affected by their religious beliefs. In contrast to the unmarried women, 72.4% of them perceived religion to be extremely important, 25.7% perceived religion as fairly important and 1.9% perceived religion as not at all important. Half of the unmarried women perceived that their sexual attitude was somewhat affected by their religious beliefs (51.3%), 28.0% stated that their sexual attitude was not at all affected by their religious beliefs and only 20.7% stated their sexual attitude was strongly affected by their religious beliefs.

In terms of what the respondents were more likely to confide in selected topics, there was a statistically significant difference between the two groups as shown in Table 4.38, with all p-values less than 0.05. The results showed that the unmarried pregnant women were more likely to discuss issues on relationships with the opposite sex (54.0%), sexual development (37.2%), and sexual health issue (31.8%) with peers and married women were more likely to discuss these issues with their partners (34.7%, 44.1% and 59.2%, respectively). For the issues related to sexual urges, or desire; the unmarried women were more reluctant to discuss about this topic (52.1%) while more married women discussed it with their partners (69.0%).

With regard to the other issues, most of the women in both groups were more likely to discuss school matters with peers (60.0% and 42.1%). As shown in Table 4.38, the women from the married group were more likely to discuss issues about work, family problems, peer problems, health matters and religious matters with their partners. For the unmarried women, persons whom they were more likely to confide about work, family problems, health matters and religious matters were parents, but in terms of peer problems, they were more likely to discuss with their peers.

Table 4.38: Percent distribution of the respondents by marital status of people with whom they are likely to confide in stress related issues

	Unmarried mothers (n=261)						Married mothers (n=245)						p-value[b]
	Never discuss	Peers	Parents	Sibling	Partner	Other	Never discuss	Peers	Parents	Siblings	Partner	Others	
School matters	4.6	42.1	38.3	11.9	1.5	1.5	1.6	60.0	13.9	13.1	9.0	2.4	<0.001*
Work / job	21.2	25.3	36.8	10.3	5.0	1.5	3.7	29.0	15.5	9.0	41.6	1.2	<0.001*
Family problems	11.5	24.1	34.5	19.2	8.0	2.7	3.7	8.2	26.1	18.8	42.4	0.8	<0.001*
Peer problems	12.6	40.6	22.2	14.2	7.7	2.7	7.3	32.2	7.8	9.4	42.4	0.8	<0.001*
Health matters	10.0	7.3	62.8	8.8	8.8	2.3	0.8	6.5	25.7	7.8	58.4	0.8	<0.001*
Religious matters	11.9	11.1	62.5	9.2	2.3	3.1	1.6	4.9	38.4	6.5	47.3	1.2	<0.001*
Relationship with opposite sex	14.9	54.0	13.4	11.9	4.6	1.1	13.5	29.8	12.2	8.6	34.7	1.2	<0.001*
Sexual development (physical changes, menstruation)	18.0	37.2	27.2	10.7	6.5	0.4	6.1	17.6	22.4	9.8	44.1	0	<0.001*
Sexual health issue (HIV/AIDS, pregnancy, breast health)	24.9	31.8	25.3	8.4	7.3	2.3	5.7	12.2	13.9	7.3	59.2	1.6	<0.001*
Sexual urge/ desire/ interest	52.1	26.1	5.7	2.3	11.9	1.9	15.1	8.6	3.7	1.2	69.0	2.4	<0.001*

* Significant difference at $p<0.05$; Statistical test – [b]Chi-Square test

This section highlights findings regarding sexual health knowledge among unmarried and married women. Sixty-one women (17.2% unmarried and 6.5% married) had no idea of what sexual and reproductive health is. There was a significant difference in knowledge of reproductive and sexual health between the unmarried and married pregnant women (Table 4.39)

In terms of knowledge on the specific topics related to sexual reproductive health that have been received by the respondents through any health seminar, course or class; more than half of the unmarried women reported ever attended health education related to HIV/AIDS and STDs (51.0%). In contrast to the married group, more than half of the women ever attended health education related to breast cancer/breast health/mammography (52.7%). The differences between the two groups were statistically significant in these two topics.

Significant differences between the two pregnancy groups were also found in health education related to pregnancy/fertility, family planning and cervical cancer. For health education related to abortion, sex education and ovarian cancer, there were no significant difference between pregnancy groups based on the Chi-square test. Percentage of unmarried and married women who ever attended health education on the related topics on sexual reproductive health can be seen in Table 4.39.

The majority of the women in this study rated their knowledge on reproductive and sexual health as average; 80.1% unmarried and 87.8% married women. Some, 13.8% of the unmarried women rated their knowledge as poor and 6.1% rated themselves as very knowledgeable. Compared to married women, 11.0% rated themselves as very knowledgeable and only 1.2% rated themselves as having poor knowledge. The chi-square

test found that self-rated knowledge on reproductive and sexual health was significantly different among the two groups.

Table 4.39: Distribution of the respondents by marital status on sexual health knowledge

Sexual Health Knowledge	Unmarried mothers (n=261)		Married mothers (n=245)		p-value
	n	%	n	%	
Have knowledge about reproductive and sexual health					
Yes	216	82.8	229	93.5	<0.001[b]*
No	45	17.2	16	6.5	
Ever attended seminar or courses related to;					
Pregnancy/fertility	62	23.8	115	46.9	<0.001[b]*
Family planning/contraceptive	42	16.1	100	40.8	<0.001[b]*
Abortion	33	12.6	33	13.5	0.783[b]
HIV/AIDS/STD	133	51.0	99	40.4	0.017[b]*
Sex education	84	32.2	83	33.9	0.686[b]
Breast cancer/breast health/mammography					
Cervical cancer/Pap smear	105	40.2	129	52.7	0.005[b]*
Ovarian cancer	63	24.1	92	37.6	0.001[b]*
	49	18.8	63	25.7	0.077[b]
Self-rated knowledge on reproductive and sexual health					
Very knowledgeable	16	6.1	27	11.0	<0.001[b]*
Average	209	80.1	215	87.8	
No knowledge at all	36	13.8	3	1.2	

* Significant difference at p<0.05; Statistical test – [b]Chi-Square test

When asked to state the sources of information on reproductive and sexual health, mass media (such as television, radio, newspapers, and magazines) and health care provider were the main sources of information among the women in this study. However, when looking separately between the unmarried and married groups, more than half the married women stated their sources of the information were from sexual and reproductive educational information/materials (60.4%), family members (58.9%), health professionals (58.8%), Internet (57.8%), friends (56.3%) and mass media (54.9%). A very few married women said that the sources of information were from teachers which is more contrary to those unmarried women; more than half stated teachers/counsellors were their sources of information about reproductive and sexual health (Table 4.40).

Furthermore, when asked how frequently respondents received any information from each sources during their lifetime. Among unmarried women, 40.8% of them said they often received the information from mass media and more than half said they only got information once or twice from health professionals (56.8%). Compared to the married women, more than half also said that they received the information from mass media (62.1%) and the Internet (53.5%). The Chi-square test found that there were significant associations between pregnancy status and frequency of receiving information from health professionals, sexual reproductive health, educational materials, mass media, Internet as well as, friends but no significant association for the sources of information from teachers and family members.

Table 4.40: Percent distribution of respondents by marital status on source of information

Sources of information	Total [n (%)]	Unmarried mothers				Married mothers				p-value[b]
		Once or twice	A few times (3-5 times)	Many times (> 5 times)	Total	Once or twice	A few times (3-5 times)	Many times (> 5 times)	Total	
Health professionals (doctor, nurse etc.)	337 (66.6)	56.8	30.9	12.2	41.2	35.4	33.3	31.3	58.8	<0.001*
Teachers/ Counsellors	228 (45.1)	39.8	34.6	25.6	58.3	51.6	29.5	18.9	41.7	0.200
Sexual and reproductive educational information/materials	275 (54.3)	36.7	32.1	31.2	39.6	19.3	31.9	48.8	60.4	0.002*
Mass media (TV, radio, newspaper, magazine)	375 (74.1)	25.4	33.7	40.8	45.1	6.8	31.1	62.1	54.9	<0.001*
Internet	275 (54.3)	27.6	38.8	33.6	42.2	18.9	27.7	53.5	57.8	0.005*
Family members	241 (47.6)	39.4	35.4	25.3	41.1	33.1	35.2	31.7	58.9	0.477
Friends	256 (50.6)	45.5	28.6	25.9	43.8	25.0	41.0	34.0	56.3	0.002*

* Significant difference at p<0.05; Statistical test –[b]Chi-square test on frequency of information

4.5.3 Risky Behaviours

The association between risky behaviours and pregnancy groups is shown in Table 4.41. Almost 19.2% of the unmarried women in this study smoked, 7.3% ever consumed alcohol, and 3.1% ever involved with a substance abuse. No women in the married group were ever involved with a substance abuse while, only one person ever consumed alcohol. There was a significant difference between the two groups in cigarette use, alcohol use and substance abuse.

Almost half of the unmarried women were exposed to pornographic materials (45.6%) as compared to 2.4% of the married women who stated that they had this exposure. There was a significant association between an exposure of pornographic material and unmarried pregnancy. With regard to the premarital sexual activity involvement, the majority of the women in the unmarried group (88.5%) has had premarital sex while only one woman in the married group (0.4%) was involved in it. This difference was found to be significant based on the Chi-square test.

Looking at the age of menarche among the women in this study, there was not much difference in the median age of the unmarried women, i.e. 12 years (IQR from 9 to 17) and married women was 13 years (IQR from 9 to 16). Nevertheless, the difference was significant based on the Mann-U Whitney test ($p=0.001$). The median age of first sexual experience among the unmarried women was 17 years with the youngest age at the age of 10 years. This was significantly different with the married women, as the youngest age was 15 years and the median age was 24 years ($p<0.001$).

Table 4.41: Distribution of the respondents by marital status and risky behaviour

Risky behaviour	n	Unmarried mothers		Married mothers		p-value
		n	%	n	%	
Smoked cigarette status	506					
Yes, currently smoking		2	0.8	0	0	<0.001[b]*
No, but ex-smoker		48	18.4	3	1.2	
Never smoked		211	80.8	242	98.8	
Frequency of smoking	53					
Every day or nearly every day		26	52.0	0	0	0.496[b]
At least once a week		8	16.0	1	25.0	
At least once a month		2	4.0	0	0	
A little of a time		10	20.0	2	75.0	
Others		4	8.0	0	0	
Consumed alcohol	506					
Yes		0	0	0	0	<0.001[b]*
No, but ex-drinker		19	7.3	1	0.4	
No, never drink		242	92.7	244	99.6	
Frequency of taking alcohol	20					
Every day or nearly every day		2	10.5	0	0	0.050[b]
At least once a week		8	42.1	0	0	
At least once a month		1	5.3	1	100	
A little of a time		6	31.6	0	0	
Others		2	10.5	0	0	
Involved with substance abuse	506					
Yes		8	3.1	0	0	0.008[b]*
No		253	96.9	245	100.0	
Watched pornographic film/video	506					
Yes		119	45.6	6	2.4	<0.001[b]*
No		142	54.4	239	97.6	
Premarital sexual activity involvement	506					
Yes		232	88.5	1	0.4	<0.001[b]*
No		30	11.5	244	99.6	
Age of menarche	501					
Mean (SD)		12.4 (1.3)		12.7 (1.2)		0.001[a]*
Median (IQR)		12 (9-17)		13 (9-16)		
Age of first sexual intercourse	501					
Mean (SD)		17.6 (3.2)		24.4 (4.0)		<0.001[a]*
Median (IQR)		17 (10-33)		25 (15-46)		

* Significant difference at p<0.05; Statistical test –[a]Mann-U Whitney test, [b]Chi-Square test.

Table 4.41: (CONTINUED)

Risky Behaviour	n	Unmarried mothers		Married mothers		p-value
		n	%	n	%	
History of past sexual abuse	506					
Yes		25	9.6	1	0.4	<0.001[b]*
No		236	90.4	244	99.6	
Perpetrator	26					
Family members		6	24.0	0	0	0.052[b]
Boyfriends/partner		6	24.0	0	0	
Relatives		4	16.0	0	0	
Friends		3	12.0	0	0	
Others		2	8.0	1	100	
Unknown		4	16.0	0	0	
Have STDs /STI	506					
Yes		2	0.8	0	0	<0.001[b]*
No		197	75.5	235	95.9	
Not tested		62	23.8	10	4.1	
Have HIV/AIDS	506					
Yes		0	0	0	0	<0.001[c]*
No		216	82.8	242	98.8	
Not tested		45	17.2	3	1.2	
Smoked during pregnancy	506					
Yes		3	1.1	0	0	<0.001[b]*
Occasionally		16	6.1	0	0	
Not at all		242	92.7	245	100.0	
Consumed alcohol during pregnancy	506					
Yes		3	1.1	0	0	0.014[b]*
Occasionally		6	2.3	0	0	
Not at all		252	96.6	245	100.0	
Substance abuse during pregnancy	506					
Yes						
Occasionally		2	0.8	0	0	0.058[b]
Not at all		4	1.5	0	0	
		255	97.7	245	100.0	
Contraceptive used						
Yes		50	19.2	3	1.2	<0.001[b*]
No		211	80.8	242	98.8	

* Significant difference at p<0.05; Statistical test –[a]Mann-U Whitney test, [b]Chi-Square test.

Twenty-six out of the 506 women (5.1%) in this study had a history of past sexual abuse, but only one woman in the married group. The Chi square test showed significant association between history of past sexual abuse and unmarried pregnancy. The perpetrators were family members (23.1%), male partners (23.1%), relatives (15.4%), friends (11.5%), others (11.5%) and unknown people (15.4%).

None of the women in this study had HIV infection, but the two (0.8%) stated that they suffered from sexually transmitted diseases. Some 14.2% of women in this study said they were not tested for sexually transmitted diseases and 9.5% were not tested for HIV infection and did not know their health status with regard to this disease (Table 4.41).

In terms of risky behaviours during current pregnancy, none of the women in the married group used cigarettes, consumed alcohol or took drugs. However, among the unmarried women, 7.2% had ever used cigarette, 3.4% ever consumed alcohol and 2.3% took drugs during current pregnancy. There were significant associations between cigarette used as well as alcohol used and unmarried pregnancy, but there was no significant association between substance abuse and unmarried pregnancy.

Looking at contraceptive used, 19.2% unmarried women in this study had practice contraception method before this pregnancy as compared to only 1.2% married women. The Chi square test showed significant association between contraceptive used and unmarried pregnancy.

Looking at the number of sexual partners in their lifetime among the unmarried women, 31.8% (76 women) had more than one partner and most of them (68.2%) had one sexual partner. Among the 76 women who had more than one partner, 39.5% had multiple partners within a year as showed in Table 4.42. About half of the unmarried women (60.2%) said their participation in sexual intercourse activity was voluntary, 28.9% were persuaded and 10.9% were coerced/raped.

Table 4.42: Distribution of unmarried mothers on sexual behaviour

	n	**Unmarried mothers**	
		n	**%**
Numbers of sexual partners in lifetime	239		
1 person		163	68.2
2 persons		35	14.6
3 persons		16	6.7
4 persons		12	5.0
5 or more persons		13	5.4
Numbers of sexual partner in the last 12 month	76		
Mean (SD)		2 (1)	
Median (IQR)		1 (1-7)	
One partner		46	60.5
More than one partner		30	39.5
Participation in sexual intercourse	239		
Voluntary		144	60.2
Persuaded		69	28.9
Coerced		26	10.9

22 unmarried women were raped

The main reasons for having sex within the unmarried women was proof of love (53.1%) as showed in Figure 4.7. This is followed by a promise of marriage (38.1%), curiosity and wanting to try sex (33.1%), peer influence (19.7%), self-satisfaction (17.2%), coercion (16.3%) and material gains (2.1%).

Thirty-eight women (15.9%) stated other reasons for having sex such as enjoyment (11 persons), no specific reasons (7 persons), wanting to release stress (5 persons), sexual urge (4 persons), persuaded by partner (4 persons), a trend (2 persons), wanting to marry (2 persons), addicted, unconscious and accidentally (1 person respectively) as shown in Table 4.43.

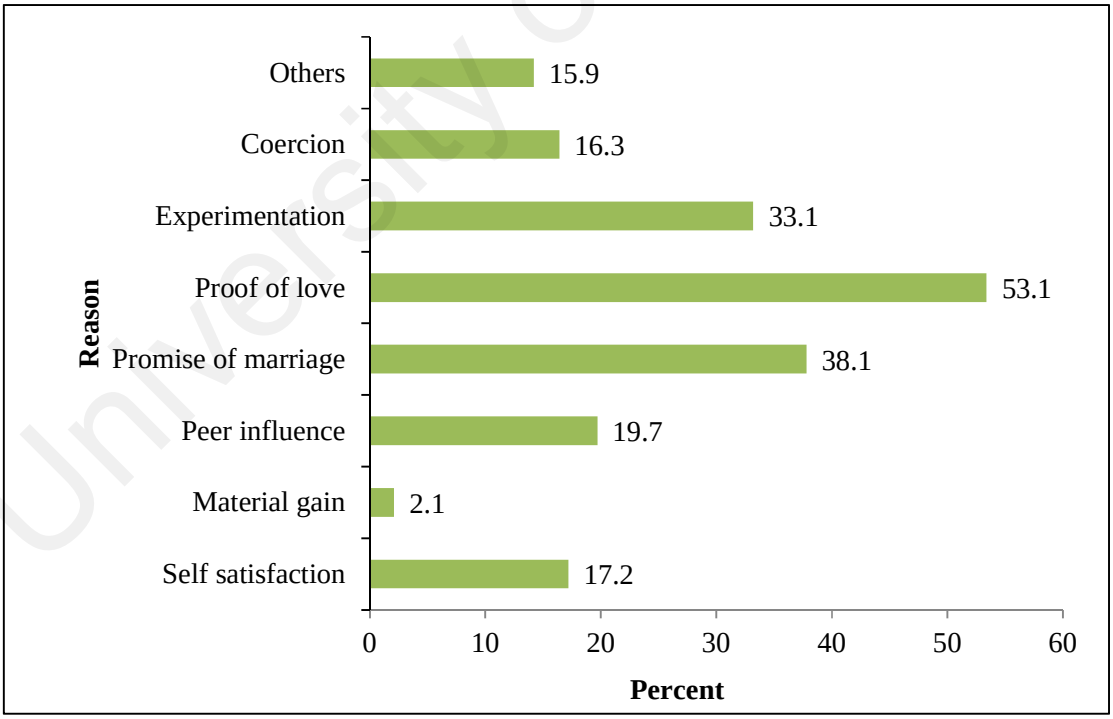

Figure 4.7: Reasons for being involved in premarital sexual activity (N=239)

Table 4.43: Other reasons being involved in sexual activity (N=38)

Other reasons	Frequency	Percent
Enjoyment	11	28.9
No specific reason	7	18.4
Released stress	5	13.2
Persuaded by partner	4	10.5
Sexual urge	4	10.5
Is a trend	2	5.3
Want to get marry	2	5.3
Addicted	1	2.6
Unconscious	1	2.6
Not on purpose	1	2.6

Figure 4.8 shows that more than half (56.5%) of the unmarried pregnant women had never used any contraceptive methods during sexual intercourse. Among the 43.5% unmarried women who had ever used contraception, only 5.4% of them consistently used it every time they had sexual intercourse, 10.0% used it frequently and 28.0% claimed seldom use.

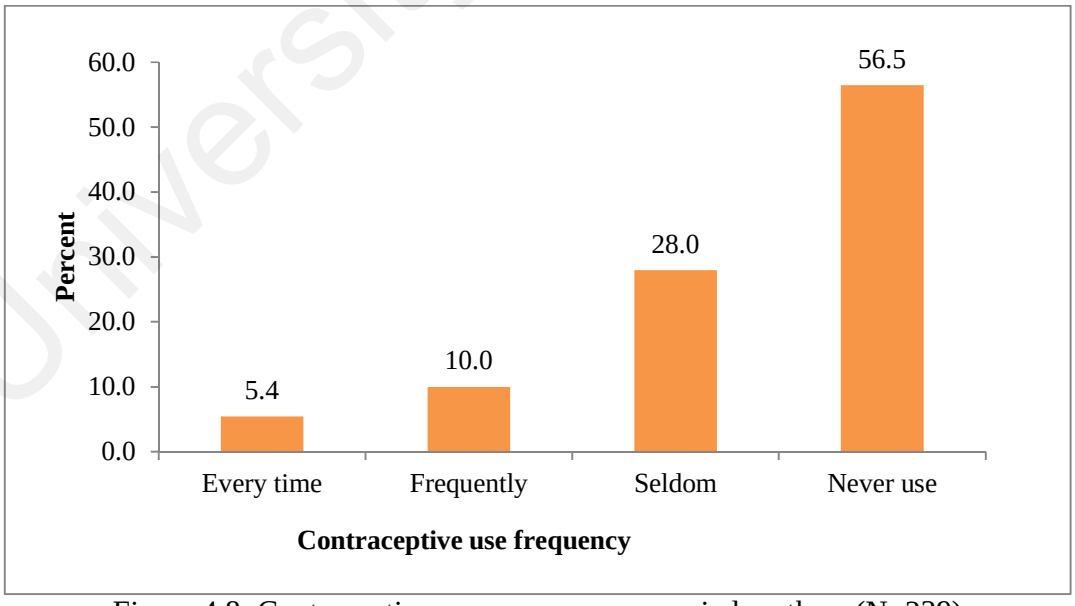

Figure 4.8: Contraceptive usage among unmarried mothers (N=239)

Among the unmarried women who claimed to have used some form of contraceptives, withdrawal was the most commonly used method (23.9%). Other contraceptive methods used among this group were condoms (21.8%), birth control pills (4.2%), an intrauterine device (0.4%), and douching (0.4%) as shown in Figure 4.9.

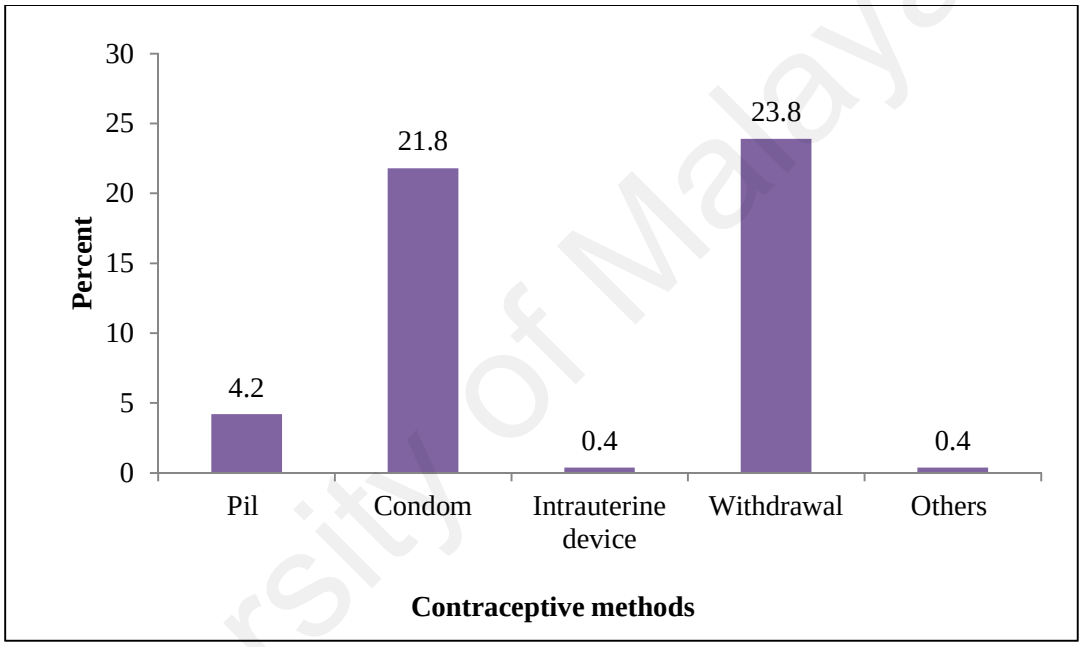

Figure 4.9: Types of contraceptive methods used by unmarried mothers (N=239)

4.5.4 Partner's Profile

Comparison of the partner's profiles between the two groups is shown in Table 4.44. Of the total number of unmarried pregnant women, 20 persons (7.7%) did not know who the father of the infant was. Concordant with the data in Table 4.42, 20 women were raped by unknown persons and another two women knew the rapists. However, among these 239 unmarried pregnant women that knew their partner, five women did not know their partners' age and 31 women did not know their partners' educational level.

The youngest age of the infant's father in the unmarried group was 15 years and the oldest was 53 years with a median age of 22 years old. This is in contrast with the married group, as the youngest age of the infant's father was 22 years and the median age was 32 years old. There was a statistical difference in the age of infant's father between the unmarried and married group based on the Mann-U Whitney test.

Most of the unmarried women's partners had secondary education (76.2%), followed by 14.8% who had tertiary education, and 7.1% had primary education. In contrast to the married women, half of the partners had tertiary education (50.6%), almost half had secondary education and 2.0% had primary education. Only four (1.7%) of a woman's partner had no formal education that was among the unmarried group. There were significant differences in the partners' educational level between the pregnancy groups ($p<0.001$).

With regards to employment status of the respondents' partners, all married women's partners were employed (100.0%). Most of the unmarried woman's partner (74.3%) were employed, 10.4% were unemployed and 15.4% were students. The Chi-square test showed a

significant association between the partners' employment status and pregnancy group ($p<0.001$).

Table 4.44: Distribution of respondents by marital status on socio-demographic of partner

Profile of partner	n	Unmarried mothers		Married mothers		p-value
		n	%	n	%	
Age of partner/ infant's father	481					
Mean (SD)		23.0 (5.5)		33.1 (6.6)		<0.001[a]*
Median (IQR)		22 (15-53)		32 (21-55)		
Partner's educational level	454					
No formal education		4	1.7	0	0	<0.001[b]*
Primary education		15	7.1	5	2.0	
Secondary education		160	76.2	116	47.5	
Tertiary		31	14.8	124	50.6	
Partner's employment status	486					
Employed		179	74.3	245	100.0	<0.001[b]*
Unemployed		25	10.4	0	0	
Students		37	15.4	0	0	

* Significant difference at $p<0.05$; Statistical test –[a] Mann-U Whitney test, [b]Chi-square test

Looking at a duration of the relationship with the infant's father among the unmarried women, the mean duration was 24.3 ± 22.4 months. A hundred women (42.4%) have had a relationship with the infant's father for less than one year, 26.3% have had a relationship between 1 to 2 years duration and 31.4% have had a relationship for more than 2 years. Only 22 women (9.2%) did not disclose their pregnancy to their partners (Table 4.45).

When the women were asked about their partners' reaction towards their pregnancy, more than half (66.4%) wanted the infant to be born and wanted to take care of the infant themselves. Six percent of them wanted the infant born but did not want to raise the infant, while 6% did not want the infant, 6.4% did not acknowledge the infant, and 10.1% did not

want to know about the infant. About 5.1 % of the women cited other reactions such as, their partner wanted to raise the infant, but her own parents cannot accept the infant or her partner.

Of the 239 unmarried women who have had relationships with the father of the infant, 25 (10.5%) of their partners disappeared, 88 (36.8%) no longer had contact with their partners and 126 (52.7%) remained in contact with their partners. Eleven (4.8%) of the unmarried pregnant women got married with their male partners during a pregnancy stage. About 36.8% of the unmarried pregnant women claimed to be physically abused by their partner during sex.

Table 4.45: Partner's status towards the unmarried pregnancy

Partner' status	**n**	**Unmarried mothers**	
		n	**%**
Duration of relationship with infant's father (month)	236		
Mean (SD)		24.3 (22.4)	
Median (IQR)		20.5 (0-180)	
Less than 1 year		100	42.4
1 – 2 year		62	26.3
More than 2 years		74	31.4
Knowledge of infant**'s father about this pregnancy**	239		
Yes		217	90.8
No		22	9.2
Reaction of infant**'s father about this pregnancy**	217		
He wants this baby born and take care of the baby		144	66.4
He wants this baby born but did not want to take care of the baby		13	6.0
He does not want this baby		13	6.0
He does not acknowledge this baby		14	6.4
He does not want to know about this baby		22	10.1
Others		11	5.1
Current relationship status with the infant's father	261		
Still in contact/Good relationship		126	48.3
No longer in contact		88	33.7
Disappeared/Cannot be contacted		25	9.6
No relationship at all		22	7.8
Physically abused for having sex with partner	261		
Yes		96	36.8
No		165	63.2

4.5.5 Others' pregnancy details

The unmarried pregnant women were asked further questions about their knowledge of the pregnancy and their reactions to the pregnancy. Table 4.46 shows the results. About 42.9% of the unmarried women stated that they realized they were pregnant after missing their first or second menstrual period, 29.9% realized after they had missed between three and four months of their periods, 16.5% mentioned physiological changes during pregnancy and 10.7% stated others reason. These include from the accidental finding from a medical check-up, during an episode of stomach ache, having some form of sickness or fever.

Most of the unmarried women reported that they were shocked (80.1%), frightened (77.4%) and confused (39.1%) when they knew about the pregnancy. There were 30 women (11.5%) who stated that they were happy about the pregnancy. The other feelings reported by the women were hopeless (26.4%), angry (23.4%) and sad (20.7%).

When asked about the first reaction after they knew about their pregnancies, the majority of the women accepted the pregnancy (88.5%). Forty (15.3%) unmarried women had used some form of folk remedies in an attempt to abort the pregnancy, 25 (9.6%) sought an abortion in clinics and 11 (4.2%) contemplated suicide. With regards to their family reactions towards their pregnancies, 57.1% stated that their family accepted the pregnancy. About 10.7% of them were forced by parents into marriage and 7.3% of their parents were not aware of their pregnancies. The majority of the women was sent to the shelters (67.4%), some were sent to places where they are not known (9.6%) and one person was chased away from home by the family.

Table 4.46: Distribution of the unmarried mothers based on their reactions towards pregnancy

	N	Unmarried mothers	
		n	%
How respondents knew about the pregnancy	261		
Aware after missing 1st & 2nd menstrual period		112	42.9
Aware after missing 3 to 4 months of menstrual period		78	29.9
Aware of physiological changes during pregnancy		43	16.5
Others		28	10.7
First reaction about the pregnancy	261		
Happy		30	11.5
Shock		209	80.1
Angry		62	23.8
Hopeless		69	26.4
Frightened		202	77.4
Confused		102	39.1
Sad		54	20.7
Others		40	15.3
Action did when they knew about the pregnancy	261		
Accepted the pregnancy		231	88.5
Used any folk remedies to abort it		40	15.3
Went for abortion in a clinic		25	9.6
Made a plan to attempt suicide (para-suicide)		11	4.2
Others		12	4.6
Family reactions towards the pregnancy	261		
Chased away from home		1	0.4
Sent to a place where they are not known		25	9.6
Sent to a shelter home		176	67.4
Family moved to another place where they are not known		3	1.1
Forced into marriage		28	10.7
Accepted the pregnancy		149	57.1
Family did not know about the pregnancy		19	7.3
Others		27	10.3

The women were asked specifically about a support from their partners, families and friends during this current pregnancy and type of support received from these people. The supports referred were in the form of materials preparation for the arrival of the infant, prepared the mothers with proper diet/supplement, helped with household work, accompanying them to the clinics and giving advice on antenatal care.

Less than half (47.9%) of the unmarried women received support from their partners during this pregnancy. Compared to the married women, the majority (98.8%) had support from their partners. The Chi square analyses showed that there was a statistically significant difference in partners' support between the unmarried and married group ($p<0.001$). In terms of the type of support received from partners, most of the unmarried partners gave advice on antenatal care (66.4%) and prepared the infant stuff (54.4%). While, among the married women's partners, they helped with the household work (82.6%) and accompanied them to the clinic (78.9%). The types of supports received from the partners were significantly different between the two groups, except for the advice on antenatal care (Table 4.47).

The majority of the women (81.6% and 96.3%) received support from their family during pregnancy and the chi-square test found that the differences were statistically significant. The major support received from family was advice on antenatal care for the both groups (69.5% and 83.5%). The least support from family among the unmarried women was help with household work (34.3%) and among married women, was accompany to clinic (29.1%). The significant difference in terms of types of support from family, was found in a form of help with household work, advice on antenatal care and accompany to clinic ($p<0.001$).

With regard to support from friends, less than half of the unmarried women had support from friends (46.0%) and it was significantly different with the married women, in which 81.6% had friends' support. Out of the 320 women who had friends' support, the majority was in a form of giving advice on antenatal care (86.7% and 90.5%, respectively). The significant difference was reported between the two groups in terms of giving support to mothers with good diet/supplement, helped with household work or workplace and accompanied them to clinic as shown in Table 4.47.

Figure 4.10 shows the financial support received among the unmarried women during this current pregnancy. More than half of the 261 unmarried women had no financial support at all (59.5%), 7.3% received financial support once or twice, 6.5% received it a few times (3 to 5 times), and 26.4% received financial support many times (>5 times) from their partners.

As to their sources of financial support, the majority of the women received it from their parents (72.8%). The other sources were from siblings (23.0%), relatives (11.1%), friends (6.1%) and other people (8.8%) including partners' parents or welfare department. Some 5.4% of women had no financial support at all from anybody during their pregnancies (Figure 4.11).

Table 4.47: Distribution of the respondents by marital status on support received during pregnancy

	n	Unmarried mothers		Married mothers		p-value[b]
		n	%	n	%	
Support from partner during pregnancy	506					
Yes		125	47.9	242	98.8	<0.001*
No		136	52.1	3	1.2	
Type of support received from partners	367					
Prepared all the infant stuff e.g. clothes, diapers		68/125	54.4	189/242	78.8	<0.001*
Prepared good diet/supplement/vitamin		60/125	48.0	173/242	71.5	<0.001*
Helped with household work		32/125	25.4	200/242	82.6	<0.001*
Advice on antenatal care		83/125	66.4	147/242	60.7	0.288
Brought to clinic/hospital		60/125	48.0	191/242	78.9	<0.001*
Support from family during pregnancy	506					
Yes		213	81.6	236	96.3	<0.001*
No		48	18.4	9	3.7	
Type of support received from family	449					
Prepared all the infant stuff e.g. clothes, diapers		102/213	47.9	91/236	38.6	0.046
Prepared good diet/supplement/vitamin		111/213	52.1	118/236	50.0	0.655
Helped with household work		73/213	34.3	134/236	56.8	<0.001*
Advice on antenatal care		148/213	69.5	197/236	83.5	<0.001*
Brought to clinic/hospital		100/213	46.9	69/236	29.1	<0.001*
Support from friends during pregnancy	506					
Yes		120	46.0	200	81.6	<0.001*
No		141	54.0	45	18.4	
Type of support received from friends	320					
Prepared all the infant stuff e.g. clothes, diapers		18/120	15.0	21/200	10.5	0.234
Prepared good diet/supplement/vitamin		24/120	20.0	20/200	10.0	0.012*
Helped with household work		20/120	16.7	13/200	6.5	0.004*
Advice on antenatal care		104/120	86.7	181/200	90.5	0.287
Brought to clinic/hospital		21/120	17.5	15/200	7.5	0.006*

* Significant different at p<0.05; Statistical test –[c] Chi-square test

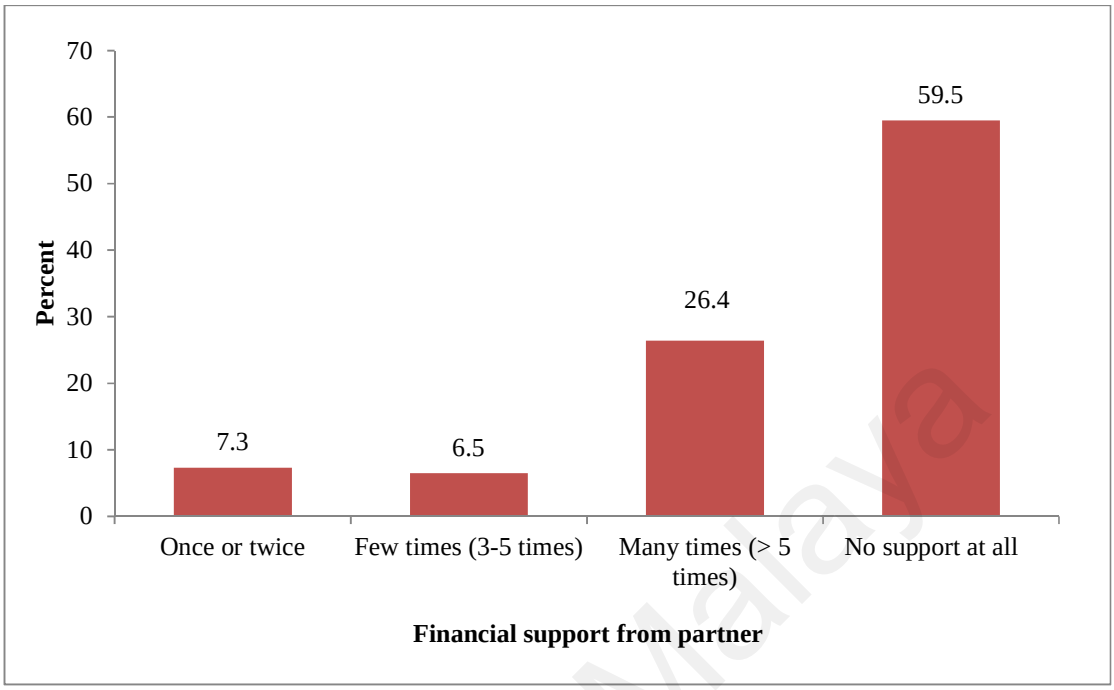

Figure 4.10: Financial support received from partner during this pregnancy among the unmarried mothers (N=261)

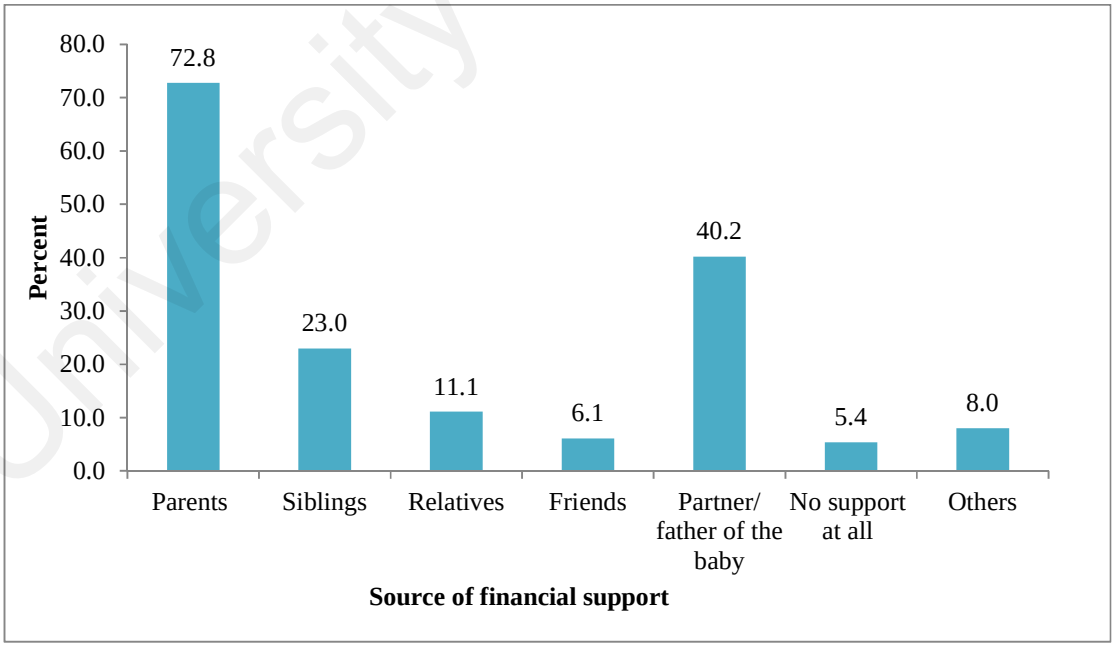

Figure 4.11: Sources of financial support received by the unmarried mothers (N=261)

4.6 Factors Influencing Unmarried Pregnancy

4.6.1 Univariate Analyses: Factors Predictive of Unmarried Pregnancy

In this study, as the dependent variable is categorical and the appropriate statistical technique suggested by Hair et al. (1998) is discriminant analyses or logistic regression. For the current data, logistic regression was chosen as, the dependent variable was in categorical form and it is possible to put all the independent variables into the model using direct entry. The parameters of the model in logistic regression are estimated using the maximum likelihood ratio method (Hair et al, 1998).

The dependent variable is marital status upon conceiving where it was categorised into two; unmarried upon pregnancy and married upon pregnancy. The latter acted as a reference group. For the logistic regression, the selected independent variables were categorised into binary choice and some remained as continuous variables. These 43 variables were grouped into five main items, namely: socio-demographic, family factors, peer and community factors, social support, sexual health information and risky behaviours.

In this study, all the variables with a p value ≤ 0.05 are considered statistically significant. Thirty-four out of 43 independent variables were found significantly associated with the unmarried pregnancy, when analysed using the simple logistic regression analysis as shown in Table 4.48. These significant variables were included in the multivariate logistic regression analyses. There were nine independent variables that were not significantly associated with the unmarried pregnancy as shown in Table 4.49.

Table 4.48: Factors significantly associated with the unmarried pregnancy analysed with the Simple Logistic Regression

Variables	Unmarried	Married	b	Odd Ratio (95% CI)	p-value
Age (years) (mean, SD)	19.1(3.9)	29.4(4.9)	-0.494	0.61 (0.56,0.66)	<0.001
Residential					
Urban	164 (62.8)	185 (75.5)	0		
Rural	97 (48.3)	60 (24.5)	0.601	1.82 (1.24,2.68)	0.002
Education level					
Higher education	45 (17.2)	148 (60.4)	0		
Lower education	216 (82.8)	97 (39.6)	1.991	7.32 (4.86,11.04)	<0.001
Working status prior pregnancy					
Working	99 (37.9)	179 (58.2)	0		
Not working	162 (62.1)	66 (26.9)	1.490	4.44 (3.04,6.47)	<0.001
Household income (RM per month) (mean, SD)	1677.5 (1583.6)	3388.0 (2330.0)	-0.001	0.995 (0.9994,0.9996)	<0.001
Age of mother (years) (mean, SD)	50.0 (7.1)	57.2 (7.1)	-0.201	0.82 (0.79,0.85)	<0.001
Education level of mother					
Lower education	162 (85.7)	146 (94.2)	0		
Higher education	27 (14.3)	12 (5.8)	-1.001	0.37 (1.83,4.16)	0.006
Working status of mother					
Working	102 (40.5)	44 (20.0)	0		
Housewife	150 (59.5)	176 (80.0)	1.001	2.72 (1.80,4.12)	<0.001
Age of father (years) (mean, SD)	51.0 (7.8)	61.8 (7.4)	-0.191	0.83 (0.80,0.86)	<0.001
Working status of father					
Not working	26 (11.6)	79 (42.2)	0		
Working	198 (88.4)	108 (57.8)	1.717	5.57 (3.37,9.20)	<0.001
Number of siblings	5 (2)	6 (3)	-0.173	0.84 (0.78,0.90)	<0.001
Numbers family member finished secondary education	3 (2)	6 (3)	-0.414	0.66 (0.61,0.72)	<0.001
History of physical abuse in the family			0		
No	236 (90.4)	243 (99.2)	2.555	12.87 (3.02,54.95)	0.001
Yes	25 (9.6)	2 (0.8)			

Table 4.48: (CONTINUED)

Variables	Unmarried	Married	b	Odd Ratio (95% CI)	p-value
Relationship with mothers	20.4 (3.3)	22.1 (2.6)	-0.196	0.82 (0.77,0.88)	<0.001
Relationship with parents	38.9 (6.5)	42.4 (5.2)	-0.101	0.90 (0.88,0.93)	<0.001
Relationship with fathers	18.4 (4.4)	20.2 (3.4)	-0.120	0.89 (0.85,0.93)	<0.001
Parental control	24.1 (5.8)	25.2 (5.6)	-0.032	0.97 (0.939,0.999)	0.041
Parent's strictness	45.4 (8.3)	47.2 (9.2)	-0.023	0.98 (0.977,0.999)	0.029
Frequency having interaction with friends					
Less frequent	43 (16.5)	80 (32.7)	0		
More frequent	218 (83.5)	165 (67.3)	0.899	2.55 (1.61,3.75)	<0.001
Have friends involved with risky behaviour					
No	128 (49.0)	230 (93.9)	0		
Yes	133 (51.0)	15 (6.1)	2.768	15.93 (8.96,28.34)	<0.001
Involvement with religious activity					
Less frequent	150 (57.5)	112 (45.7)	0		
More frequent	111 (42.5)	133 (54.3)	0.473	1.61 (1.13,2.28)	0.008
Perceived importance of religion					
More important	189 (72.4)	242 (98.8)	0		
Less important	72 (27.6)	3(1.2)	3.425	30.73 (9.53,99.06)	<0.001
Sexual health information					
Yes	212 (81.2)	229 (93.5)	0		
No	49 (18.8)	16 (6.5)	1.196	3.31 (1.83,5.99)	<0.001
Overall social support	62.5(10.6)	68.1 (8.8)	-0.060	0.94 (0.92,0.96)	<0.001
Family support	22.4 (4.8)	23.6 (3.3)	-0.073	0.93 (0.89,0.97)	0.001
Significant others support	21.6 (4.6)	23.5 (3.3)	-0.125	0.88 (0.84,0.93)	<0.001
Friends support	18.6 (4.8)	21.0 (3.6)	-0.145	0.89 (0.83,0.91)	<0.001

Table 4.48: (CONTINUED)

Variables	Unmarried	Married	b	Odd Ratio (95% CI)	p-value
Age of menarche (years)	12.4 (1.3)	12.7 (1.2)	-0.208	0.81 (0.70,0.94)	0.005
Age of first sexual intercourse (years)	17.6 (3.2)	24.3 (4.0)	-0.508	0.06 (0.55,0.65)	<0.001
Contraceptive used					
No	134 (56.5)	217 (88.6)	0		
Yes	104 (43.5)	28 (11.4)	1.787	5.97 (3.73,9.55)	<0.001
Cigarette used					
No	211 (80.8)	242 (98.8)	0		
Yes	50 (19.2)	3 (1.2)	2.950	19.12 (5.88,62.18)	<0.001
Alcohol used					
No	242 (92.7)	244 (99.6)	0		
Yes	19 (7.3)	1 (0.4)	2.953	19.16 (2.55,144.23)	0.004
Pornographic film/video					
No	142 (54.4)	239 (97.6)	0		
Yes	119 (45.6)	6 (2.4)	3.508	33.38 (14.33,77.79)	<0.001
History of sexual abuse					
No	236 (90.4)	244 (99.6)	0		
Yes	25 (9.6)	1 (0.4)	3.252	25.85 (3.47,192.29)	0.001

b=regression coefficient, p is significant at ≤ 0.05

Table 4.49: Factors not significantly associated with the unmarried pregnancy analysed with the Simple Logistic Regression

Variables	Unmarried	Married	b	Odd Ratio (95% CI)	p-value
Parent's marital status					
Married	188 (72.9)	165 (67.3)	0		
Others	70 (27.1)	69 (29.5)	-0.116	0.89 (0.60,1.31)	0.562
Ethnicity					
Malay	239 (97.6)	248 (95.0)	0		
Others	6 (2.4)	13 (5.0)	0.736	2.09 (0.78,5.58)	0.142
Religion					
Islam	242 (98.8)	253 (96.9)	0		
Others	3 (1.2)	8 (3.1)	0.936	2.55 (0.68,9.73)	0.170
Education level of father					
Lower education	137 (81.1)	152 (88.4)	0		
Higher education	32 (18.9)	20 (11.6)	-0.574	0.56 (0.31,1.03)	0.063
Mother's strictness	22.6 (4.7)	23.4 (4.9)	-0.033	0.97 (0.93-1.00)	0.079
Father's strictness	22.8 (4.6)	23.6 (4.9)	-0.037	0.96 (0.93-1.00)	0.058
Number of friends	3 (2)	3 (3)	-0.064	0.94 (0.87-1.00)	0.079
Participation in any community group activity					
Yes	27 (10.3)	37 (15.1)	0		
No	234 (89.7)	208 (84.9)	0.433	1.54 (0.91-2.62)	0.109
Drug abuse					
No	253 (96.9)	245(100.0)	0		
Yes	8 (3.1)	0	21.171	1.564E9 (0.00)	0.999

b=regression coefficient, p is significant at ≤0.05

4.6.2 Multivariate Analysis: Risk Factors Influencing Unmarried Pregnancy

4.6.2.1 Fitness testing for preliminary model

The full model containing all predictors (34 variables) was statistically significant (χ^2 (34, N = 299) = 356.54, p <0.001), indicating that the model was able to distinguish between the respondents who conceived outside marriage and those conceived within marriage system. The model, as a whole explained between 69.7% (Cox and Snell R square) and 93.0% (Nagelkerke R squared) of the variance in the unmarried pregnancy and correctly classified 95.3% of cases. Model building was based on the Hosmer-Lemeshow model building strategies and methods (Hosmer, 2000). The preliminary main effects model was obtained by the automatic variable selection methods utilizing forward procedure. There were eight independent variables that provided a statistically significant contribution to the preliminary model.

These variables were tested for the multicollinearity by obtaining the variance-inflation-factors (VIF). The VIF of these variables were less than 10 and were thus considered not to have multicollinearity. There was no 2-way interaction between the significant variables found after the preliminary final model was checked by the LR test. No confounding effects were determined, as there were no changes in the adjusted odds ratio in the preliminary final models with and without the potential confounder.

The preliminary final model was tested for its fitness before it was accepted. The fitness of model tests included the Hosmer-Lemeshow Goodness-of-fit statistics, Classification table and its statistics and Receiver Operating Characteristic (ROC) curve. The Hosmer-Lemeshow Goodness-of-fit statistics revealed the Chi-square of 5.65, df 8 and a p value of

0.686. 94.80% were correctly classified with the cut-off point of 0.5 for a predicted probability. The classification table showed 95.50% specificity, and 94.10% sensitivity. The ROC curve revealed an area under the curve was 0.983. These values were considered as nearly perfect fit.

4.6.2.2 Interpretation of final model

The final model of the factors associated with the unmarried pregnancy contained seven variables (Table 4.50). These factors, arranged from highest to lowest risk were: cigarette used, had a friend involved with a risky behaviour, exposure to pornographic material, information on sexual health, used of contraceptive methods, age and significant others' support.

The two strongest predictors of the unmarried pregnancy were ever use of cigarette and have a friend involved with a risky behaviour, with the odd ratios of 21.87 (95% CI 2.75-173.93) and 18.09 (95% CI 4.36-75.14) respectively when controlling for other factors in the model. This indicated that the women who had ever used cigarette have 22 times more odds compared to the women that never used cigarette in their involving with the unmarried pregnancy. The women who had a friend involved in risky behaviours were 18 times more likely to become pregnant outside marriage than those women who did not have such friends.

Similar to the women who were exposed to pornographic materials, they were 11 times more likely (95% CI 2.49-44.49) to be involved with unmarried pregnancy than those who were not exposed to pornographic materials. The women had never received information on sexual health had 11 times more odds (95% CI 3.32-33.43) compared to the women who had ever received information on sexual health in becoming pregnant outside of marriage.

However, those who had never used contraception were 0.17 times less likely (95% CI 0.06-0.51) to become pregnant outside of marriage than those women who had ever used contraception.

The odds ratios of age and significant others' support were less than 1, indicating that they were protective factors. The women with an increase in 1 year age were 0.60 times less likely (95% CI 0.60-0.76) to become pregnant outside of marriage, which means that younger age is highly risky. Same goes to a support for the significant others. Every additional score of support from the significant others were 0.79 times less likely (95% CI 0.70-0.89) to be involved with the unmarried pregnancy. This means that the women with good social support from the significant others were at lower risk compared to the women having less or no support at all.

Table 4.50: Factors influencing unmarried pregnancy (Analysed using the Multiple Logistic Regression)

Variables	b	Adjusted Odds Ratios (95% CI)	Wald Stat (df)	p-value
Age	-0.505	0.64 (0.60,0.76)	67.79 (1)	<0.001
Have friends involved with risky behaviour				
No	0			
Yes	2.895	18.09 (4.36,75.14)	18.09 (1)	<0.001
Sexual health information				
Yes	0			
No	2.355	10.54 (3.32,33.43)	16.00 (1)	<0.001
Contraceptive used				
Yes	0			
No	-1.761	0.17 (0.06,0.51)	4.96 (1)	0.002
Significant others support	-0.242	0.79 (0.70,0.89)	15.75 (1)	<0.001
Cigarette used				
No	0			
Yes	3.085	21.87 (2.75,173.93)	8.50 (1)	0.004
Pornographic film/video				
No	0			
Yes	2.360	10.59 (2.49,44.49)	10.22 (1)	0.001

Forward multiple logistic regression model was applied with (0) as reference, multicollinearity and interaction terms were checked and none were found, Hosmer-Lemeshow test, (p=0.75), classification table (overall correctly classified percentage=94.2%) and the area under the ROC curve (98.5%)

4.7 Chapter Summary

To summarize, a total of 506 pregnant women agreed to participate (92.2% response rate), but 203 unmarried and 200 married women succeeded to follow up until the 3rd month after childbirth. A majority of the women that participated in both groups were Malays and Muslims ($p>0.05$). Most of the unmarried mothers were adolescents, from urban areas, low socioeconomic groups, were still studying and lived with their parents prior to pregnancy.

The majority of the unmarried mothers were primigravidae and had unplanned pregnancy. Approximately 8.4% of the unmarried women received no antenatal care and almost half had their first antenatal visit in the second trimester. The total number of antenatal visits was more likely to be lower among the unmarried women. However, the percentage of the married women who had antenatal complications was slightly higher compared to the unmarried women.

The unmarried mothers were more likely to have poor psychological well-being, poor quality of life (PCS high and MCS low), lower social support, and poor coping strategies as compared to the married mothers. Some 62.7% of the unmarried mothers reported that their pregnancy affected their job/study. About 43.8% gave their children for adoption, 27.1% chose motherhood, 17.7% kinship fostering, and 9.9% chose parenthood (marriage to the father of an infant).

From the multivariate regression analysis, marital status was significantly associated with postpartum depression (OR 3.04; 95% CI 1.29-7.18), preterm birth (OR 1.66; 95% CI 1.05-2.61) and low birth weight (OR 2.79; 95% CI 1.68-4.61). In the final model, antenatal care

was significantly associated with preterm birth and 'use of drugs' was associated with low birth weight.

The unmarried women had more interaction with their friends compared to the married women, but they were more likely to have friends involved with social misconduct activities and less perception of social support. There were significant differences in religious matters and sexual reproductive health knowledge between the two groups. Mass media and the Internet were the main source of information about sexual reproductive health for the both groups.

The unmarried women were more likely to engage in risky behaviours (cigarette and alcohol usage, substance abuse, exposure to pornographic material, involvement in premarital sexual activities, and history of sexual abuse) and experienced the first sexual contact earlier than the married women. The majority of the unmarried women was pregnant due to consensual sexual intercourse and half of the unmarried mothers had never used any contraceptive methods. Only 20 (7.7%) of the unmarried women did not know who the father of the infant was, as they were raped by unknown persons.

All data on demographic characteristics showed significant differences between the two groups. Multivariate regression analysis showed that age (OR 0.64; 95% CI 0.60-0.76), have friends involve with risky behaviour (OR 18.09; 95% CI 4.36-75.14), cigarette used (OR 21.87; 95% CI 2.75-173.93) exposure to pornographic material (OR 10.59; 95% CI 2.49-44.49), sexual health information (OR 10.54; 95% CI 3.32-33.43), contraceptive used (OR 0.17; 95% CI 0.06-0.51), and social support of significant others (OR 0.79; 95% CI 0.70-0.89) were associated with the unmarried pregnancies.

CHAPTER 5: RESULTS PART 2 – QUALITATIVE FINDINGS

This chapter presents the findings from the second phase of this research involving the data from in-depth interviews with the women who went through unmarried pregnancy. The purpose of this phase is to gain an overall understanding of their life experiences. The chapter firstly starts with a description of their sexual experiences, including sexual behaviours, how they conceived, and what they knew about their pregnancy. Next, it described about the pregnancy and childbirth experiences faced by these women. This chapter also provides an account of the challenges faced by the women and their families, as well as the support they received from others.

5.1 Characteristics of Respondents

Fourteen participants participated in the Phase 2 of the study. All of them were primiparous. These respondents were recruited from the four different shelter homes (4 from Shelter A, 4 from Shelter B, 4 from Shelter C, and 1 from Shelter D). However, one respondent was staying with her parents. There were six adolescent girls (age <18 years old) and eight young adults (age ≥ 18 years old). All the respondents were Malay in ethnicity and Muslim by religion. Seven women were still studying, either in secondary school or university and seven were working at the time they discovered their pregnancy. The characteristics of the respondents were summarized in Table 5.1.

Table 5.1: Background of respondents

No	Pseudonyms	Age	Education level (years of schooling)	Employment status	Living with:
1.	Hana	20	Upper secondary (12)	Working	Parents
2.	Aida	16	Lower secondary (9)	Studying	Shelter A
3.	Nureen	18	Upper secondary (11)	Studying	Shelter A
4.	Wawa	17	Lower secondary (10)	Working	Shelter B
5.	Suzi	22	Upper secondary (11)	Working	Shelter B
6.	Amy	17	Lower secondary (10)	Studying	Shelter C
7.	Emma	17	Lower secondary (10)	Studying	Shelter C
8.	Sarah	22	Upper secondary (11)	Working	Shelter B
9.	Siti	24	Upper secondary (11)	Working	Shelter B
10.	Hanim	22	Upper secondary (11)	Working	Shelter C
11.	Shasha	19	Upper secondary (12)	Studying	Shelter C
12.	Farah	25	Degree (14)	Studying	Shelter A
13.	Rita	15	Lower secondary (9)	Studying	Shelter A
14.	Leeni	17	Lower secondary (7)	Working	Shelter D

Lower secondary – 6 to 9 years of education
Upper secondary – > 10 years of education

Through the in-depth interviews with these women, six themes emerged. For each theme, there were sub-themes. The themes can be seen in Table 5.2.

Table 5.2: Experiences of the unmarried pregnancies among the Malaysian women

Main themes	Sub-themes	Codes
1. Sexual encounters	a) Sexual partner	1. Father of the baby
		2. Duration of the relationship
		3. Family's knowledge about the relationship
	b) Sexual activity	1. Knowledge about sex
		2. How the sexual relationship started
	c) Sexual debut	1. Decision to sexual engagement
	d) Contraceptive use	1. Contraceptive knowledge
		2. Sources of information
		3. Contraceptive utilization
2. Pregnancy experiences	a) Discovery of pregnancy	1. Diagnosing the pregnancy
		2. Pregnancy symptoms
		3. Time when pregnancy discovered
	b) Reactions to the pregnancy	1. Own reactions to the pregnancy
		2. Reactions of others to the pregnancy (include partner, family and community)
	c) Pregnancy living arrangement	1. Stayed at shelters' home
		2. Stayed with families

Table 5.2: continued

Main themes	Sub-themes	Codes
	d) Pregnancy challenges	1. Concealment challenges
		2. Health challenges
		3. Living away from home
	e) Support during pregnancy	1. People providing support
		2. Support type
3. Childbirth experiences	a) Labour experience	1. Childbirth problems
		2. Experiences/challenges in labour
	b) Emotional experienced	1. Feeling towards the baby
	c) Acceptance of the baby	1. Family acceptance of the baby
d) Decisions about baby	a) Adoption	1. Adoption process
		2. Decision for baby adoption
		3. Feeling about the decision
	b) Motherhood	1. Motherhood challenges
		2. Plan
	c) Kinship fostering	1. Decision for baby adoption
d) Impact on the mothers' life	a) Economic impact	
	b) Psychological impact	
	c) Health & Physical impact	
	d) Social & lifestyle impact	
	e) Future plans	
f) Lessons learnt	a) Overall lessons learnt	
	b) Opinion about community	4. Expectations of and from community
	c) Advices to other women	

5.2 Sexual Encounter

This theme focuses on the respondents' life experiences in terms of their sexual behaviours which led them to conceive before getting married. The sub-themes addressed respondents' sexual partners, sexual activities, and experiences of their first sexual encounter and the use of contraceptive methods.

5.2.1 Sexual partners.

Most of the respondents knew about the father of the baby. They identified that they had a steady partner and only a few respondents claimed to have no steady partner, just someone whom they just got acquainted. Whatever the status of their relationship, these men eventually fathered their child.

R10: *Because I was deceived by my boyfriend*
I: *So can this be considered a love relationship?*
R10: *Yes*

(Siti, 24 years old)

To say that I do not know him, actually I do, because he was one of my father's acquaintances. That's how I know him and I didn't expect it will turn out this way.

(Hana, 20 years old)

Only one respondent did not know who the father of her baby was. This respondent was raped by a stranger at night while walking home from work. She was hit unconscious until the next morning where she found herself in a messy condition at one place. She went home and relayed the incident to her housemate. No police report was made or she has not informed her parents, as she was afraid. She was traumatized for a few months, quit her job and did not want to meet other people. She discovered herself pregnant, two months after the incident.

The one I'm pregnant with? No, I don't know who's exactly…At the time, I was on my way back from work at night, around ten o'clock. I was from the KTM station going towards the bus station. I was alone, I was on my way to the bus station when suddenly a stranger, and a male ran towards me and hit me. I tried to fight him back, but he hit me again… The man hit me and I blacked out and was unconscious. When I came around I was already under a bridge and it was around four or five o'clock in the morning...

(Wawa, 17 years old)

The age of the respondents' sexual partner was either the same age as theirs or older. Two women had partners who were still studying and were from the same school. Many of the respondents who were studying had older employed men as their partners.

I: You were in form one, and then, at that time was he in school too?
R15: Erm, no, he works.. at a workshop… he was nineteen years old already.

(Rita, 15 years old)

I: Oo ok, so was your boyfriend from the same school?
R3: Aah, the same school….he was in form five.

(Nureen, 18 years old)

For the women who were working, their partners were also working at the same place. None of the respondents' partners were in any professional job and most partners did not have a stable occupation or had blue-collar jobs.

Yes, he was working at the same place with me but on a different section, assembly section. I was working in Section Five, Shah Alam at an electrical factory.

(Siti, 24 years old)

He works, sometimes he has worked, but sometimes he has no work…

(Shasha, 19years old)

Suzi did not know that she was involved with a married man until the pregnancy occurred.

….he was actually a married man…..I didn't know, when I was already pregnant for four months, suddenly he just disappeared. I told him I do not want to abort it, and then he disappeared just like that. I tried to find him at the apartment where we used to spend our time together, his house is near, just in front of the apartment, I went with my sister to his house and I met his wife instead

(Suzi, 22years old)

Duration of the relationship tended to be less than a year among majority of respondents. However, one woman stated that they had been in a relationship for a longer period of time about 6 to 7 years.

….for quite some time already, now I am twenty three, from eighteen years old until twenty three… it has already been six years since I knew him.

(Sarah, 22 years old)

I only knew him for three months; I worked for only three months... after that I quit.

(Hanim, 22 years old)

When asked about family's knowledge about the relationship, most respondents admitted that their parents had no knowledge about it. Very few respondents claimed that their parents knew about their relationship and knew their partners, but overall, none of the parents knew the details of their relationships.

I: Did your parents know that you were seeing him?
R7: erm... no.

(Amy, 17 years old)

My parents knew him, but our family has been deceived by him. He told us that he was a divorcee whereas, he was actually someone's husband. I was embarrassed with my family…

(Suzi, 22 years old)

None of these women confided their relationship with their parents. One woman reported that her parents got to know her partner, but disagreed with her relationship. Different from Farah, her family knew about their cohabitation.

> *My mother knew some of them and some no, but usually mother doesn't allow it, being in a relationship, mother was also angry when I was seeing this one.*
>
> *(Shasha, 19 years old)*

> *Mama knew I was living with my boyfriend, mama trusted my boyfriend, mama knew him. My boyfriend frequently paid a visit to our house…. my father, but also knew he did not like my boyfriend. It didn't matter how good he was, my father just do not like him, my father never liked anyone that I was seeing.*
>
> *(Sarah, 22 years old)*

5.2.2 Sexual activity.

Respondents particularly the younger respondents, mentioned that **they learnt about sex** from their partners, their friends and via porno videos/films.

> *Err boyfriend… he taught me, after that… he taught me a lot, how to have sex...*
>
> *(Aida, 16 years old)*

> *It all started from friends; firstly we knew this through videos, in school we secretly bring our mobile phone. One day, a friend was holding another friend's mobile phone and I was just beside my friend. She was the type who likes to explore other people's phone, then we saw those things… starting from there when I befriended my friend she showed and taught me how to look at all those things.*
>
> *(Nureen, 18years old)*

A few respondents did highlight how their friends influenced them in doing it. They also had friends who have been pregnant outside of marriage and worst, knew about babies being abandoned.

Maybe, I partly believed him and partly didn't, and maybe because of the influence with other friends at that time…My friend said that "look at you, couple…but you have never held hands" my friends told me that it is normal to hold hands being a couple. But we were not influenced much by this person, because some of them are worse, they have slept with each other…
Yes, some have given birth, but I am still thinking...

(Hanim, 22 years old)

A majority of the respondents with sexual partners started as a couple. Once they started going out together, the partner started touching and kissing them, and slowly asking for more involvement. Few of these respondents claimed that they agreed to have sex as a declaration of love and some for material gains from their partners.

Yes, met the family, then, one day about a month after, he sort of asked me to go to his house. He said if I really love him, then I should show my love to him. So when we were there, I don't remember what happened, when I realized it, I was already in such a way, I was already on the bed.

(Suzi, 22 years old)

This is different with Leeni, an under-age girl who had stopped schooling. She was involved in multiple sexual relationships with men.

Quite a number (of men)…. I would go out for a couple of months, three months, a minimum of six months…. If I am bored. It was always other people who kept coming to me. I don't go and seek out other people

(Leeni, 17 years old)

For the other respondents, they did have more than one relationship with men in their lifetime but had only one sexual partner.

R11: I am like.., I have many boyfriends, he was the first one, and this one is number ten, the father of the baby.

I: Ok, was there any sexual relationship with your first boyfriend during high school, when you were in form five?

R11: No. Yes, we just hold hands, till I broke off with him, with other guys was also the same, I never did have sex with this one and another two or three other people until with this last one.

(Hanim, 22 years old)

In Siti's case, she found herself unconscious after her first date, as her drink was spiked. But, because her partner promised to marry her, she stayed with her partner.

I can only cry, after that I told him "How could you do this to me, what if anything happen to me?".. "It's ok I will be responsible" that was what he said, so I asked him "really?" "Yes I promised in the name of Allah I will be responsible"

(Siti, 24 years old)

5.2.3 Sexual debut

The first encounter of sex for several women had changed their life considerably when they became pregnant a few months later. Hanna, who was also raped by an acquaintance stated that she herself was not really sure what had happened to her. Similarly for Siti, who was raped during her first date when her drink was spiked. As for Farah, after 2 months of being a friend, the man begged her for sex. Her first sexual experience for Farah became a nightmare after she discovered her pregnancy 5 months later but her boyfriend's has already disappeared.

When it happened, I was unconscious and when I came around, he was already on top of me, at that time I was not sure whether it really happened or not. I was really not sure.

(Hana, 20 years old)

The majority of the respondents said that, their first sex encounter was **without their consent**. They were either being forced or blackmailed emotionally to having sex. As mentioned above, a few found themselves unconscious or drugged. Despite these incidents, report to the authority was not done. The respondents gave reasons such as; their love to their partner, fear of being scolded or being left alone.

> *He told me that we were only going to hang out, then he wanted to sleep because there was nobody around in the house, so he said he just wanted to sleep, it was fine with me. Then when I laid down, he started to undo my dress, and as a man he was too strong and I cannot fight him and that was how it started.*
>
> *(Nureen, 18 years old)*

> *….the first time I did it with him, because he forced me, not that I was willing...*
>
> *(Shasha, 19 years old)*

> *Ha, he met my family, then one day, about a month after we became friends, he invited me to his house, he said if I really love him, proof of how I love him, I said no, no… but when I reached at his house, I cannot remember anything and when I wake up, I had been in his bed…*
>
> *(Suzi, 22 years old)*

Of these nine women who were earlier forced into sex, they mentioned that they subsequently enjoyed having sexual activities. Suzi claimed that she became addicted to sex.

> *I really loved him, the first time I was unconscious, the second time I was willing because I love him, further more we had done it, a few times, we were like addicted to that.*
>
> *(Suzi, 22 years old)*

5.2.4 Contraceptive Use.

Despite frequent sexual activities and the fact that their pregnancies were unplanned, all the respondents, particularly those who were not raped victims, had a **basic knowledge about**

contraceptive methods. Their idea of contraception was mainly through use of condoms in preventing pregnancy.

I: Err, but do you know the type of family planning?
R3: The one that I know is only the condom.

(Aida, 16 years old)

R6: I do not know about all that…. No, I do not know anything at all...
I: So, you only know about condom?
R6: Yes, that is all I know, I don't really know about all this thing because I just do not have any idea of it...

(Suzi, 22 years old)

Sources of information about the contraceptive methods were mainly from friends and the few women mentioned that their friends supplied it to them.

Since I was twelve years old, the boys at the hostel, they organized activities to investigate on the social symptom, they bought condom and they shared it with us on the how and stuff, from there I learnt about condom and other things.

(Leeni, 17 years old)

….no, my friend bought it since she works at the pharmacy

(Sarah, 22 years old)

Only half of the respondents used contraceptive methods and even then, the contraception was not used all the time. Condom was the commonest type of contraceptive method used. Others include withdrawal method and douching post intercourse.

I: When you had intercourse did you use any contraceptive method?
R15: erm, no
I: Not even once?
R15: erm, no.
I: Ok, that guy, did he ever use a condom before?
R15: erm, no

(Rita, 15 years old)

I: Did you use any contraceptive method when you did it with your boyfriend?
R5: Yes, so that I will not get pregnant.
I: Ok, what did you use?
R5: Condom that's it.

(Wawa, 17 years old)

For me, after I did it with him I would go to the toilet and wash everything away.

(Suzi, 22 years old)

Aida, a Form Four student had used condom once. She had once tried having sex without using condom and it turned up that she did not get pregnant, thus continued without using condom. Different from working woman Suzi, who did not use any contraceptive methods as her partner refused to wear a condom and that he promised to be responsible if ever she got pregnant. While for the others, they just followed their partners and thought nothing about that.

R3: The condom was used once and after that no more
I: Err, why didn't he use it?
R3: Because I think the first time [not using condom], I didn't conceive so it's okay as it is safe that was what I thought.

(Aida, 16 years old)

Yes, I have told him that if we wanted to do it, then he should use the condom, but he told me it's ok and there was nothing to worry about. He told me it was not good using it, and I told him "What if I got pregnant", but he told me that " No it won't happen" Then I asked again "What if I got pregnant?" he told me " It's ok, that he will take the responsibility". .

(Suzi, 22 years old)

Of course, I was a bit afraid; he told me if I got pregnant just abort it, at that time I just listen to him because I do not know anything.

(Rita, 15 years old)

5.3 Pregnancy Experiences

This theme describes the respondents' experiences about their pregnancy, beginning with how they discovered their pregnancies and the journey they faced. The sub-themes include the diagnosis of pregnancy, reactions to the pregnancy, decisions made about the pregnancy, challenges faced and support during pregnancy, antenatal care and the emotions encountered.

5.3.1 Diagnosis of pregnancy

Half of the respondents reported that their pregnancies were unexpected. These women had detected their pregnancy first before going to see the doctors. However, there were very few who was not expecting themselves to be pregnant when they went to their doctors for the other symptoms. For example, Leeni who presented with an abdominal pain after a motor vehicle accident, but was informed by a doctor that she was having a baby.

> *I didn't know… my back was hurting, my legs hurt as if it's breaking, after that (motor vehicle accident) the doctor did the examination and scanned and the doctor told me that I have a baby inside me. I was surprised, "What? Baby?" I started to cry, I was shocked…*
>
> *(Leeni, 17 years old)*

Several women, performed **self-urine pregnancy test (UPT)** when they noticed that their menses were late.

> *Yes, it was getting out of hand. We kept doing it until in September when my period was late. In October I didn't have my period, so I bought a pregnancy test and tested it myself.*
>
> *(Aida, 16 years old)*

All the women noticed about having late menses but some thought that it was normal to have irregular menses. The suspicion of being pregnant was not there, especially when some of them did not have the typical early pregnancy symptoms.

> *At that time, I thought it was normal because I have experienced of not having my period for the two months before, the third month, I had my period and now it didn't come at all.*
>
> *(Hanim, 22 years old)*

Apart from missing their menses, all women also noticed some biological and physical *changes in their body*. All of them experienced nausea and vomited and some mentioned about weight gain, bloated stomach, dizziness, and less appetite.

> *Early November or at the end of November, I realized I missed my period in December. If it was a month it's okay, then in January also my period hasn't come and I felt dizzy, when I smell perfume odours I would get nauseated*
>
> *(Wawa, 17 years old)*

> *I felt it, my body was getting bigger, and I kept getting dizzy, tired, but I didn't think of anything, I thought it was a normal thing, being tired*
>
> *(Siti, 24 years old)*

These women also described how people who were close to them noticed their bodily changes. For instance, Amy, her schoolmate noticed her physical changes and told their teacher about it. Several women had their mothers noticed about their bodily changes. Hana's mother, for example asked her to check with the doctor.

> *I first realized I was pregnant when my friends started to suspect me, because my stomach was getting bigger, and they told the teacher, the teacher talked to me and asked me to do a urine test, the pregnancy test.*
>
> *(Amy, 17 years old).*

That evening my mother mentioned about my body changes. My mother said that I looked different. I did mention about the irregular menses, like the last time it came but I was not so sure. My mother think it's weird. My mother told me to go and check and of course it (UPT) turns out to be positive.

(Hana, 20 years old)

Some women discovered their pregnancies early during the first trimester, whereas some discovered late in the second and third trimester.

…I only knew about it after accident, the doctor said that he can see the heart (with the ultrasound machine), it has already been 2 months.

(Leeni, 17 years old)

I knew I was pregnant when it was in the sixth or seventh months because I became very big, but the belly was not really showing, it's just that I look fat…

(Sarah, 22 years old)

5.3.2 Reactions to the pregnancy.

Describing the respondents' reactions to the pregnancy, some respondents confided with their partners first upon discovering the pregnancy. Both respondents and their partners, then tried to solve the problem on their own and tried to conceal it from their families. All of them attempted abortion by using various materials or food, such as consuming pineapple and soda. Such information about abortion was obtained from their partners, friends, and colleagues.

After that, in October I found out I was pregnant, I told my boyfriend. He suggested abortion, and then he gave me worm medicine, pineapple..

(Aida, 16 years old)

I drank Coca-Cola at work every day. Then I ate pineapple, I do not eat sour things but I had to, I mix pineapple with yeast to abort the baby. I asked my operator friend, because she had once aborted her baby, she mentioned pineapple juice mixed with yeast drink. I did it, but it did not work, then I tried slipping myself down in the toilet, I walked around and slipped down but it still did not work.

(Sarah, 22 years old)

Few women admitted that they did not go through an abortion despite having the thought of it. The thought of a live foetus inside their bodies and also remorse about their mistakes prevented them from carrying it out.

In the beginning, I thought of aborting too, because I was scared of my parents then when I thought about the baby growing, I changed my mind about aborting it..…

(Emma, 17 years old)

At that time, I thought of abandoning the baby, but my friend advised me "enough, the mistake was ours". She advised me not to do anything stupid, she said enough with it.

(Farah, 25 years old)

Some respondents explained that upon the discovery of their pregnancies, marriage was the first thing that came into their minds. These women, especially the older respondents, thought marriage would be the best solution for them at that moment. Echoing the desire to take care of the baby, Leeni, an under-aged girl said that she planned to get married and raise the baby between her partner and herself.

I know, I wanted to get married because of what happened. If possible I want to get married with the guy before the family found out and I wanted to take care of it.

(Shasha, 19 years old)

On the contrary, Hanna accepted the unexpected pregnancy in a positive way and planned to raise the baby on her own. The thought of abortion, adoption or marriage were not on her agenda. Furthermore, her partner disappeared after knowing about her pregnancy.

> *No, I wanted to care for it, but a lot of people have been asking and willing to take care of the baby, while I was still pregnant, but I wanted to care for it myself, because I accepted what is fated to me, whatever was said I still want to care for it on my own.*
> *(Hana, 20 years old)*

There were various emotions described by these women when experiencing their pregnancies. Half of the respondents said they were shocked when they first discovered about their pregnancies. They felt shocked because the pregnancy was unexpected, especially among the respondents who had experienced first sexual experience. Several women felt remorse and sad, as they had let down their parents. Few mentioned that they were afraid of their parents as they had been involved with such immoral behaviour, were nervous to approach and confide in their parents.

> *A bit sad of course because I let my parents down. How to tell them, I am a bit scared…*
> *(Hana, 20 years old)*

> *At the time, there were a mix of feelings, frustrated, sad. Then only I was thinking about my mother's, my father's and other siblings' pride. They would be embarrassed, I felt so stressful, like there was a rock on my head, but I tried to calm down. There is a lesson here, which was all that I can tell myself*
> *(Hanim, 22 years old)*

Several women felt embarrassed and shameful as they were unmarried. Few women also mentioned that they felt clueless and helpless as they did not know what to do.

I felt embarrassed, I am embarrassed because I was pregnant out of a wedlock. Used to watch other people getting pregnant out of wedlock in the television and now it happened to me, that's how it felt.

(Suzi, 22 years old)

No, I froze, didn't know what to do. Everything was like blurred to me …

(Sarah, 22 years old)

For Leeni, an underage girl who had multiple sexual partners, there was a sense of remorse and regret. As with Farah, she cannot accept what happened to her, as it was her first sexual experience.

Shocked, disappointed and frustrated, of course…

(Leeni, 17 years old)

No, no, I cannot accept the qada' qadar by god, I kept thinking why this happened.

(Farah, 25 years old)

Upon the disclosure of their pregnancies, the respondents received various **reactions from their partners**. One common immediate response was for the baby to be aborted. They helped search for information about the methods of abortion and ways of doing it.

I told him about it, he also told me to get rid of it

(Nureen, 18 years old)

Different with Suzi's partner, despite asking Suzi to abort the baby, he gave Suzi some money and an address of an abortion clinic.

He had given me two thousand, to abort it. I went alone. In the beginning I was scared. He gave me the address, the clinic address. I went there, asked the taxi to send me, then

I went to scan. In the beginning I wanted to abort it, then he (the doctor) said it cannot be done as it has come to more than five months.

(Suzi, 22 years old)

As for the partners who were employed, they wanted to marry and bear the responsibility of what happened. Some partners went to see the respondent's parents and discussed about marriage. However, a few of the respondents' parents were against the marriage due to reasons such as, the partner had bad attitude, the partner had poor financial status, parents did not want to disrupt studies and the future of their daughter, the partner did not want to worry his father, or the partner's family questioned about the father of the child.

My mother didn't want me to marry him. The guy's attitude is not that good, and mother doesn't seem to like him...

(Shasha, 19 years old)

No money to get married, he has nothing much with his kind of job, he only has a motorcycle, my mother is not a materialist but she was thinking about my future.

(Hanim, 22 years old)

Then, that night they wanted to marry us off, but my father didn't agree. Because my father said that if I marry at this young age, there is still a long way ahead of me… [crying]… my father wanted me to continue my study. My father didn't want me to turn out like his sister, his sister had to marry early because she was pregnant, and the man was not responsible, my father didn't want me to face the same fate.

(Nureen, 18 years old)

I wanted to get married because after finding out about the pregnancy my parents went to see him, then he said, he discussed with my father that he wanted to be responsible, he wanted to get married but without his family's knowledge… he didn't want his father to know as he was afraid since his father was sick… my father agreed and didn't mind about it. But after that, we never met him anymore, he remained silent, he was afraid of his father, he wanted to be responsible but he was afraid of his father.

(Emma, 17 years old)

No, the problem was his parents cannot accept it. Then my mother called his father, his father said no, he didn't want to accept it, he said, "Is this really A's baby? Who knows if she can do it with A then she can also do it with other men" he said "No, no I'll send, I have already sent him off", and he hung up.

(Sarah, 22 years old)

For Wawa, who was raped by an unknown person, and Farah, who had a new partner, their current partners were not the fathers of their babies, but asked them to get married and were willing to raise the child together but they refused.

My boyfriend knew only after I told him [the rape case and this pregnancy], he asked me to marry him, I didn't want to because this is not his. What if later after the marriage he would use it against me, I am afraid of it.

(Wawa, 17 years old)

First we planned to get married, so, no, then I kept thinking this child. What if, for example, is a girl? Whose surname should I give her? If I use his name, then I started to think, if I give the baby his name when she gets married will her marriage status be valid, for her father to be her 'Wali'? Then I just said to settle this first, after that, I didn't feel like it (marrying him).

(Farah, 25 years old)

Only Amy did not tell her partner about her pregnancy as she did not want her parents to get angry with her.

I: during that time didn't, you thought of that guy... didn't you tell him or asked him to get married or something?
R7: no
I: why?
R7: because I was afraid my mom would be angry

(Amy, 17 years old)

The respondents' parents managed to know about their pregnancies in four ways; informed by the respondents themselves, parents were informed by the doctors, parents were

informed by the teachers/employers and the physical changes caused suspicion of pregnancy. Only a few women had the courage to tell their family members either directly to the parents or siblings. When Hanna knew about her pregnancy from a doctor, she asked for the doctor's advice and she was then referred to the Social Work Officer. She received consultations from the social worker on the approach to tell her parents. Different with Suzy, after her partner left her and her plans for abortion failed, she then decided to keep the pregnancy and informed her family.

> *After I tested that it was positive, I was quite afraid. In the beginning, it was like, afraid of my father and my mother's reaction, I told the doctor who did the check-up about all this, then he said, "It's okay, let's refer to the JKM counsellor", then from there, I know how to inform my parents...*
>
> *(Hanna, 20 years old)*

> *I cancelled my plan for abortion, going back from the clinic I called my younger sister, my older sister and all my sisters, three of them and my younger sister, I asked them to gather in one house, only my female siblings, that was when I told them.*
>
> *(Sarah, 22 years old)*

A few women explained how that their mothers noticed their physical changes such as weight gain and stomach, although they tried to conceal and deny it.

> *Mom said, "What happen to me, why is my body getting bigger"… so I gave excuses, I was only eating and sleeping most of the time at home, that is why I am getting bigger... Then, as time moves on it gets bigger and a lot of people were talking about it, so one day my mother asked, I had to confess.*
>
> *(Nureen, 18 years old)*

For some, their parents found out about the pregnancy from their teachers, employer and their partner's family. Aida's teacher who was suspicious of her behavioural changes approached her parents and asked them to bring her for a medical check-up. Some parents

found out about the pregnancy directly from the doctors when they brought their daughters (the respondents) for other health problems.

> *One day there was this one guy who started to tease me until I became very emotional. I was very angry, really angry at this guy, and I kept cursing him. Then the teacher heard it. The teacher asked the guy what made me so angry. He told the teacher that he was teasing me that I was pregnant. The teacher suspected that I was pregnant, and then the teacher asked my parents to bring me to a clinic.*
>
> *(Aida, 16 years old)*

> *The doctor, I asked the doctor to call my mother.*
>
> *(Leeni, 17 years old)*

Although, there were different stories among all women in this study on their sexual behaviour, how they discovered about their pregnancies, the reactions and future plans but their **family's feelings and reactions** were almost similar. Most of the parents were angry when they first found out about their children's (the respondents) pregnancy. Several women mentioned how their parents felt disappointed with what they had done and some did not talk to them for a while. A few parents felt sad, embarrassed and cannot accept what had happened. Only a few women mentioned that their parents supported them such as Hanna, she explained, although their parents felt sad, but they supported her from the beginning until delivery.

> *My mother was speechless, both my parents were very angry at that time. Both my parents were yelling angrily at me asking me why I did this because I am the first borne so I should become the pillar of the family. I didn't know what to say. I just kept quiet. My parents were really mad, very disappointed, crying and I didn't know what to do. I just kept silent…*
>
> *(Aida, 16 years old)*

My mother was very disappointed. My father, prior to this incident was on speaking term didn't even said anything to me for three days. He was very disappointed with me…

(Wawa, 17 years old)

Erm…my father was not angry, but he just cannot accept it…

(Rita, 15 years old)

Can accept, but in the beginning they were quite sad. It's normal for the parents, but at the same time, my father supported me and motivated me, to accept the fact…

(Hana, 20 years old)

However, there were some parents who did ask the respondents to seek abortion when they found out about the pregnancy.

Yes, I want to abort, father asked me to abort it, but the doctor told us that it cannot be aborted as the baby has already been formed and perfect….

(Rita, 15 years old)

When my mother told my father about me being pregnant, the first thing that came out from my father was to abort it…

(Sarah, 22 years old)

Half of the parents have had discussions with the respondent's partner in the plan of marriage. This was mentioned before in the section on the partner's reaction to the pregnancy (see page 18). When the discussion about marriage failed, parents asked for help and opinions from others, such as, other family members or relatives.

My father said that he didn't know what to do, because he was afraid that he would get angry, and then he told my grandmother and my uncle, my aunts who are close to us.

(Nureen, 18 years old)

They were angry, blabbering, then they discussed it with my uncle.

(Amy, 17 years old)

Apart from parents, the respondents' views on **community reactions to their pregnancy** were explored. The community refers to uncles, aunties, grandmothers, partners' family, employers, friends, cousins, lecturers, teachers or wardens who knew about their pregnancies. Several respondents mentioned that those people who knew of their pregnancies gave support in terms of advice. Different with Hanna and sadly she was reprimanded by her teacher when she first approached her for help. While for Amy, her friends avoided her when they knew about her pregnancy. Some women claimed that the people at the clinic looked at them weirdly while they went for an antenatal care.

> *Not friends, from the teacher in school, "you are only burdening your parents, what with a child out of a wedlock", that's it, I was very sad and disappointed in her, after that I have negative thinking.*
>
> *(Aida, 17 years old)*

> *No, the teacher supported me a lot... but some friends were distancing themselves from me.*
>
> *(Amy, 17 years old)*

> *Normally, we had to wait at the clinic, and people got suspicious because we all came together, being pregnant and all, no husband or someone else, at that time people were looking suspiciously at us.*
>
> *(Amy, 17 years old)*

Reactions from health care providers were also explored when they sought treatment at health clinics or hospitals. The health care providers, who were nurses or doctors, yelled at a few respondents. The other respondents did not have any bad experiences with doctors or nurses, they just asked routine questions how it happened and what their future plans were for the baby.

No, not looking down on me, but asked me "Why didn't you get married",
(Hanim, 22 years old)

erm, they treated me badly. The nurse told me to be patient, but at that time I cannot be patient anymore because it was hurting so much at that time, the nurse was saying, "Now only you know, when you were doing it, you pretended not to know".
(Rita, 15 years old)

When I was registering for the red card, the nurse asked for my marriage certificate, then I told her quietly... then the nurse asked "Whether you have a husband or not, the important thing is the baby is healthy", so they were not treating me negatively, for me I didn't feel it as negative.
(Sarah, 22 years old)

5.3.3 Pregnancy living arrangement

When attempted abortion or plans for marriage failed, the respondents' last choice in solving this problem was to **stay in shelter homes**. The decisions were made by parents or family members and some respondents were not aware of their parent's decision. They also said they did not have any idea about shelter homes.

They [my family] told me that "tomorrow we were going for an interview", I know in Kota Bharu, they told me, but I didn't know that it would be this place, I thought it was going to be a hostel, then during the interview I found out.
(Shasha, 19 years old)

However, Sarah found out herself about shelter homes and she asked permission from her parents to go there. Her reason for going to the shelter homes was that she did not want to increase her parents' burden. In Leeni's case, she had been ordered by the court to stay at the shelter home or rehabilitation centre for three years because she had been involved with drugs and prostitution.

Actually, my parents didn't send me here in Baitul Ehsan, I searched for it myself, half-way house through the Internet. I can hear it (parents fighting) in another room, screaming and fighting, I switched on my laptop and searched for Baitul Ehsan, I went to MAIS, registered myself... I wanted to stay there because I pity my mother.

(Sarah, 22 years old)

R16: I stayed at the hospital, I was admitted, I stayed at the hospital for about a month and five days, then straight away enter DBKL (Dewan Bandaraya Kuala Lumpur), I came here directly…

I: who took you there?

R16: the court, I went to the court and everything, straight came to DBKL and stayed there a month, went to the court, then I came here (shelters)…. I am remanded for 3 years…

(Leeni, 17 years old)

As for Hanna, her family who accepted the pregnancy and planned to keep the baby, her parents asked her to **stay with her grandmother**. As how she felt about staying with her grandmothers instead of shelter home, she was worried that she would be a burden to her grandmother and aunt.

Went to stay with my grandmother because my mother didn't know how to handle everything, even though, she had been pregnant and gave birth. But my aunty on the father's side also wanted to take care of the baby.

(Hana, 20 years old)

The **reasons for these respondents to be sent to shelters home** were to hide their pregnancies from other people. This is either to avoid the embarrassment or social stigma surrounding the pregnancy outside marriage. Other reasons include their parents not accepting the pregnancy.

My mom said, "I have discussed with your brother, to send you to this place in Kelantan, tomorrow or the day after you, will go, I just wanted to inform you, I can accept you, if I die or I got sick, do not come back not until you gave birth" because of shame, I just keep quiet, at that time I was shocked and speechless.

(Hanim, 22 years old)

My mother asked me to stay here (shelter home) because she was afraid that other family members would know, yes we want to hide it....

(Amy, 17 years old)

The issues further explored were **their feelings about shelter homes.** Most of them cannot accept the decision and kept asking why they had to stay at the shelter homes. Some said that they did not want to stay away from family, some were angry and sad. One respondent said it is not fair for her to stay at the shelters and face the problems alone while her partner was not.

Angry, sad and then I told them that I do not want because I don't like to stay here, at that time I was thinking of staying at home only, I want nothing, I don't want to go out from home, I don't want to be separated….

(Siti, 24 years old)

When I entered here, I cannot accept it at all, like why do I have to come here, can't I just stay at home, like I was blaming my parents,...

(Aida, 16 years old)

Never thought of it because I never know how a shelter look like... at the time I was hoping to calm myself down, clear my head, can release a bit of stress something like that.

(Sarah, 22 years old)

5.3.4 Challenges faced during pregnancy

Among the challenges faced by the respondents during pregnancy were concealment challenges, health challenges and the challenges of living away from their own homes. **Concealment challenge** happened when they hide their pregnancies from their family and

also from the community. One woman said that she tried to cover the stomach by wearing big T-shirts and gave many reasons, if her family asked her about the body changes. Most women said after their family knew about the pregnancy, they faced the same challenges, such as not able to go out of their houses and have to stay at a relative's house because did not want others to know about it.

> *Yes at that time I tried to cover it, wore a corset, wrapped my stomach, and wore big T-shirts….*
>
> *(Nureen, 18 years old)*

> *I have to stay at home and didn't go out…*
>
> *(Amy, 17 years old)*

Besides this, **health challenges** occurred when Nureen described that she did not have any chance to go for antenatal check up and get a supplement for her pregnancy. She faced a barrier of accessing formal help i.e. antenatal check-up due to the community gossips. Some respondents mentioned they had health problems related to their pregnancies, such as always passing out, cannot stand for a long period and feeling very lethargic.

> *In terms of food, I just ate whatever I wanted… didn't even go to the clinic, not even once…. at one time, before my parents found out, I did plan to go to the clinic with him, going with his family members…..the friend and the mother went to check on the baby, I did plan but because I met a neighbour who like to gossip, so I cancelled.*
>
> *(Nureen, 18 years old)*

Among the **challenges faced at shelter homes,** were the initial separation anxiety, unable to see parents or family regularly, for example they took turns for parental visits. The shelter's policy only allows parental visit once a month. One respondent noted that she had to do a lot of activities or household work on her own.

I do not know, we have to check, if there is a booking for other parents then only they can come, because there are many trainees here, so every Saturday is considered a visiting day, a maximum of six people only can visit at one time, so have to book earlier.

(Sarah, 22 years old)

…..here, everybody is pregnant, just to make it easier, you have to do all work including heavy work on your own…

(Wawa, 17 years old)

However, for Hanna, who had to stay at grandmother's house during pregnancy, she faced a logistic challenge to go for antenatal check-up where she had to ask her auntie to send her for every visit.

I had to depend or burden my aunt to send and fetch me at the clinic but...

(Hana, 20 years old)

5.3.5 Support during pregnancy

Most of the respondents received support from parents and family members, such as, siblings, uncles, aunts and grandmother. Other than family members, few women mentioned their friends, cousins, employer, neighbours and other residents in shelter homes also provided them with some support.

There were two types of support the respondents' received; emotional and material support. **Emotional support** included acceptance from family, advice and encouragement for their behavioural changes, listening to their feelings and visits at the shelter homes.

I: what kind of support did they provide?
R11: words, motivational words

(Hanim, 22 years old)

When father first knew about it, he said not to think of what people said. Then I started to think, if my father can accept it even though people might talk badly about it, so could I.

(Hana, 20 years old)

Like family, they advised me to change and be better after all this has happened. Do not repeat the same thing again; and the baby, my sister will care for it.

(Suzi, 22 years old)

Material support from family included, preparation of the baby stuff and accompanied them to antenatal visit at the clinic. Aida and Nureen mentioned that the relationship between residents at the shelter homes was like a family where they shared problems and helped each other. Friends also gave material support, such as, took them to the clinic or rented a house for them.

Everyone is like a family, we were very close… yes, close, if we have problems, we share then one would help to settle it, and if we feel down, there will be others who would help to lift up our spirits.

(Nureen, 18 years old)

However, for Leeni, although she stayed at shelter homes, she felt very alone and felt that her mother did not give her any support during her pregnancy.

Sometimes, she knew I was going to give birth, she was like not motivated, and I thought I might as well support myself...

(Leeni, 17 years old)

5.3.6 Antenatal care

In terms of antenatal care during pregnancy, all the respondents had received antenatal care. Soon after they knew about the pregnancy, their family brought them to health centres

for an antenatal check-up. Most of the respondents went to private clinics and only a few went to the government health clinics for the first antenatal visit. They were accompanied by their family members. While, the respondents who were at shelter homes, they had a regular antenatal check-up at the government health clinics accompanied by the warden. However, different with Nureen, she did not have any chance to go for an antenatal check-up while at home. She only managed to receive antenatal care one times during her stay at the shelter homes because after one month at shelter homes, she then delivered the baby.

> *Yes, I went to a private then I went to Jabi, and Dungun, I don't remember, erm Jerteh, at a clinic in Jerteh once, then another clinic to have a check-up, just to see how big is the baby, how many months, mother didn't believe it. I went with my mother, my older brother, three of them, all at the private clinic…*
>
> *(Hanim, 22 years old)*

> *R4:didn't even go to the clinic, not even once ….*
> *I: So you came here (shelter home), did you go to any clinic?*
> *R4: when I came here, only…once*
>
> *(Nureen, 18 years old)*

Describing the women's experiences while having antenatal care at the clinics, some mentioned that the nurse or doctor asked how it occurred. Some gave advice and support and none experienced any bad experiences with the health care providers. However, some women felt that the people at the clinic were looking at them weirdly.

> *Normally we had to wait at the clinic, and people got suspicious because we all came together, being pregnant and all, no husband or someone else, at that time people were looking suspiciously at us.*
>
> *(Amy, 17 years old)*

5.4 Childbirth Experiences

This theme describes the respondents' experiences during childbirth, including respondents' feelings and emotions, problems faced during labour, and acceptance of their babies.

5.4.1 Labour experiences

All the respondents had hospital deliveries and all except one respondent had spontaneous vaginal delivery (SVD). Sarah had a Lower Segment Caesarean Section (LSCS) because the baby was in transverse position during labour.

In terms of **problems encountered during childbirth**, few women had intra-partum complications; meconium aspiration syndrome, haemorrhage, fever and infection. Most of the respondents delivered healthy babies, but a few of them had preterm babies. Some babies had jaundice and one had an eye problem.

Exploring women's experiences during their stay at the hospital for their deliveries, most of them felt very alone, as nobody accompanied them in the hospital. The women from shelter homes were sent to the hospitals by the warden and were left on their own after all the registration was done. The warden came to pick them up after their childbirth. Only one respondent said her mother came to accompany her during labour while the others said their parents did not come for a lot of reasons.

The warden just sent me and registered me that I was left alone…
(Nureen, 18 years old)

During the labour, my parents didn't come because they told me that my grandmother was at home, and they cannot leave her, and my grandmother didn't know that I was pregnant….

(Wawa, 17 years old)

Other challenges faced during childbirth were community perception, including nurses, doctors or other patients at the hospital. Although, the doctors and nurses treated them well, and supported them, being alone without a company in the ward after childbirth is unusual in a local context. Other patients started probing about the respondent's partner or family. Surprisingly, they did not show any negative perception, but in fact supported these women.

Yes, there were people asking. Beside my bed, a twenty five a year old woman, in front was a twenty year old woman, the older one asked whether my husband is coming or not. I just smiled and told her that I do not have a husband, then I told her my story. She didn't seem care or I do not know what is negative to her, but I don't look at her with suspiciously, she was saying "there are people like this in this world, committing sins", she kept babbling, "but its ok, things have happen what else can we do, even if I make fuss, the man won't come to see me". Then she said, "it doesn't matter, you just take care of your baby, and do not get into any more trouble". The younger one commented "its ok, being a single mother is better"…. She said "single mother is the best, when you have husband then when we are busy with the baby, the man would complain, and when entertain the man, and then there's the baby"… The nurse and doctor were ok. Each time when asked about the patient status, they would say single mother and all that. After that, they would ask "are you going to take care of it or give it away?"

(Sarah, 22 years old)

5.4.2 Emotional experience

Few respondents did mention their wishes to have mothers beside them when they were in labour. However, for Nureen, she said it is better for her parents not to come to hospitals to save her parents from embarrassment due to her status as an unmarried mother.

I feel I want to (parents come and take care of me), but it cannot happen, so I just have to be patient, wait and my mother came…

(Rita, 15 years old)

R4: the family knew, but they cannot come to the hospital
I: cannot?
R4: Yes because they have to care for the family's honour…. in case they meet people they know.

(Nureen, 18 years old)

Describing respondents' feelings when they first saw their babies, some women said they were happy that their babies were safe. Most women expressed that they felt a loving bond with their babies the very instant they saw them. Farah, for example, who mentioned how she did not want the baby because the father of the baby had ruined her life, then felt different when she heard her baby cried. Some women felt sad as they were separated from the baby and that the baby was without a father. Looking at the baby, few women mentioned they felt remorse for what they had done in their attempt to abort the baby during their pregnancies. Others felt a sense of relief and speechless.

When I looked at the baby, I fell in love towards the baby it and I don't have the heart to abandon it

(Siti, 24 years old)

I felt happy and also sad at the same time… because I know that the baby will not be with me

(Shasha, 19 years old)

Before that I didn't want to see my baby because I blamed the man for ruining my life. But when I heard the first cry, and when I looked at it, I fell in love towards it....

(Farah, 25 years old)

When I gave birth, I felt relieved, because the baby is safely out.

(Rita, 15 years old)

5.4.3 Acceptance of the baby

Throughout the interviews about childbirths and their emotions, respondents' acceptance or rejection for the babies was explored. Like Farah and Wawa who were raped, they accepted their babies without any prejudices despite the experience they went through, stating that the baby was not guilty.

> *I: So, you like the baby, were there any hatred feeling??*
> *R5:No*
> *I: Even though you were raped?*
> *R5:No, the baby is innocent, that was what in me...*
>
> *(Wawa, 17 years old)*

Regarding the **family's acceptance of the baby**, there were some parents of the respondents who were not able to accept the baby, from the beginning until the baby was born. These parents had only one look at the baby, whereas some were reluctant to see their babies. Some parents accepted the baby and helped the respondents with a care of the baby.

> *I: How was your mother's reaction towards the baby? Can both of your parents accept it?*
> *R12: I don't think so, they did come a visit while I am here*
> *I: You mean from the beginning of the pregnancy they couldn't accept the baby?*
> *R12: Yes...*
>
> *(Shasha, 19 years old)*

> *Even when I asked my father to see the baby he was reluctant. Mom saw the baby but my father refuse, saying don't need to see it, when he grows up, he will be looking, so just give it to the family who wants to adopt him..*
>
> *(Nureen, 18 years old)*

5.5 Decision about Baby

There were 4 sub-themes that were discussed under this topic related to what was decided by the respondents after the birth of the baby. The sub-themes addressed the three chosen decisions; adoption, motherhood and kinship fostering. Six women chose to give their babies up for adoption, four women raise the baby on their own (motherhood) and four women gave their babies to family member (kinship fostering).

5.5.1 Adoption

The respondents who gave their babies for adoption were from the shelter homes. The **process of adoption** was almost the same for each of the shelter homes. The respondents did not know much about the couple who adopted their babies and they only met the couple once on the day when gave the baby up to the couple. Only respondents' parents and management of shelter homes knew the details about the adopting couples.

> *Once, when I need to give the baby to them that was when I met them briefly. Yes, once only….*
>
> *(Aida, 16 years old)*

> *R12: Yes, but the adopting family was the one searching for one*
> *I: oo who find them? Your mother?*
> *R12: yes…she didn't trust other people...*
> *I: Did your parents know the adopting family?*
> *R12: Mother told my aunt about it and my aunt helped to find one. Probably they are already in contact with each other, and my aunt might have met the adopting family.*
>
> *(Shasha, 19 years old)*

The reasons stated by the respondents as to why they decided to give the baby up for adoption were as follows; fear of people talking about the baby later on; the belief that having the baby adopted to enable the baby to grow up in the two-parent family instead of growing

up with a stigmatized mother and guarantee the best life for their babies. Apart from that, the respondents' future life was another thing to be considered where most of their own parents wanted the respondents to finish their schooling.

R15: Then I thought about the future, mother also said that it is still a long way ahead, so why not just give the baby to a family to adopt.
I : why didn't your parents take care of it?
R15: They said they wanted to, but they are afraid that people might talk about it, people might question when did she became pregnant and suddenly there's a baby. Afraid the people will talk about a child out of wedlock and people keep saying bad things about it.

(Rita, 15 years old)

Yes, I discussed it with my parents about taking care of the baby my own, but they didn't agree. They think I should continue my study.

(Aida, 16 years old)

For Hanim, there were few reasons why her mother had asked her to give the baby up for adoption, as her mother had a grandchild and she was too old and tired to help to care for the baby. Apart from that, the Hanim's father was a religious leader in a village and there was a need for them to safeguard their own and their family's dignity. A different situation for Shasha, she was the eldest in the family, had many siblings and her mother was also pregnant at that time.

Mom was the one who told me to give up the baby for adoption or to the welfare, mom said the she is too old to care for a baby, and she already has two grandchildren, further at our village, everybody knows each other and my father is a religious leader (Imam) and also the head of the village, everybody knows him…we have to hide it, if suddenly they heard about a baby they would be asking questions….

(Hanim, 22 years old)

When asked about how they **felt about the decision**, most of the respondents said they felt sad and missed their babies. They hope this is the best decision for the babies and that the adoptive parents could take good care of their babies.

> *Quite sad, I hope and trust that those people could take good care of my baby, teach and guide him, so I have to pray for it ….*
>
> *(Hanim, 22 years old)*

> *I really want to… I do not want anything, I just want my baby, I just want to take care of it, let him grow up with me not with someone else, I want him with me. Later, when I am in need of help, he would help me, but probably it is not my fate, only Allah knows how sad I am right now, I really missed my baby that is why I am just quiet, I don't really talk to other people….*
>
> *(Leeni, 17 years old)*

5.5.2 Motherhood

The women who decided to raise their babies on their own were those who had earlier decided this during pregnancy. They never thought of giving away their babies to the other people. This was their own decisions except for Siti, who at the beginning, did not want her baby but relented and changed her mind. Furthermore, her mother was keen to take care of the baby. When the baby was born, the emotional attachment and bonding between mother and child made a separation from her baby impossible and unbearable.

> *No, I want to take care of the baby, but even during pregnancy, there were already people who have been asking about the care of the baby. But I wanted to care for the baby on my own because I have already accepted my fate, it doesn't matter what others would say, I still want to care for it. Even my parents also wanted to care for the baby and we are going to care for it together, even if people offer we still won't give it up.*
>
> *(Hana, 20 years old)*

> *I told my mom "I do not want the baby and I want to abort it". My mother told me that, "If you do not want it, then I will care of it'…..*

After the delivery, I felt that I cannot be apart from the baby even though the father was irresponsible. I do not want to add any other sins because my mother has advised me and I sympathized with the baby…

(Siti, 24 years old)

The main reason, the women decided on motherhood was the love of the baby and felt that it was not the baby's fault. Sarah, who was staying in a shelter home mentioned that despite of having an uncertain future, she would still like to bring up her child as she could not bear the thought of her own child blaming her for giving him up. The baby's facial feature reminded of her boyfriend and that it was a product of love with her partner that she loved. To Hana, she said, it is better that the baby knows the truth.

R2: I think I love the baby, because he is innocent, doesn't know anything…
I: Are there any other reasons? Since the baby has no father and if he is given to the adoptive family then he will have parents, you are alone.
R2: I want him to know the truth.

(Hana, 20 years old)

I don't know, this would seem as if I am selfish because I do not know what the future holds. Of course in the birth certificate there would be the mother's name, so he (the child) can find me if he tries, whether he would blame me or not, saying that I do not love the child, then what would I say to him "I can't afford to care for him", "other people can find a job and mom who is perfect why can't you find a job" What if he asked such question, what would I answer, that is why I want to take care of him. Furthermore, he is my child with my boyfriend with he has his eyes, his father's eyes, how could I give him up to someone else.

(Sarah, 22 years old)

However, this decision has a few challenges as described by the women from the shelter homes. They were involved in their routine activities in the shelter homes and the babies were at nursery, while they had the activities. Therefore, their time with the baby was only limited to bed time. Each resident was given a rotation schedule for a duty in the nursery.

Because of that, one respondent said she was worried how their friends are taking care of their babies.

> *Further, I am worried, a mother's instinct, when I went and performed any I don't see much of the baby, I do not know what is happening to him. Not to say that I don't trust, that others do not know how to take care of the baby, but I am myself worried that my child cries a lot then they would get angry and everything,….*
>
> *(Sarah, 22 years old)*

Other challenges faced by these women after childbirth were about the status of the baby. Some respondents were worried about meeting other people in the community as they believed that the community will tend to reject the illegitimate child. The respondents were also worried about their future life where they need to secure a job to maintain their children.

> *I have to support the baby, that's why I feel a bit disoriented. I am still thinking of how to get out and find a decent job.... The thought of facing people is a challenge, the problem is when I want to bring my child, and people will be asking whose child, that is what I am thinking of.*
>
> *(Wawa, 17 years old)*

In terms of the respondents' **plan**, all of them said their parents brought the babies home for a while so that it will not interrupt respondents' activities at the shelter homes. After they have finished their rehabilitation in the shelter homes, which is usually a year, all of them said that they will find a job to maintain their children.

> *I: How do you plan to take care of the baby? What I meant was will you try to find your own place to stay?*
> *R5: Maybe I will, but until I am stable, first I will stay with my family, work and stabilize my life...*
>
> *(Wawa, 17 years old)*

Hana, who comes from a low socioeconomic family background had to work in town and left her baby with her parents for a while so that she can afford to prepare the basic needs for her child and also her own family.

I: So now you are already working, and the baby is with your mom, will it always be like this or it will change?
R2: I planned to work, then when economically I am stable enough, I want to take care of my baby myself, come back here and take care of him and sent him to school...

(Hana, 20 years old)

5.5.3 Kinship fostering

Two of the respondents gave their babies to their older siblings. Apart from raising the child and maintaining all baby's needs, these respondents had agreed that their siblings would breastfeed the babies (wet nurse) to establish a family bond. In Islam, the wet nurse is considered the child's mother.

R14: the baby is given to my brother…
I: do you mean to give the baby to him permanently?
R14: yes, but I asked my sister that instead of him being an adopted son, make him her own child by lactating him

(Farah, 25 years old)

They said the reason for this shared decision was easily achieved in a view if their brother or sister were childless.

My brother has been married for eleven years and they haven't had any baby, so he said that probably the infant is meant for him, so he is going to care for the baby…

(Farah, 25 years old)

On the other hand, for the two other respondents, their parents decided to keep the baby as their own child. Asking respondents the reason of this decision, Amy told that her father wanted to raise the baby because their parents did not have a son. However, for Emma, her parents do not want to break up the family relationship with the baby, thus her parents decided to raise the child.

> *In the beginning, my mother wanted to give the baby up to a family for to be adopted, but since my child is a boy and my siblings are all female, mother would like a boy so she is going to take care of him.*
>
> *(Amy, 17 years old)*

> *My mother does not want to lose connection with it…*
>
> *(Emma, 17 years old)*

Knowing the respondents' decision, they were asked about their decision processes. Most of the respondents agreed that the decision was made by their parents and also with the other family members. On the other hand, some said their parents' made the decision and they have no power to object it. For some, it was their own decision and parents did not say much about it.

> *Yes, the family's decision, we discussed it, during the eve we discussed with my mother, father and my brothers, the important thing is Diya (the baby) is accepted, and my sister is willing to care for it.*
>
> *(Suzi, 22 years old)*

> *I, myself, my parents did mention about giving it up to other people, but I disagreed, I don't dare to give the baby away","I had to go through hardship to give birth to it, so do not try to take it away"…. they didn't say anything after that. My parents didn't interfere, they were like... it's up to me if I want to take care of the baby myself.*
>
> *(Wawa, 17 years old)*

5.6 Impacts on the Mothers' Live

Theme 5 describes the impact of pregnancy on the mother's life, the life after childbirth and their future plans. The impact of pregnancy could be divided into economic impact, emotional impact, health and physical impact and social and lifestyle impact.

5.6.1 Economic Impact

The economic impact was related to an impact on their jobs and the impact on their studies. Some respondents mentioned they had to quit their jobs because of their pregnancies, as they need to undergo their pregnancy and life after delivery.

> *Yes, last time I worked. I've been working at the same factory with my sister for four years. And then I quit the job, so I have to find another job, since I cannot stay in Rawang anymore. I have to stay in Sungai Buloh.*
>
> *(Suzi, 22 years old)*

Few respondents, who were in secondary school, dropped out of school because of pregnancy. However, the three respondents deferred their schooling session for a year. There are also three respondents who decided to change to another school.

> *The teacher contacted my mother and asked her to arrange for my schooling...Yes, quit school*
>
> *(Amy, 17 years old)*

Shasha, who was taking nursing diploma training in a college, was expelled from the college. The pregnancy also affected her as it was difficult for her to study further in the same college.

Actually, I was not sure whether it was only postponing my education or quitting, the letter I received after I have been here for a few months, it mentioned about termination… I cannot continue my study, I was planning to further study until diploma level, now I don't think I can anymore....

(Shasha, 19 years old)

5.6.2 Emotional Impact

The respondents mentioned that depression, loneliness, unsettling feelings and difficulty in sleeping were some of the emotional upheavals they faced following childbirth. The respondents who had given up their babies for adoption felt sad, as they cannot raise their child, being separated from the baby and always missing their child. Most of the respondents did mention their sadness because the baby had no father.

Feeling of rage and I don't feel peaceful…. I had trouble sleeping because I kept thinking that he would be asking about his father once he grew up…

(Siti, 24 years old)

Leeni mentioned that she felt more stressful after childbirth, as she had been ordered by the court to stay at the shelter homes for three years and the people in the shelter homes did not help her much.

I had to register here, I told my mother that after I give birth, I would like to get out of here, I didn't know that I had to stay here for three years, I feel depressed and sad. Yes, it is the court order. That's why I am depressed by now. Now I am alone, before we were together, now I am alone and lonely. I used to pour out my feelings to my baby, "Baby, mother loves you" then I tell him all my problems, but now I have nobody to talk to. I feel stressful, the others (inmates) are always sarcastic towards me, I had fought with the others which cause me more stress. I just want to go home with my child, that's all that I want.

(Leeni, 17 years old)

The thought of raising a child without a father has been one of the main concern of the respondents. For those who are still schooling, the thought of having a child at their current young age gave them an odd feeling, as their situation suddenly changed from just a student to a mother.

> *I have mixed feelings, whether I can do it or not, feeling no sure whether I can raise the baby without a husband... but I still have to do it.*
>
> *(Wawa, 17 years old)*

> *I feel like, at the age of sixteen and I am already a mother. It feels weird if people know about it because I am still in a school. Because of people, a student, and suddenly becomes a mother.*
>
> *(Aida, 16 years old)*

5.6.3 Health and Physical Impact

The respondents mentioned changes in their health status after childbirth. These include lethargy, joint pain, back pain, weight gain and limited activity. They also thought that they were not as active and healthy as before.

> *Yes, my knee hurts and I have back pain. Before this, I was very active, I can do a lot of things, rigorous activities, but now, I bend long enough I would have a back pain. If I sit cross legged too long my knee would hurt, I felt really limited to do anything*
>
> *(Nureen, 18 years old)*

5.6.4 Social Impact

As for a social aspect, the impact of this pregnancy was on family relationship, views towards men and lifestyle changes. Some respondents mentioned from this experience, their relationships with family became closer, especially, with their mothers. However, a few women said their relationships with their fathers or siblings became tenuous.

I: How is your relationship, with your family after this incident? Did the relationship improve and you are getting closer or more distant?
R10: Getting more distant.
I: With whom?
R10: With mother, father and my siblings.

(Siti, 24 years old)

I: How is your relationship, with your family after this incident? Did the relationship improve and you are getting closer or more distant?
R11: Closer
I: You mean that there are changes in term of the relationship with them which is getting better?
R11: Yes, it changes a bit.

(Hanim, 22 years old)

The obvious effect was on the family relationship. Yes… my parents and I are closer, however, with my siblings, the gap is getting wider.

(Nureen, 18 years old)

In terms of views towards men, few respondents said they felt betrayed and started hating and did not believe men anymore. For some of the respondents, they did not blame men for what had happened and did not believe that all men are bad. For instance, Hanim believed that it is not the men's fault only; women usually did not fight back and allowed what men did to them. Some women stated that it is not wrong to be friend with men, but there must be some limits.

No, I do not want to get involve with a man because I hate the man. Yes, I hate the man, even though my mother asked me to get married, I still refused, no matter what other people say, or my friends asking me about marriage, I do not want to get married, I really hate men.

(Siti, 24 years old)

Man? I don't blame them a hundred percent because I myself to be blamed too. We were too weak to fight with them and let it happen.

(Hanim, 22 years old)

Man is to be blamed, but not all of them, only a few, its not wrong to befriend man, but there need to be a limit. There should be a limit of only being friends, but to get involved, no.

(Aida, 16 years old)

The respondents staying at the shelter homes also discussed their lifestyle changes and the benefits of staying in the home as one of their impact of this experience. Most of them felt calmer while staying at the shelter homes and it influenced them to change their behaviour and to become a better person.

I feel calmer here, yes because there are a lot of religious based programs, so I feel calmer, I always remember Allah, in the past. Sometimes I did remember sometimes I don't at all.

(Farah, 25 years old)

One of the respondents cannot imagine what will happen to her or the pregnancy if she was not sent. Some of them also described that they had learned a lot of skills from the shelter homes, including religious practice such as reciting Quran; basic skill such as cooking, sewing as well as learning, to be an independent person.

If you (didn't come) here, I would have been more confused, I have felt confused and lost, I didn't know what to do.

(Hanim, 22 years old)

This is ok, some shelters do not teach us anything about praying, after we gave birth, we can register out from the home. Here we can change ourselves; there are lots of things that they teach us. Previously, we were ignorant, but now at least we know what's wrong and right, learn about the stories from the Quran interpretation, about prayers and my praying routine and ways are better than before, fasting is another one thing that I learn as before I would pretend to fast in front of my mother but behind her would be another story. Over here, I make sure I pray. They also teach us to be independent, teach us to cook and other activities.

(Nureen, 18 years old)

5.6.5 Future plans

The women were also asked about their future plans. As, the shelter homes have a minimum period of time from 6 months to 1 year, those who stayed at the shelter homes and had delivered their babies, still have to complete their session prior to discharge from the homes.

All the respondents who decided to raise their child have, planned to find a job in order to have a secure income to support their child. Among the respondents, who gave up their babies up for adoption and chose kinship fostering, most were still studying and their future plan is to finish their studies and further study to a higher level. Some mentioned that they would finish their secondary education at any private school or religious school.

> *My mother said that when I get out of here, I have to go to a religious school. I want to go to the religious school, I want to finish my schooling.*
> *(Rita, 15 years old)*

> *I have to take my SPM here, after I have finished my paper I can go back, home, next I will wait for the result, if its better result than I would like to continue my study, if not then I would take a course, a grooming course or something.*
> *(Wawa, 17 years old)*

Different from Shasha, who was expelled from the college, she did not plan to continue her study but she planned to work. On the other hand, Leeni said that she did not know and did not even think about her future.

> *When I go back, I want to work. I can't (continue my study), I don't feel like it, because even if I can continue my study, I only can do it at a private college, because I would be blacklisted already in the government college …*
> *(Shasha, 19 years old)*

The respondents who were working before their pregnancies planned to find another job in the future. Few of them mentioned about getting married and have another child. Farah, for example, wanted to marry after leaving the shelter homes because she does not have a courage to be alone in the community and to face her own child. Different with Suzi, whose baby was taken care by her sister, planned to support her baby. She also wanted to move from her old place and settle in a new environment.

> *In a future, if possible, I would like to work, I work first... but the plan would depend on my brother or my parents, I have to discuss it with them because they are looking after my future, similarly, I am also thinking about my future, I would like to get married too, I also want to have my own child...*
>
> *(Hanim, 22 years old)*

> *R14: My first plan, because I think I am not that strong enough when I get out from here later without being married because I feel that I do not have any support, so if the baby is with my brother, my boyfriend would come back, so I think when I am alone, he would ask for me again, and I will talk to him and I will tell him "I want to marry you, because my brother is trying to settle everything"*
> *I: Whom do you want to marry?*
> *R14: That guy...*
>
> *(Farah, 25 years old)*

> *After I get out of here, I want to work, only work, and I want to start a new life, even though I have a baby, I have to hide that fact, but other people might know whether we have given birth or not, but I do not want to think about it yet. The most important thing is that I can build a new life, I want to give, even though my baby with my sister, I want to give Diya to my sister, but I will still support and give money each month for her, just like my own child.*
>
> *(Suzi, 22 years old)*

A few respondents said they wanted to start a new life with their families, leaving behind their past social life and earning their parents' trust.

I plan to continue my study, get a diploma, and continue studying. Marriage? If I am fated to get married then. InsyaAllah, but for now, I just wanted to get my parents trust back to me, I would like to heal the wound of disappointment that I have caused my parents…

(Nureen, 18 years old)

When the **status of the babies' fathers** was asked, many of the women did not know what happened to their partners as they disappeared, and their families did not allow them to contact the partners.

Yes, my mother refrains me from having any contact with him, after that night, my mother told me, "After this, do not get in touch with that boy anymore, I do not want to hear his name in this house anymore"

(Hanim, 22 years old)

When I knew I was already five months pregnant, we have already broken off our relationship, he is also missing and cannot be traced, I did try to locate him but couldn't find him anywhere, he was already out of Kelantan.

(Hana, 20 years old)

For instance, Nureen's parents did not want any relationship or connection with the partner and his family. Unlike Suzi, she wanted to meet her partner and seek the truth and asked him why he lied to her.

I do not hate him, up until now, I still do not hate him, I loved him but, god is the most merciful, if I see him. If possible, I do want to see him again, no, I want to ask him. Why did he do this to me, because I love him, even though he said he is already married, he has to tell me the truth, I won't marry him, but when he lied to me, to my family, I cannot accept that…

(Suzi, 22 years old)

As of today, err the first few weeks being here, I contacted his family and him, but now I am not so sure how my mother feels, if possible, my parents do want any contact with him and do not want to have any relation with him at all. For me, it would also be good if I don't see him anymore, I guess

(Nureen, 18 years old)

5.7 Lessons Learnt

The last theme derived from this interview was about lessons learnt from this personal experience, respondents' opinion about community and some advice to other women.

5.7.1 Overall lesson

The respondents shared different lessons from their personal experiences. Hana said, from this experience, she has become **more alert about social problems;** thus, she would give advice to other people or friends to be more careful.

> *After all this happened, if I would like to do other things, it would be more alert on social activities, before this I do not know much about certain things, how things happen or what will happen if I do something. After all this, I would ask my friends, I would like to take more precaution in everything that I do, I am afraid that it would happen again, so anything that I want to do, I would like to think first.*
>
> *(Hana, 20 years old)*

Aida stated that from this experience she understood her parents' sacrifice to her from childhood until now. The important thing is everyone should love and be loved and appreciate oneself and one's family. She was also disappointed with herself because she trusted man easily and caused her to give up her baby to other people.

> *I really regretted it…because I trusted man too much, I too easy, because of him, I had to give my baby up to other people. But there is of course the good side of it, it teaches me a lesson, our parents had been working hard to take care of us from small until now. It is sort of an eye opener now that I realize how parents sacrifice anything for us; I do feel that my parents do love me.*
>
> *(Aida, 16 years old)*

The other lessons learnt were listening to the advice of parents and avoid any risky behaviours. It is because sometimes when young people make wrong decisions and parents

are the best to give guidance in life. Involving with these risky behaviours will endanger and hurt oneself. A few women said that others should not have a bad perception towards women who were pregnant out of wedlock because this could happen to anyone.

> *It's like, if I can turn the world around, I would turn back time….I don't want to do all that again, I want to listen to my mother, and I really regret it….It felt like I did something stupid.*
>
> *(Wawa, 17 years old)*

> *I really regretted it all, but what can I do, it is my fate, that is why people always say that do not point fingers to other, now look at what happen to me….When we judge other people, especially in the factory, there are some who are children out of wedlock, and we kept saying things like, don't befriend this kind of people, they are cheap. Probably God wanted to teach me a lesson, which is why this happened to me too.*
>
> *(Suzi, 22 years old)*

5.7.2 Opinions about community

Respondents' opinions and expectations of and from the community were also derived from the interviews when few women mentioned about the perceptions of the community towards them. Most respondents felt that the community or society did not help much and gave less support. In fact, the community looked down unmarried pregnant women. As mentioned by Farah, the stigmatization and a lack of support from the community is one factor that pushed these women to undertake these risky behaviours. Nureen said that the community had a self-punishment attitude, was judgmental and not forgiving, and did not give a second chance for these women to change themselves.

> *Erm, I don't think so….Because if people knew, maybe they will not support any more. Instead, they will scorn us because they think that when we made a mistake we would not change ourselves…*
>
> *(Rita, 15 years old)*

Erm, maybe, they usually perceived disdainly towards women who get pregnant out of wedlock, which is one of the factors which made some revert back to the same activity.

(Farah, 25 years old)

I think our community judge and condemn easily. It's like once you make mistakes, they will not give you a chance to change.

(Nureen, 18 years old)

Few respondents had discussed on what their **expectations** were **from the community**. Respondents hope that our community will render support, especially emotional support and do not view these women negatively because everyone can make mistakes and no one is perfect.

Everybody makes mistakes, nobody is perfect. But when people make mistakes and things have happened, try to support them to find a solution, to resolve the problem if that person cannot get married, then help them to find another solution like finding a shelter or homes. Others should support people like us and don't look at us negatively. There are other people who have been committing adultery for years, but they didn't get pregnant. But I guess God must have loved us to make us realize our mistake when we got pregnant, so there is no need to think negatively towards the young mothers. Yes, so they made the mistake, but not the baby's. Since, the community is negative, they scorn at us, despise us, that's why there a lot of abandoning baby cases. The community sympathizes the baby, but they kept on looking negatively to the pregnant teenagers, that's why it's a pity to these people.

(Sarah, 22 years old)

Others felt that the community should play its role when they suspect that something is amiss in some girls or women. It is because when this unexpected pregnancy happens, usually women are depressed, helpless, lost, and do not know what to do. This is where help is needed.

For me, I think outsiders can help by asking the person whether she is pregnant or not, help her to deliver, tell her that the baby shouldn't be abandoned and can be cared by

parents, other childless couple, and there are other people who want a child but couldn't get one. So it would be better to give the baby to this foster family rather than abandoning them. Give the child a chance of life rather than leaving them just anywhere. We have committed adultery and being pregnant, then abandoned the baby, which is a bigger sin. So, I think the outsiders have to play their part if they see that something is wrong.
Yes, they have to help, even though… well, actually at that time, the girl is stressful, she wouldn't know what to do, that is why after she delivers... the baby is then abandoned because she does not have any place to go.

(Aida, 16 years old)

5.7.3 Advice to other women

The advice can be categorised into advice about relationship with a man, about the pregnancy and life in general. In terms of relationship with men, most respondents reminded other women to be careful with men, do not easily believe their sweet talks, do not put all hundred percent trust on men and know their background well. A few of them reminded that when this pregnancy occurred, not all men will want to bear and share the responsibility and thus, women as well as their family will face the burden and the embarrassment alone.

I hope that women do not simply follow the men's lust and feeling. Men only say sweet words, but we don't know their background. Be careful with men and don't be deceived by them…

(Siti, 24 years old)

We have really got to know the man first, if he really loves us then he wouldn't touch us. Don't be deceived by their sweet talks, and don't put a hundred percent trust on the man before he becomes our husband

(Suzi, 22 years old)

Some of the respondents reminded other women about the valuable things in life, such as the present life, one's future, and family. Women should love themselves, their parents or family, and as a daughter, listen to parents. Women should avoid risky behaviours such as,

drug abuse or unsafe premarital sex, keeping them away from the other complications. A few respondents who were school age girls advised others to fulfil life with beneficial activities, and avoid thinking about romance and love at this young age, as we may lose our days as a student or a teenage girl.

> *Listen to your mother and your family. Whatever they say, we have to remember. This is what has happened to me because I didn't listen to them. Further, don't involve with drugs and etc. that you are not supposed to, because you started it, it will get on worse than you know. .*
>
> *(Wawa, 17 years old)*

> *Don't rush into a relationship while you are still too young; don't ever do this kind of thing because it will only affect you. It's a loss now, if not I would have taken my SPM, I can study with my friends. When I get it out, I would have to study alone and I don't think that I could guarantee myself that I would get a good result.*
>
> *(Amy, 17 years old)*

Hana's advice on pregnancy was if an unexpected pregnancy happens, not to abandon the baby because the baby is innocent, and not attempt suicide. Women should accept it and take it in a positive way because we do not know what will lie in the future.

> *Well, what happens, so has to be happening, it would be better if the baby is not abandoned. The baby is innocent, so take care of it, if possible don't do anything else which is out of the norms, like abandoning the baby, thinking of committing suicide. The best thing is to accept everything that has happened and think positively because there is always a silver lining behind the bad thing. We don't know what lies after this, so we have to accept it with an open heart.*
>
> *(Hana, 20 years old)*

5.8 Chapter Summary

To summarize, all the respondents in this study except one had a sexual partner who fathered their babies. The majority of their relationships with their partners were out of parents' knowledge and contraceptive use were uncommon among the young women in this study. All the pregnancies were unexpected by the women.

The women found out their pregnancies through late menses and some biological & physical changes. Diagnosis of the pregnancy were from doctors or self UPT. Overall, there were three reactions when women, their partners or their family found out about the pregnancy; abortion, marriage, or staying in shelter homes. Most women attempted abortion or had planned for marriage, however, for a certain reason they had to stay in shelter homes or with relatives. In terms of community reactions, people gave support to these women, which included emotional and material support. Women faced concealment and health challenges during pregnancy. Access to the antenatal care was higher among women in this study.

All the women had hospital deliveries. All women except one undergone spontaneous vaginal deliveries. A majority delivered healthy babies. Being alone during childbirth was a bad experience during childbirth for these women. All the women accept their babies and felt a loving bond with them. However, in terms of their family, some women's family were not able to accept the babies and some willing to take care of the babies.

There were three possible decisions made by women about their babies; adoption, motherhood, or kinship fostering. These decisions were shared decision with their parents and family members. The belief that proper family will guarantee the best of life for babies

was the main reason women gave up their babies for adoption. Some challenges faced by women who chose to motherhood or kinship fostering.

The whole journey of being pregnant, followed by childbirth and life post-delivery, impacted their pregnancy in terms of economic and emotional health as well as physical, social, and lifestyle impact. The women's future plans were to finish their learning session in shelter homes, then finish their studies at school or further study at a higher level, and find a secure job to afford their babies for those who chose motherhood. Overall, the women want to change and start a better life.

A lot of lessons were learnt by the women from their experiences, including the importance of family to them. Most women hoped that the community will render more support and help these unmarried pregnant women. In terms of advice, they do not want other women to go through this experience, as it is a very hard, depressing and stressful journey.

CHAPTER 6: DISCUSSION

This chapter provides a discussion for the major findings of the research, which are divided into four sub-sections; (1) methodological reflections; (2) impact of unmarried pregnancy towards mothers and children; (3) accessibility of unmarried pregnant women to antenatal care (4) profile or characteristics of the unmarried pregnant women and (5) risk factors affecting unmarried pregnancy. The impact of unmarried pregnancy that will be discussed are psychological impact, birth outcome, and quality of life, physical and economic impact. Partner's profile, pregnancy details, social support and coping strategies compared to married women will be discussed in detail. Also the characteristics on family background, community profile and risky behaviours which were associated with unmarried pregnancy will be discussed.

6.1 Methodological reflections; limitations and strengths

For this study, it was first decided that the study population were unmarried pregnant women from the hospitals. However it has been assumed that on average about 20 to 30 unmarried mothers per month were delivered in one tertiary hospital (Ruhaizan H. et al., 2013). Few studies also reported that due to the shame of being pregnant outside marriage, women is either encourage to marry the partner, undergo abortion or is sent to a shelters home in order to hide the pregnancy (Saim et al., 2013; Saim & Fatimah, 2011; Tan et al., 2012). Considering this reason as well as time and logistic limitation to recruit the sample from six selected hospitals, unmarried pregnant women from shelters home were include as the study population.

The shelter home functions as a temporary protection for unmarried mothers especially during pregnancy in addition to providing supervision, rehabilitation and training (Child Centre Act 2006). There are three types of shelters home administration – government, semi-governmental and non-governmental organization (Saim et al., 2013). In term of age, governmental shelter home were founded for young pregnant women under the age of 18 years. Whereas the shelter home under semi-organization and non-organization are available for young pregnant women aged over 18 years. Considering the study population that will capture from shelter homes, I then decide to choose only one governmental shelters home but as many as possible semi-organizational and non-organization shelter homes. However it turn out in the result that most unmarried mothers in the shelter homes were at young age reflecting the incapability of this group in solving their problem and seek for help. In addition, it also reflecting the age pattern of unmarried mothers in Malaysia and we still lack information on older age women who get pregnant outside marriage that may go for abortion and so on.

This study population; sample recruited from high dependency contexts (shelters home and tertiary hospital) lead to selection bias in the sampling. Thus it would affect the outcome measure as they perform less well on any health measure than systematic sampling from the general population. However tertiary hospitals and shelter homes are the most likely recruitment area for unmarried pregnant women since tertiary hospitals are still the place they will go for the delivery compared to district or general hospital. This health issues also occur when married mothers from tertiary hospitals were selected compared with selecting married mothers from district and general hospital. In order to minimize this effect, pregnant women with complicated cases were excluded from the study during the recruitment stage. This was

done by looking briefly at patient's record reported by the doctors before continue with interview.

This is a hospital-based study; restricted to referral tertiary hospitals and high dependency place; shelters home thus it results cannot be generalized to the Malaysian population but representative of women who have access to healthcare system.

The vast majority of the respondent in this study were Malays and Muslims. The study previously planned to have balanced proportion of respondents according to the major ethnic groups in Malaysia- Malay, Chinese and Indian. The selected hospitals in this study did influence the ethnic groups as majority Malays get services in this hospitals and other ethnic preferred to go to private hospital that has less birocracy and stigmatization. Due to the differences of religious belief towards unmarried pregnancy, it is predicted that other ethnic may solve this crisis with other ways such as abortion. In addition, the semi-governmental and NGOs shelter home in Malaysia are influenced by the religion belief as most of them manage by religion authority; Muslim, Christian, Buddhist or Hindus. In the initial list of shelter home, there are about five shelter home administered by Christian NGOs, seven by Muslim NGOs, three by Buddhist NGOs, and one by Hindu NGO. The government shelter home is considered neutral. However, all shelter home that participated in the study administered by Muslim NGOs and non-participating shelter home did not give any response and some refused to participate with confidentiality reason. This issue limits the generalizability of the findings towards multi-ethnic population of Malaysian.

The control group who were the married women were clearly older than women in the unmarried group. This findings is one major limitation of the study as no attempt was made

to match the controls (married women) to unmarried women at the very least against age or socioeconomic status or religion. In effect therefore, comparisons were made about the differences between totally disparate groups. This is due to the assumption of the unmarried women may also have wide range of age. This can be minimize during data analysis where the older age of married women can be excluded in the analysis however since this is first study looking at pregnancy outcome, I did not exclude them.

The information bias occurred when asking question on risky and sexual behavior as well as other sensitive things about the pregnancy as some respondents may not give the truth answer or real situation. This can be seen among respondents that were recruited from hospital as compared to respondents from shelter home. From my observation, the recruitment place did influence this issue as respondents from shelters home most likely to admit and share their situation or crisis. However accessibility to the interview in this study gave some benefit to respondents from hospitals in which they have someone with whom they can talk to about their situation. Due to that, I also aware and ready for the advanced support system if respondents need it.

Throughout the collection data, since I saw respondents four times there were some information that were contradict in the first and subsequent visit. In order to minimised this information bias, I and my interviewer would prefer to carry along all set of questionnaire belong to the respondents so that we can check again the contradict issue. Some items in this study face a missing data. This might affect the power of testing and biased the result but overall, this may only has minimal effect on the overall conclusions of the study.

There are several disadvantages to this design. It includes an information on confounding variables may be unavailable, inadequate or difficult to collect. Socio-demographic variable were not include as confounding factors for the pregnancy outcome as they may act as preceding factors for pregnancy outcome. Although we attempted to control for confounding factors for each of the outcomes, it is possible that we did not identify additional confounders.

Recruitment was made possible by inviting mothers presenting for antenatal care at hospitals or shelters, and mothers who successfully carried pregnancy to term. In view of this, there is a tendency to miss mothers with no access to hospitals or private health facilities (hospitals and small clinic offering delivery services) or who had terminated the pregnancy.

The findings of the qualitative study also limit the generalizability to other population as all women except one were from shelters home. All eligible women for the in-depth interview from hospital settings were refused to be interview and some were not contactable during the follow up. However, the intention as to gain understanding of the experience of unmarried women going through their pregnancy.

6.1.1 Strengths

This prospective study design with mixed method analysis has several advantages. It is a good way of measuring multiple outcomes (psychological problem, birth outcome and quality of life) for any one exposure (unmarried pregnancy). It is also used to demonstrate direction of causality, factors causing the pregnancy outcome such as postpartum depression, preterm birth or low birth weight (Aschengrau & Seage, 2003). The exploratory findings of the experiences of unmarried women also complement the findings of quantitative part. According to (Tashakkori & Teddlie, 2003), the findings in the mixed method study can

explain the findings more deeply than quantitative or qualitative exclusively. The findings of the study gave important implications for clinical and public health practices as this study is the first study at the national level providing data on pregnancy outcome of unmarried mothers.

The strength of the current study is the prospective design of the study with minimal loss of respondents to follow-up (29.3%). This drop-out was anticipated by oversampling the respondents in order to achieve adequate sample size. The non-response bias analysis found that the socio-demographic characteristics of the non-response were similar to the respondents. Maintaining interest among the respondents in order to avoid drop outs was challenging. A lot of effort has been done to make sure the respondents were maintain throughout this study such as some token of appreciation and good rapport. Doing this sensitive topic within stigmatization issues in the community, I and also my researcher have to be neutral and not judgmental towards this unmarried women. This also give advantage and minimised bias in the qualitative interviews where the unmarried mothers had freedom to talk and share their experiences. During the qualitative interview there were no interruption by others such as shelter homes' warden or management and this gave freedom for unmarried mothers to talk.

Other strength is the measurement of maternal psychological problems, quality of life, social support, and coping skill was conducted using standard scales (EPDS, GHQ-12, SF-12, MSPSS, MOS-SSS and COPE). This questionnaire has previously been used in studies in Malaysia and their validity and reliability has been tested and reported (Ng et al., 2010; Sararaks et al., 2005; Wan Mohd Rushidi et al., 2004; Wan Mohd Rushidi et al., 2005;

Yusoff, 2010; Nasir Yusoff et al., 2009). These questionnaires were measured several time in looking at respondents' current condition, thus minimised the information bias or recall bias.

The qualitative analysis were performed on the translated transcripts of the interview. Trustworthiness in qualitative studies is mainly based on the level of transparency and reflection of how well the sampling, data collection and analysis (Tashakkori & Teddlie, 2003). The qualitative data were analysed through discussion with the co-authors of whom were my supervisor; clinical psychologist and physician. The differences of working background enabled a deeper understanding in the evaluation of the data analysis.

6.2 Socio-demographic of Unmarried Pregnant Women

This study found that unmarried pregnant women were much younger, mostly from the adolescent group, with the youngest participant being the age of 13 years old. This is similar to other reported studies where the adolescent mothers were related to unmarried status (Omar et al., 2010; Tan et al., 2012) and the marriage are the effect of their pregnancy (Berry et al., 2000). The age range of 13-37 years with median age 19.2 years was also consistent with previous study among unmarried mothers from shelters home; their age range also between 11-32 years with median age 19.5 years (Saim, 2013). Looking at this age range, although adolescents were from a vulnerable group, it also important to look at older age group as unmarried pregnancy shows increasing trends among the older age women. This is supported by another study (Nordin et al., 2012), which found that a majority of unmarried mothers in their studies were in the older age category (more than 20 years old).

In this study, unmarried mothers were significantly more likely to have low educational level (41.4% had primary education and 41.0% had secondary education) and about half of them were still schooling and were unemployed as compared to married women; 60.4% had tertiary education, while a majority had completed schooling and were employed. The unmarried women were also from low socioeconomic groups (household income <RM 1000). These findings are similar to adolescent pregnancy from previous study in Malaysia which showed that unmarried adolescent mothers were more likely to have low educational level, unemployed and low socioeconomic status (Omar et al., 2010; Tan et al., 2012). This seems to be the trends in other countries; there is an association between unmarried pregnancy and low socio-economic status (Lipman, Offord, & Boyle, 1997; Moni et al., 2013; Wang et al., 2003).

One might hypothesize that low educational level related to poor performance or academic difficulties in school, low expectation about education or low aspiration to have a career and maybe some had no life goals (Calvet et al., 2013; Parkes, Wight, Henderson, & West, 2010; Wang et al., 2003). However, whether pregnancy occurred before or after leaving school, and in many cases, pregnancy occurred after leaving school is still debatable. Young females with school disengagement are predisposed to poor reproductive knowledge and education and, hence risk for early sexual debut and unwanted pregnancy (Noor Azlin et al., 2014; Tan et al., 2012). Our result differed from other studies suggesting that the school environment might provide a context where early sexual activities are discouraged (Ishida et al., 2011; Yip et al., 2013) as half proportion of the unmarried women in our study were still in school at the time of pregnancy, and only 14.6% were school leavers.

The unmarried women in our study were living with their parents' prior to their pregnancy. This is in contrast to other studies which found sexually experienced young people were living away from their parents or family (Lee et al., 2006; Low et al., 2007; Zulkifli & Low, 2000). This could be due to the fact that the unmarried women in our study were younger and their young age explains their dependency on their parents. The fact that many unmarried women in our study were still living with their parents' may indicate that residing with parents does not offer protection against unmarried pregnancy.

One possible explanation for lack of protection from sexual activities while staying with their family could be that young women living with their parents may have limited access to sexual and reproduction information; therefore, there was less monitoring of their activities by their parents (Noor Azlan et al., 2011), particularly when both parents are working. A local study (Wong, 2012b) found that nearly all parents had low permissiveness regarding unmarried sex which led to fewer opportunities for sexual activity (intermittent intercourse) among young females who were living with their parents compared to young females who were living away from their parents (regular intercourse). However, another study claimed that many of these women reported that their parents were unaware that they were having sex (Wong, 2012b).

During pregnancy, most of the unmarried women in this study stayed in the shelters (69.3%) followed with 10.7% with parents, 8.0% with partner and 10.4% with other people such as siblings, relatives or friends. Only a few of them (1.5%) had the courage to live independently during their pregnancy. A lower percentage of the unmarried mothers were living independently and this was consistent with unmarried mothers in Brazil (14%) and

Chile (11%) but the scenario different compared to women in US; where 54% of them lived independently (Light & Ureta, 2003).

In terms of staying in shelter homes, respondents from our interviews had expressed their gratefulness for the support and guidance provided by the shelters. These women said they could not imagine what would happen to them if they did not come to the shelters. For some, this would be the main support during their pregnancy, particularly in getting regular antenatal care. The importance of shelter homes as one of social intervention in helping these women could perhaps avoid the act of abandonment of babies when they are given a chance to start a new life. The shelter homes should be seen as sources of social support to the women and their families instead of place for punishment or isolation, particularly the cases of sexual abuse and abandonment from male partner (Saim, 2013). One local study revealed that 84% unmarried women who were placed in the shelter homes experienced moderate to high level of psychological well-being due to social support provided by the shelter homes (Nordin et al., 2012).

Bivariate analyses in our study showed that age, residential, educational level, working status prior to pregnancy and household income were the predictive factors of unmarried pregnancy ($p<0.05$) while race and religion were not associated with unmarried pregnancy ($p>0.05$). After adjusted with all factors in multivariate analysis, only age factor was significantly associated to unmarried pregnancy. This is discussed in detail in section 6.7.

6.2.1 Pregnancy details

Most of the unmarried women in our study were in their first pregnancy, similar to previous studies on unmarried pregnancy (Raatikainen et al., 2005b; Saim, 2013). For those

who had pregnancy before, the pregnancy was from their previous marriage and some were unmarried births. Out of the 24 unmarried women who had been pregnant previously, eight had history of abortions/miscarriages. The majority of the unmarried women in our study claimed this pregnancy was unplanned, compared to half of the married women. This is consistent with other studies which found most pregnancies among unmarried women were unplanned (Mantovani & Thomas, 2014; Postlethwaite, Armstrong, Hung, & Shaber, 2010).

About 36.8% of the unmarried women had problems during pregnancy compared to those who are married (56.7%). This is probably because unmarried women were young with healthy conditions for pregnancy. In our study, several women reported they did not know about their health status during pregnancy because they presented late or did not have antenatal check-up. Anaemia was the common problems faced among women from both groups besides gestational diabetes and ante-partum haemorrhage faced among married women. This is similar to a few studies which found anaemia in pregnancy was significantly higher among unmarried and teenage (Obi, Ozuma, & Onyebuchi, 2002; Okuedo et al., 2014). However, inconsistent with a local study on teenage pregnancy, the proportion of adolescents with anaemia during pregnancy was lower than adults (Sulaiman et al., 2013).

The unmarried women in this study realized they were pregnant after missing their menstrual period or physiological changes which led them to had self-urine pregnancy test. Only a few of them were not aware that they were pregnant until they were told by doctors during their medical check-up. Previous studies supported this finding, as almost all young women were aware that missing period was indicative of pregnancy (Mngadi, Zwane, Ahlberg, & Ransjo-Arvidson, 2003).

Shocked, frightened, confused, angry, hopeless, embarrassed and sad were the common first reactions experienced by unmarried women when they discovered of this pregnancy, in line with findings from the in-depth interviews. However, 11.5% said they were happy about the pregnancy because it is a strong reason for them to get married with their partner. A few women in qualitative interview cannot accept what happened to her as it was her first sexual experience and then she got pregnant. With regards to women's reactions to the pregnancy, due to fear of stigmatization and community rejection, they tried to conceal it from family members or community. A few women voiced how they wore big shirts and denied when asked by their mothers. These strong and contradictory emotions and reactions in trying to deny the fact and being happy in realisation of pregnancy were also reported by Olsson and Wijewardena (2010).

Despite any initial reactions knowing that they were pregnant, a majority of them quickly accepted the pregnancy. For those who could not accept their pregnancy, attempts to abort the pregnancy using folk remedies and seeking help from an abortion clinic were their actions. Exploring this through an in-depth interview found that, all of them used an unsafe or ineffective method from unknown sources based on what other people told them such as pineapple, worm medicine, and yeast. Some of them mentioned thought of live foetus inside their bodies and remorse about their mistake also prevented them from carrying it out. There were also those who attempted suicide to escape from their problems.

Although majority of unmarried women accepted the pregnancy, only half of the family/parents accepted the pregnancy and another half sent their daughters to shelter homes. Some parents forced them into marriage and some sent the girls to places where they are not

known to others. This same reactions from women or their families were reported in a previous study (Jordal et al., 2013) in which the pregnancies were hidden, especially in a country that forbids premarital pregnancy (Saim et al., 2014). These findings were different than those of Saim et al. (2014) study as when their parents knew about their pregnancies, they cannot accept the pregnancy, they force the women to abort their babies, and reacted with shame, worry and anxiety about what they should do to keep the pregnancy a secret.

In our qualitative findings, although most parent felt angry, sad, disappointed, embarrassed with the pregnancies and some cannot accept the babies, none of the parent left behind their daughters alone facing this crisis. These parent help and supported the unmarried women in a few ways including sent them to shelter homes as they believed shelter homes are the best temporary place for them. Parents as problem solver was mentioned in Thailand's study, where youth will seek help from their parents when they are not able to resolve problem by themselves or no other way to deal with unwanted pregnancy (Sridawruang, Crozier, & Pfeil, 2010).

Apart from unmarried women and their parent's reactions, community reactions to their pregnancy were mentioned in the qualitative interview. Some of these communities who knew of women's pregnancies gave support in term of advice, some said their friends avoided them, teacher reprimanded them, people looked at them weirdly and they were yelled at by health care providers. Most respondents felt that society did not help much and looked down unmarried pregnant women. The community had a self-punishment attitude, judgemental and not forgiving for these unmarried pregnant women which pushed them to undertake wrong solutions to this problem. Due to that, few respondents did address their expectation to the

community which are render emotional support, plays role in helping these women and do not view these women negatively since everyone can make mistake and no one is perfect.

Most of the unmarried women received support from their families, but only half of them received support from their partners or friends compared to those who are married. Married women received better support and almost all received support from partners, families, and friends. The most type of support received from families and friends was advice on antenatal care in both the two groups. Different with adolescents in Swaziland, for whom the family supports they received included care of their babies and household chores (Mngadi, 2007).

In terms of support from partners, the unmarried women only received antenatal care advice from their partners. This is different from married women, for whom their partner provides a lot more support and this extend to preparation of the baby requirement such as clothes and diapers, provision of good diet/supplement, assistance with the household, and bringing them to the clinic.

In terms of financial support, the majority of the unmarried women received from parents and about half ever received financial help from male partners. Since more than a third of the unmarried women in our study stayed in shelter homes during pregnancy, the fees and pocket money during their residency at the shelters were financially supported by their parents or family members.

The support during pregnancy was also mentioned in the qualitative interview which is two types of support unmarried women received; emotional and material support. Emotional support included advice and encouragement for their behavioural changes, listening to their

feelings and visits at the shelter homes. Beside families, partners and friends who gave support to the unmarried women such as uncles, aunts, grandmothers, cousins, neighbours, employer and residents in shelter homes also provided them support during pregnancy.

6.3 Impacts of Unmarried Pregnancy

6.3.1 Psychological impact on the mothers

The psychological impact that was examined in this study was on psychological well-being and postpartum depression. Our study found significant association between marital status and psychological well-being which means marital status did influence the psychological well-being of pregnant and postpartum women. Unmarried women were 4 to 6 times more likely to have poor psychological well-being than the married women.

The findings from this study are consistent with previous studies confirmed that single mothers are more likely to experience poor mental health status than the married mothers (Crosier, Butterworth, & Rodgers, 2007; DeKlyen, Brooks-Gunn, McLanahan, & Knab, 2006). DeKlyen et al. (2006) strongly supported this finding as they found that mental health is associated with marital status for both mothers and fathers. Previous studies have concluded that the primary factors associated with the poor mental health were the presence of financial hardships and perceived lack of social support (Crosier et al., 2007; Elsenbruch et al., 2007). This is proven in this study when all the factors are controlled for. Despite marital status, financial and social support were the other factors associated with poor psychological well-being among women.

When all the factors were controlled in the multivariate analysis, marital status only influenced women to become a poor psychological well-being shortly after childbirth (OR

2.47) and not during pregnancy, 1 month or 3 months after childbirth. Although overall the incidence of poor psychological well-being among women were decreased across time, but among unmarried women the incidence fluctuated; with higher incidence (80.0%) at 3 month after childbirth. This may be related to the conditions of unmarried women adapt with the new situation in their life with the babies. For some unmarried women especially who chose to motherhood/parenthood or fostering, they have to move forward and plan their life with new babies. This stressful time may contribute to the psychological distress.

Other factors associated with psychological well-being of unmarried mothers were living arrangement, antenatal and postpartum depression, social support, financial problem, age and educational level. This is different with another local study which found that there was no significant difference between psychological well-being and age, educational and place of hometown. Their findings also found that unmarried mothers placed in that shelter homes relatively happy and socially stable maybe due to the social support provided in the shelter homes (Nordin et al., 2012).

Our study found that marital status of the women was significantly associated with postpartum depression (OR 3.04; 95% CI 1.29-7.18). This is consistent with previous studies which found an association of marital status with postnatal depression (Adewuya et al., 2005; Raisanen et al., 2014; Segre et al., 2007; Urquia, O'Campo, & Ray, 2013). In Urquia et al. (2013) study which separate the occurrence of male partners into other four different status highlighted the role of partners as a key factor for postpartum depression. They also related these outcomes with unplanned pregnancy and partners' support. This has been supported previously in UK study, non-married mother in the cohort study were more likely to postnatal

depressed and less likely to breastfeed that may have adverse consequence for the health and development of their children (Kiernan & Pickett, 2006).

This study also showed that marital status influenced maternal depression during pregnancy ($p<0.001$). This has been supported by a meta-analysis study; single marital status is a significant predictor in increased risk of maternal depression during pregnancy (Lancaster et al., 2010). Half proportion of the women in this study had depression during pregnancy (41.3%) and the analysis showed that depression during pregnancy was significantly associated with postpartum depression. The finding on antenatal depression as risk factor for postnatal depression was consistent with study by Redshaw and Henderson (2013) among 5332 women in England and the Raisanen et al. (2014) study among singleton birth in Finland.

When controlled by multivariate analysis, other factors associated with postpartum depression were living arrangements, intention of pregnancy, psychological well-being and coping skill. Previous studies found unplanned pregnancies among unmarried pregnant women have a double share of risk for mental health problems (Azidah et al., 2009; Williams et al., 2011). Stressful life events including unemployment, financial problems, abandonment by partners, as well as psychosocial predictors such as social support and self-esteem which similarly found in this study has been reported as predictors of postpartum depression in previous study (Njoku, 2013; Wan Mohd Rushidi et al., 2005). Findings from the adolescent pregnancy study has agreed that quality of the social support were more important than quantity of social support, which is more associated with depressive symptoms (Siegel & Brandon, 2014).

Other than these two psychological impacts (i.e. psychological well-being and postpartum depression), coping strategies is another element that was studied. The unmarried group had relatively higher scores on the emotional-focused strategies and lower scores on the problem-focused strategies than those in the married group ($p<0.001$). The most frequently used problem-focused coping strategies were similar in both the unmarried and married group. However, the most used emotional-focused coping strategies between the unmarried and married group were different. Self-distraction, self-blame, venting and denial were mostly used by the unmarried women, while self-distraction and venting were mostly used by married women. The difference in COPE score between the unmarried and married women was significant during pregnancy and shortly after childbirth, but not significant at 1 month and 3 months after childbirth.

Apart from these three mental impact measure through standard questionnaire, other emotional impacts found in our qualitative findings were loneliness, unsettling feelings and difficulty in sleeping following childbirth. The respondents who had given up their babies for adoption felt sad being separated from the baby and were always missing their child.

6.3.2 Birth outcomes

A majority of women both married and unmarried women in this study had delivered baby at government hospitals and only three had home birth deliveries. One baby born by an unmarried died right after delivery and no other neonatal death during the three months of follow-up. Previous study reported that birth to unmarried women were at increased risk of infant death (Balayla, Azoulay, & Abenhaim, 2011).

Comparing birth outcomes between the two groups revealed significant differences in birth weight, gestational age, and mode of birth delivery. A greater proportion of unmarried women compared to married women had preterm birth, low birth weight babies, and spontaneous vaginal delivery. There were no significant differences between the two groups in Apgar score, birth defects, intra-partum complications, admission of babies to a special care unit, duration of stay in postpartum ward and admission to ward during pregnancy ($p>0.05$). False labour, premature contraction and urinary tract infection were the highest case of admission during pregnancy among unmarried women.

The adverse birth outcomes among unmarried women could be explained from the unintended pregnancy, late onset of antenatal care, reduce numbers of antenatal care and pregnancy problems or complications among unmarried women compare to married women. As reported by (Hohmann-Marriott, 2009), intention of pregnancy had a strong association with antenatal health and birth outcomes, particularly preterm birth. Unintended pregnancies was also associated with risk of not having early antenatal care (Altfeld, Handler, Burton, & Berman, 1997; Hohmann-Marriott, 2009). Furthermore, mothers with unintended pregnancy were more likely to smoke and drink alcohol during pregnancy (Altfeld et al., 1997). Unintended pregnancy has also been reported to be an important source of maternal stress, which may lead to preterm birth (Nasreen, Zarina Nahar Kabir, Forsell, & Edhborg, 2010).

In one study (Raatikainen et al., 2007) among 27,776 births in Finland, which provides a free antenatal service clinic, women who reported no prior antenatal care or inadequate antenatal care were more often unmarried, less educated, and cigarette smokers. Studies also found that antenatal care was a significant predictor for low birth weight (Awang Bulgiba &

Atiya, 1999; Raatikainen et al., 2007). In Malaysia, maternity care in public hospitals is free for Malaysian citizens and it is easily accessible. The low uptake of free antenatal care services provided by the government is likely related to stigmatization, discrimination, denial, or concealment reasons.

In this study, multivariate analyses found that marital status was a significant determinant for low birth weight (OR=1.28) and preterm birth (OR=1.66). These results are consistent with other studies from other countries, showing an increased risk of low birth weight and preterm birth among unmarried women compared to married women (Masho et al., 2010; Raatikainen et al., 2005b). Similar to previous data, we found the differences between these groups were related to health status of women, in that married women were healthier than unmarried women (Lurie et al., 2010).

From our findings, married women were less likely to smoke, drink alcohol, or be abused illicit drugs. Bailey, McCook, Hodge, and McGrady (2012) studied the relative impact of smoking and substance use on infant birth weight found that abstaining from smoking and illicit drug use among pregnant mothers increased birth weight by 352 g, i.e. 12.2% improvement compared to those who did not abstain from smoking and substance use.

The different health status of married and unmarried women was more related to mental health. In fact, unmarried women were much healthier physically because they were younger, had less medical history, and were more energetic. This was supported by the higher PCS of SF-12 score among unmarried women. This score measures overall fitness, including physical functioning and bodily pain. The quality of life scale showed a low MCS score among unmarried women, consistent with other psychological measurements.

Consistent with the previous findings of Bilszta et al. (2008), single mothers were at risk of stress, depression, and poor mental health during pregnancy. A study among 865 pregnant women in Brazil showed that psychological factors were associated with birth weight and gestational age, even after controlling for other factors (Rondo et al., 2003). In our study, the maternal social support index and coping skills were found to be poor among unmarried women. Facing pregnancy in isolation without or with minimal social support from a partner or family members may lead to increased levels of stress. The situation is further worsened when women have poor coping strategies, leading to adverse birth outcomes (Masho et al., 2010). Another study conducted in South Carolina showed that maternal social support plays an important part in antenatal as well as postnatal depression (Nkansah-Amankra, Dhawain, Hussey, & Luchok, 2010). Finally, Nasreen et al. (2010) and Rondo et al. (2003) highlighted the strong relationship of preterm birth and low birth weight to parental emotional stress and lack of social support.

In the current study, unmarried women had fewer antenatal complications compared to married women, and this may explain why unmarried women were less likely to have assisted birth beside age and gravida factors. In Israel, Lurie et al. (2010) found the same result in terms of the mode of birth delivery and Apgar score, as there were no significant differences between married and unmarried women. Other birth outcomes have showed no significant differences between the two groups, as reported in other studies (Lurie et al., 2010).

Our study found that unmarried women had less intra-partum complications compared to married women, as the percentage of women who were admitted during pregnancy and duration of hospitalization at post-partum ward was almost the same in both groups.

However, the problems that led to admission during pregnancy among the unmarried women were false labour, premature contractions and decreased foetal movement which may be related to emotional instability and first experience of pregnancy among unmarried women.

6.3.3 Quality of life of the mothers

Quality of life in two broad health perspectives; physical and mental domain women was measure using the 12-Short Form Survey. Our study found significant association between marital status and quality of life among pregnant and postpartum women. The unmarried women were more likely to have good quality of life in terms of physical domain but poor quality of life in terms of mental domain than the married women.

Unmarried women had good quality of life in physical terms because a majority of the unmarried women were much younger compare to married women and they had less medical history, were more energetic and physically fit. Significant difference of this physical domain due to the age factors was mentioned in the previous study (Santos et al., 2015). Majority of the unmarried women also experienced first pregnancy as compared to married women. Excitement with the first pregnancy experience may gave influence to their quality of life (Santos et al., 2015).

Environmental factors also have an influence on the physical domain, since the majority of unmarried women in our study stayed at shelters home. In the shelters home, they had same daily routine, do not involved with busy work or heavy task and in fact enough time to rest. While for the married women, their daily routine as mothers in handling other child, family, house and also workplace may influence their physical state. Living with other

women with same condition, i.e. pregnant before marriage, also influenced quality of life because they can help each other without any prejudice.

In terms of the mental domain, the unmarried women had lower score than the married women because of unstable mental state facing the pregnancy crisis. The pregnancy created a lot of feelings such as fear, remorse, worry, sad, or confused which then effect their mental condition especially when community did not give support to them and they were not sure what will happened after the babies born (Kuleshova, 2012).

Looking at the quality of life across time, both group showed similar pattern which is lowest score (poor quality of life) of physical domain shortly after childbirth and highest score (good quality of life) at 3 month of childbirth. However, the lowest score of the mental domain among unmarried women was at 1 month after childbirth, but among married women was during pregnancy. Both groups showed similar highest score of mental domain at shortly after childbirth. However, from the multiple linear regression, unmarried women had 2.25 score higher in physical domain shortly after childbirth and 3.75 score lower in mental domain during pregnancy than the married women.

The similar pattern for lower score for physical domain and higher score for mental domain at shortly after childbirth indicate the same experience all women in the world faced during the process of birth (Kuleshova, 2012) despite their marital status. Going through the process of birth alone without any companion in the hospitals among unmarried women also influenced their physical condition. The mental domain showed highest score at shortly after childbirth was due to relief feeling from burden of pregnancy and when their babies were

safely born. This is supported in our qualitative finding; few unmarried women mentioned how happy they were to see their babies and felt a relief.

The placement of their babies at 1 month after childbirth may influenced poor quality of life among unmarried women as 43.8% unmarried women had place their babies for abortion and 13.8% gave their babies to family or relatives. This was mentioned in the interviews as women missed their babies, worried, and felt guilty giving their babies to adoptive parents. Burden of facing this pregnancy crisis among unmarried women again explained the poor quality of life in terms of mental domain during pregnancy compared to other times. Our study highlighted the impact of unmarried pregnancy on poor quality of life in terms of the mental domain.

6.3.4 Physical, economic and social impact

Other impacts of unmarried pregnancy were physical and economic impacts. The physical impacts were the health problems and physical effects they felt after one month and three month after childbirth. There were no significant differences in health problems after one month and three month of childbirth between the two groups. In terms of physical impact, there was a significant difference in feeling less physically attractive, less sexually attractive, and dissatisfied with body and appearance and felt pregnancy caused an imperfect body among the unmarried and married group. However, the feeling of less energetic and more energetic was not significantly different. The similarity between unmarried and married mothers on energetic feeling was related to same physical activity after three months of childbirth. Qualitative findings also reported health and physical impact include lethargy, joint pain, back pain, weight gain, and limited activity. Previous study suggest that the life

transition of becoming a mother is associated with decreased physical activity among all mothers despite their marital status (Dlugonski & Motl, 2013).

Economic impact in this study explored the effects of pregnancy on respondents' job or current education, their income, financial problems and living arrangement issues. During pregnancy, 62.7% of the unmarried women reported that their pregnancies affected their jobs/study; 40.7% had to delay their studies, 34.0% lost their jobs, 17.3% stopped studying, and 4.3% had to change to another college. This impact also mentioned by most women in the qualitative interview as some had to quit their jobs, drop from school, and deferred their schooling to undergo their pregnancy and life after delivery.

This is supported in previous study, non-marital childbearing was associated with lower likelihood to complete high school and limited access to educational or employment opportunities (Benson, 2004). Finding from Connecticut study among 62 unmarried pregnant women showed that school outcomes after pregnancy were related to school performance before pregnancy. Unmarried mothers who dropped out of school were already failing school or marginalized, and those who doing well in school before pregnancy continued to do well after having a child (Erdmans, 2012).

The impact on women's education also reflects how youth in Malaysia dealt with their situation, where they would prefer to delay or stop studying. Some women have been advice to do so by the school or college authority as what have been mentioned by a few women in our qualitative interview. Apart from policy that does not support unmarried pregnant adolescent to continue schooling, youth mothers are more likely to drop out of school due to the negative perception of society towards them (Ministry of Women Family and Community

Development, 2010). Even though many shelter homes built to help these women but with limited sources, there is still inadequacy of manpower or also lack of existing module to help these women to continue their formal education. This was supported from our qualitative findings where the unmarried women who had to delay their study or stop school mentioned on their plan to finish their secondary education or continue to tertiary education when they went out from shelter homes.

One of the great impacts of unmarried pregnancy on living arrangement was that the unmarried women have to stay at shelters home during pregnancy. The family's reputation and safeguarding women and their family's dignity were the main reason for unmarried women in this study to stay at shelters home. This was mentioned by all unmarried women in qualitative interview except for one women who chose to stay with their grandmothers during pregnancy. A study in Sri Lanka reported that unmarried women would prefer to migrate and leave their homes permanently in escape the social shame attached to pregnancy before marriage (Jordal et al., 2013). Similar with unmarried teenage mothers in Papua Indonesia, they constantly tried to hide their pregnancies from public view because of the stigma attached to pregnancy before marriage (Butt & Munro, 2007).

Decision about staying at shelter homes were made by parent or family members and some unmarried women from the interview mentioned that they did not aware about the decision. Some said they had no idea of shelter homes. These reflect that when this crisis happened, no matter what age of the women, usually their parent will do the decision and had arrangement for them. However, most of the unmarried women cannot accept the decision,

kept asking why they had to stay at shelter homes and mentioned how unfair for her to stay at shelters facing the problems alone while their partners was not.

Among the challenges faced among unmarried women at shelter homes were initial separation anxiety, unable to see parents or family regularly and being independent to do their own household work. The shelters policy only allows parental visit once a month. This is similar to another local study which mentioned that this situation causes social limitations and felt lack of family support (Saim et al., 2013).

Impact of unmarried pregnancy on family relationship, lifestyle changes and view towards men were another impacts found from our in-depth interview. Some women felt their relationship with family became closer especially with their mother but some became tenuous with their fathers or siblings. Few women mentioned from this experience they now realize how important families' love and their parent's sacrifice to them from childhood. Parents are the best to give guidance in life and youth should listening to the advice of parent.

Some women felt betrayed, started hating and did not believe men after experienced this pregnancy. Respondents also felt disappointed with themselves because trusted man easily and allow these man ruined their life. Impact on lifestyle changes were include behavioural changes and routine activities where most of them learn about basic skill in life and be an independent person. Few women mentioned life learning process in shelter home was very useful, influence them to become a better person and start a new life.

6.3.5 Social outcomes of the infant

In this study, three months after childbirth, among the 203 cases of pregnant before marriage, 43.8% unmarried mothers had given their babies for adoption, 27.1% decided for motherhood, and 17.7% had chosen kinship fostering. Twenty women (9.9%) got married to their partners (parenthood), one woman had lost her baby, and two women stated other choices. The proportion of unmarried women who chose for adoption was almost similar with local study by (Tan et al., 2012) among unmarried adolescents.

This is consistent with qualitative findings where three major decision made by unmarried mothers in terms of the placement of their babies; adoption, kinship fostering or motherhood. This decision was similar with the professional practices within levels of youth sexuality that has been discussed in Benson (2004) study. According to Benson (2004), the sequences after the pregnancy are abortion, childbearing, adoption and parenthood/motherhood. Childbearing here refers to pregnancy, birth, and initial month postpartum.

Before the decision about babies was made, only a few unmarried women from in-depth interview cannot accept their babies while the others including those who were raped accept the babies without any prejudices. However, when they first saw their babies after labour, they felt a loving bond with their babies. There were some parents of the respondents were not able to accept the baby from the beginning until the baby was born which led to the adoption decision.

From these findings on the placement of babies, either adoption (43.8%) or non-adoption (56.2%), we found that three factors influenced the decision for adoption. The factors were living arrangement during pregnancy, working status prior pregnancy and support from

partners. Our findings showed that the socioeconomic conditions of unmarried women prior pregnancy play important factors in this decision. Similar with findings from previous studies which mentioned teens who place their babies for adoption were more likely from unstable family, lower socioeconomic status, and lower educational aspirations (Benson, 2004; Weir, 2000). Similar with Korean society, in the absence of support from partner, many unmarried women chose adoption as a solution to their pregnancy crisis (Noh, Yang, & Han, 2014).

Apart from these three factors that influenced the decision for adoption, a strong reason mentioned by unmarried women during the in-depth interview was to guarantee the best life for their babies. This option was considered fair for the babies in terms of enabling the baby to grow up in the two-parent family instead of growing up with a stigmatized mother. This is similar to unmarried women in Sri Lanka (Jordal et al., 2013).

From our findings, women who decided to raise their babies on their own were those who never thought of giving the babies to other people since pregnancy. Consistent with the Jordal et al., (2013) study, unmarried women who chose to motherhood in this study also felt that bringing up the child or motherhood was considered a mother's responsibility and support from families was the most important factor determined the decisions. The unmarried women in this study got full support from families for kinship fostering or motherhood decision when most of them mentioned about shared decision. However, a few challenges mentioned by these women on their decision for motherhood and kinship fostering include community rejection to babies' status and their future life with babies, as they need to find a secure job to maintain their child.

6.4 Social support and coping strategies

Social support is an important indicator in a youth behaviour; good social support and environment may contribute to good development among young people (Reininger et al., 2012). In our study, two different social support was measured using a standard scale; adequacy of social support in their lifetime related to youth involvement with unmarried pregnancy, the other scale of social support was to measure current social support women received during pregnancy, childbirth, and after childbirth.

Perceived social support measured in this study was related to the extent of available support from their families, friends and significant others in terms of interactions, such as sharing their problems, joys and sorrow or trying to help them. Our study showed that the unmarried women have poorer social support from families, friends, and significant others compared to those who are married. These social support factors were predictive of unmarried pregnancy in the bivariate analyses. This is supported in a study on sexual behaviour in which social support from friends, families and communities can protect young people from high risk behaviours (Alexander et al., 2007; Yi et al., 2010). Peer support and frequency of peer contact was associated with physical intimacy and sex among youth (Alexander et al., 2007). However, in the multivariate analysis, social support from significant others was the only significant protective factor of unmarried pregnancy. This is discussed in detail in section 6.2.

In terms of current social support women received during pregnancy and after childbirth, results showed that the overall social support index among the unmarried women was lower than the married group and were significantly difference between the both groups. Similar

findings were found by comparing the score for each of the components of the MOS Social Support Survey, namely emotional/informational support, tangible support, affectionate support or positive social interactions. This findings was similar to the study in Germany which reported that women who did not have a partner and had a partner who lived in the separate households received low social support during pregnancy (Elsenbruch et al., 2007).

Looking at a social support index across time, mean scores of the unmarried group were fluctuated with small differences and highest social support at 3 months after childbirth. This was different from the married group as, they received highest social support shortly after a childbirth and then decreased after three months after childbirth. The different of social support received between married and unmarried women especially shortly after childbirth may be related to different situation experienced by these women. Generally, women with their infant baby will be celebrated, getting attention from their family (Wan Mohd Rushidi et al., 2005). But the contrary situation experienced by unmarried women where they were alone during childbirth, at the hospitals, no partners, no mothers or other family members to help them or handling the infant baby especially those who stayed at shelter homes. A few respondents in the qualitative interview did mention their wishes to have mothers beside them when they were in labour.

6.5 Accessibility to Antenatal Care

A majority of the unmarried women in our study had some form of antenatal visits, leaving only 8.4% (22 out of 261) who had no antenatal care at all. A majority of women from both groups received antenatal care from government health clinics; followed by private clinics for unmarried women and government hospitals for married women. Health were was the

highest rank because the services are provided free for Malaysian citizens and easily accessible to all women (The Center for Reproductive Rights, 2005; Yadav, 2012).

Private clinics were the preferred health facility of the unmarried women for their first antenatal visit. This is mainly for confirmation of their pregnancy state. Private General Practice clinics are easily accessible in view of their close proximity to the community and there seems to be less bureaucracy when registering to get the services. However, going through pregnancy, government health clinics have been the only place they received their antenatal care because most of the unmarried women in this study stayed in shelter homes. Receiving clinical services from the public health facilities have been cheaper than going to private health facilities. Those who went to private clinics were among who stayed with family or friends in hiding their pregnancies from their communities. Most unmarried women were accompanied by either their family members or partners when they had their first antenatal visit.

The revised Focused Antenatal Care (FANC) model of WHO recommended at least four ANC visits for uncomplicated pregnancies with the first visit starting before 16 weeks of gestation (Villar et al., 2001; World Health Organization, 2002). In our study, only 28.9% of unmarried participants initiated antenatal care attendance within first trimester of pregnancy. Unmarried pregnant women may deny the pregnancy or conceal it from family members that delays early antenatal care (Pell et al., 2013). Early antenatal care can enable health care providers identify problems and provide necessary support. Our results differed from an adolescent pregnancy study (Nadarajah and Leong, 2000) which found that adolescent mothers sought their first antenatal visit during the third trimester. The unmarried women in

our study who lived in shelter homes may have initiated antenatal care at second trimester because of the good support they receive in the shelters. However, a study in Tanzania reported that marital status was not associated with an earlier or later timing of antenatal care attendance among pregnant women (Gross et al., 2012).

Unmarried pregnant women are the group of women with specific risk factors which require specific attention, including more than four visits recommended antenatal visit. In our study, unmarried women had less numbers of antenatal care compared to married women. Consistent with previous studies (Omar et al., 2010; Sulaiman et al., 2013), more unmarried pregnant adolescents had an insufficient number of antenatal visits, as they discover their pregnancy late and presented for their first antenatal visit late (at 28 weeks of pregnancy). In the qualitative interview, some women mentioned that they discovered their pregnancy late in the second and third trimesters. This is different from one study among 333 Brussels women, in which the median number of antenatal visit among single women was 12, which is similar to married women and higher number compared to our study. They also showed that marital status was not significantly associated with number of antenatal visits (Beeckman, Louckx, & Putman, 2010).

Among the reason stated by 22 unmarried women for not having antenatal care are embarrassment of being in a state of pregnant outside marriage and fear of being reprimanded by doctors and nurses. Furthermore, they received no advice regarding antenatal care. Our qualitative finding found that, only a few respondents reported receiving inappropriate responses such as scolding by the doctors or nurses. Others said that they received good support from nurses or other patients in the hospital. However most of them felt embarrassed

when other community members stared at them during antenatal check-up at the clinic. This finding was similar in a Swaziland study, as 81% of the women started their antenatal visit later than 3 months and the reasons given were that they did not have knowledge of when to start and were afraid of midwives scolding them for getting pregnant (Mngadi et al., 2003).

6.6 Profile of women with unmarried pregnancy

6.6.1 Family background

Results showed that age of parents for unmarried women were much younger than parents of married women. This is consistent with age pattern of respondents. We also identified that the unmarried women were more likely to have parents with higher education and working parents compared to married women. This finding is similar with few studies on sexual behaviour of adolescents (Low et al., 2007; Rusilawati & Khadijah, 2006). Parent's high educational level is usually interrelated to working status and high economic status. It has been suggested that when both father and mother had to work in long hours, they had less quality time and less communication with their children (Jamsiah & Hazlinda, 2009; Rusilawati & Khadijah, 2006). Youth may find attention from other people beside family members such as boyfriends who provide more chances in engaging in sexual activity. On the other hand, youths whose parent were working may have more pocket money to spend on entertainment and exposed to misbehaviour and sexual activity (Yan et al., 2010).

Parents with higher education were more open minded in terms of accepting new ideology. This affects the sex-related perceptions and behaviour among youths (Yan et al., 2010). However, bivariate analyses in our study found that only educational level of mother is the factor to unmarried pregnancy and not the father's educational level. One study claimed that

this factor was influenced by whole family members and that if more family members have higher education, they are more likely to be open minded person (Alexander et al., 2007) and possess liberal attitude that lead to less parental control over children sexual conduct (Djamba, 2003). This is inconsistent with our findings that unmarried women had fewer family members who have completed secondary education compared to married women. The possible reason is many of the unmarried women in our study was the eldest sister in their family and they may not have role model in the close family member to be followed.

A few unmarried women mentioned during the interview that they are the eldest sister in the family and a hope for the parent and siblings, yet they are engulfed with this problem and embarrassed their parents. Based on social learning theory, sibling modelling effects on youths' behaviour are most prevalent when siblings interact frequently and have a warm relationship (East, Reyes, & Horn, 2007).

There were fewer siblings among unmarried women compared to married women. In contrast to a study by Djamba (2003), large sibling size reduces parental supervision and increases the incidence of premarital sex. Study in China reported that being an only child is one factor to differentiated female who did and did not engage in premarital sex activity. In their findings, students from one-child families were more likely to engage in premarital sex. Again, they relate socioeconomic condition of family as well as positive attitude towards sex and love as well as accepting new ideology (Yan et al., 2010).

Marital status of parents play an important factor in a youth's behaviour. In our study, there was a significant different of parental marital status between two groups of mothers. More unmarried women have single parent either due to divorce or separation (16.5%) but

for married women, more parents were widow/widower (25.3%). However when marital status were categorised into two categories: married or single parents, there is no association between marital status of parents and unmarried pregnancy. Contrast with a local study on adolescent pregnancy, there was an association with being raised by single parents (Omar et al., 2010). Youth living with single parent were related to living in an unstable family situations and lack of warmth, affection, or love, which led them to find other relationship beside the family (Domenico & Jones, 2007; Moni et al., 2013). Our findings are also inconsistent with other studies showing that females living in disrupted families were at higher risk to engage in premarital sex (Lenciauskiene & Zaborskis, 2008; Yan et al., 2010; Yip et al., 2013) and being pregnant (Sturgeon, 2008; Wang et al., 2003).

Some unmarried women reported having experienced physical abuse in the family, specifically abused by their father. This is a common finding in someone who has early sexual debut. Female who had been victims of childhood violence were found to have an increased odds of being sexually active (Ishida et al., 2011). A study in Cambodia found higher likelihood of risky sexual behaviour among students was associated with higher level of family-violence witnessing but not associated with family violence-victimization (Yi et al., 2010).

Parents-child relationship assessment in this study showed that unmarried women did not have good relationship with their parents as compared to married women. Although the questionnaire about parents-child relationship in this study may not be able to provide detailed information, the findings showed that there are significant differences between these two groups, where unmarried women have poor relationship with parents compared to

married women. A study on identifying factors leading to pregnancy among unmarried women in Kerala showed that unmarried pregnant women had poor intra-family relationship compared to unmarried non-pregnant women and higher risk for unmarried pregnancy (Moni et al., 2013). This was related to parent-child communication about family life issues or about sex as they did not openly discuss their problems with parents or other family members. Supporting this finding, another study found that there was lack of communication about sexual reproductive matter between parents and child although children see/believe parents as the appropriate people to educate them on sexuality (Mngadi, 2007).

Our qualitative findings supported this point where none of the unmarried women shared with their parents regarding their relationship and in fact, they were hiding it from parents. It is possible that poor parent-child relationship will lead to poor sharing of information, particularly something that is personal and intimate (Hoeve et al., 2009). Some women have mentioned the importance of love relationship in the family and how regret they are because did not follow their parents' advice.

Two components of parenting styles assessed in this study were parent's strictness and parental control towards their activities /lifestyles. Our findings showed that parents of unmarried women were less strict and less control over their daughters' behaviour, activities or lifestyle. In agreement with few studies, lack of parental supervision and control is significantly risk factor for unwanted pregnancy (Moni et al., 2013). However, this finding is different from a study in China, parental disciplinary style which include severe punishment, supervision and scolding which may related to negative psychological health of youth was to be risk for early sexual debut among girls (Yan et al., 2010). Parental strictness

is also a barrier to parent-child communication when it limits communication about sex, leading to less knowledgeable in reproductive health (Wong, 2012a)

In the family background variables, mother's age, father's age, mother's educational level, working status of mother and father, number of siblings, number of family member completed schooling, history of physical abuse, relationship with parents, father and mother, parents' strictness and parental control were the factors from bivariate analysis ($p<0.05$). Educational level of father, mother's strictness and father's strictness were not associated with unmarried pregnancy ($p>0.05$). However, after adjusting in multivariate analysis, all family background variables were not associated with unmarried pregnancy.

6.6.2 Community profile

Apart from the family members, friends, neighbours, teachers, and colleagues at work or school were important and have a great influence on someone's life. Activities with friends or activities within the community are another factor that influence young people to be involved in good or bad activities (Arai, 2007).

From our study, unmarried women had more frequent interactions with their friends. They also mentioned that friends are important persons for them to confide their life matters rather than other people. When looking at specific sexual reproductive issue such as relationship with opposite sex, sexual development, sexual health or sexual desire/interest, unmarried women were more likely to confide and discuss it with peers, who may not have adequate information. Wong (2012a) conducted a study among women in a public university in Klang Valley also found that apart from magazines, friends were the other common sources of information when trying to get information regarding sex. The effect of peer pressure is

evident (Mngadi, 2007) where adolescent reported that they were influenced by their peers to engage in sexual activity and got information about sexuality from peers. In another study among secondary students in Nepal, youths were found to be more likely to share their sexual experiences with their friends and peers (Bhatta et al., 2013).

About half of the proportion of the unmarried women in our study have friends who are involved with risky behaviours compared to married women. Friends who were involved with premarital sexual activity, smoked cigarettes, being pregnant before marriage and watched pornography were the common type of friends of unmarried women had and these friends are close to them. This indicates that premarital sexual activity, pornographic material and pregnant before marriage was common things among unmarried women. The qualitative data supported this fact where unmarried women mentioned about learning sex from their friends and that they were influenced by their friends to engage in sexual activity. They also knew friends who were pregnant and abandoned their babies. For unmarried women, despite frequent meeting with friends compared to married women, very few of them participated in any community activities.

Findings from this study pointed that, the type of friends and type of activities are interrelated with regards to being pregnant and unmarried. This concurred with an Asian study by Bhatta et al. (2013) which showed that the peers' sexual behaviour and non-sexual risk behaviour (i.e. smoking, drinking, drug using habit) had significant association with women's sexual behaviour. As found in one local study, engaging with this type of friends lead to female youth having high risk behaviours and unwanted pregnancy (Omar et al., 2010). Adolescent pregnancy had been found to be associated with engaging in unsupervised

activities with peers after school and lack of participation in extracurricular activities in the school. Consistent with other studies, lack of engagement in any productive activity was another significant factor for unmarried pregnancy (Moni et al., 2013)

Previous studies have consistently linked religiosity (e.g., attendance, prayer, affiliation, participation) with sexual attitudes and behaviour thus, provide ample empirical evidence that religion influences youth' sexual behaviour (Ishida et al., 2011; Luquis, Brelsford, & Rojas-Guyler, 2011). In this study, three questions were about individual's religiosity, and the findings showed there is a significant different between the two groups of mothers. Many unmarried women had never attended religious activities and most mentioned that the religion is fairly important to them and a quarter perceived their religious belief did not affect their sexual attitude. Our study supported previous findings on neglecting religious practice as a significant factor with a permissive attitude towards premarital sexual behaviour (Ab Rahman et al., 2015).

The other component examined in our study was the sources of sexual reproductive health (SRH) information, how frequent they received the information and specific topic of SRH education they received. Lack of knowledge on sexual reproductive health was found to be associated with premarital sexual behaviour (Ab Rahman et al., 2015; Zulkifli & Low, 2000) and unmarried pregnancy (Moni et al., 2013). This is similar with this study's findings, in which more unmarried women claimed of not having any idea of what sexual reproductive health is and had no knowledge of where to find such information. Self-rated knowledge on reproductive sexual health also showed that more unmarried women had no knowledge at all compared to married women.

In the qualitative findings, SRH issue discussion was on contraception and the unmarried women mentioned they only had basic knowledge about contraception. Most of them mentioned the use of condoms to prevent pregnancy and that their sources of information about contraception included friends. Concurrent with a study among pregnant adolescent in shelter homes, the main sources of information on contraception were friends, boyfriends, the Internet, or mass media (Tan et al., 2012).

As with other findings in Malaysia (Ab Rahman et al., 2011; Tan et al., 2012), mass media such as television, radio, newspaper and magazines as well as Internet were the main sources of information about sexual and reproductive health. In addition, people receive this information from media for most of their life compared to other sources of information. Thus, we believe that if contents of the information are well designed, the community, especially young people, will receive proper knowledge through these most effective channels (Ab Rahman et al., 2011).

However, comparison between two groups of mothers has revealed that most unmarried women stated that their sources of information about sexual reproductive health was from teachers/counsellors while for married women, most stated their sources was from sexual reproductive leaflets. This indicates that sexual health education is delivered by teachers to Malaysian youth in the school system nowadays. However, how comprehensive the sex education had been delivered to youth is still debatable, while the influence of sex education to youth sexual behaviours is unknown. The different sources of information between two groups consistent with the two different age groups. The unmarried group, which was much younger than the married group, had been openly exposed and discussed this topic compared

to the older generation who used to use self-reading. This is consistent with young women in UK who mostly obtained knowledge on reproductive health from reliable sources such as schools and family (Jones, Biddlecom, Hebert, & Mellor, 2011).

There was no significant difference between the two groups in terms of having ever attended a seminar related to sex education (<34.0%), abortion (<14.0%), or ovarian cancer (<25.0%) in our study. However, seminar on pregnancy, family planning, breast cancer and cervical cancer were more likely received by married women, but seminar on HIV/AIDS/STDs were more likely received by unmarried women. The percentage of receiving health seminar was considered low among unmarried women. These findings would likely indicate the requirement for many more efforts for health seminar targeting unmarried women in order to distribute correct information. The health seminar would benefit some people, such as youth as they claimed since they are not married, thus they did not require the information and as such do not seek for such information (Wong, 2012a).

In the community variables, frequency of interaction with friends, having friends involved with risky behaviour, involvement with religious activity, importance of religion and sexual health information were the predictive factors of unmarried pregnancy. Number of friends and participation in any community activities have not been found to be associated with unmarried pregnancy. After adjusting with other variables, having friends involved with risky behaviour and sexual health information factor are significantly associated with unmarried pregnancy, as discussed in section 6.7.

6.6.3 Sexual and non-sexual risky behaviours

All risks and sexual behaviours that were examined in this study showed significant differences between the unmarried and married groups. Unmarried women reported more involvement in risky behaviours such as cigarette use, alcohol use and substance abuse compared to married women. This indicates that risky behaviours had an association with unmarried pregnancy. Previous studies have linked the association of alcohol, drugs and cigarette use with premarital sexual activity (Lee et al., 2006; Noor Azlin et al., 2012).

Concerning exposure to pornographic materials (film/video/book), it showed a high percentage in both groups. Almost half of the unmarried women in this study were exposed to pornography. Studies by Wright and Randall (2012) and Alexander et al. (2007) found that pornography has strong association with sexual behaviour among youth. This is supported through our interviews with a few women, as they learned about sex from pornography video via their mobile phones. Modern technologies such as easy online communication access have great influences to young people as they could access a lot of information in one second. Without guidance, information that could lead to negative activities such as pornography could exert harm, particularly to young people.

Age at menarche showed significant difference between the two groups with more of unmarried women achieved their menarche earlier than married women. Study found that the relationship between age of menarche and age of first sexual experience, where girls who had earlier age of menarche tend to had earlier sexual debut (Chedraui, 2008). It has been suggested that at menarche, girls started to explore their sexual development physically or mentally, thus leading them to explore a lot of things about sexuality. This was found in the

Zwang and Garenne (2008) study among adult in Africa; girls who become mature at an earlier age are more likely to indulge in sexual intercourse at an earlier age. Dealing with earlier age of menarche with right information and support from parents, family, friends or teacher provides a positive effects to young girls. This indicates that provision of correct sexual reproductive information at this stage is very important.

Unmarried women in this study experienced their first sexual intercourse at earlier age (mean age was 17 years old) with the earliest exposure at the age of 10. Youngest age of first sexual experience among unmarried women in this study correlates well with the findings by Low (2009), while the mean age of first sexual debut in our study were similar to a few local studies (Anwar et al., 2010; Noor Azlin et al., 2014; Wong, 2012a). Our study revealed that 37.3% (76 out of 261) of the unmarried women had more than one sexual partner in their lifetime. About 39.5% (30 out of 76) of the unmarried women had multiple sexual partners in the past 12 months from the time of the study. This finding is higher compared to a recent local study, where only 12.0% of young females and 22.5% young males had two and more partners (Noor Azlin et al., 2014). Despite their relatively younger age group compared to married mothers, this high percentage is mainly due to our study population among unmarried women who had been pregnant compared to youth age of 18-24 years old at national camp. Similarly, over 69% of unmarried pregnant women in Africa had multiple sexual partners (Ilika & Igwegbe, 2004).

Our findings are supported by another study in China, where young people who initiated sexual activity early were at greater risk for sexual health problems including unwanted pregnancy compared to late initiator (Ma et al., 2009). They relate early sexual initiation with

multiple partners over their lifetime and have used condoms less frequently. Similar with another study among sexually active female university students, initiation of sexual activity before high school and multiple sex partners were risk factors for unwanted pregnancy (Ma et al., 2008).

However, different than a study in Tanzania, age at first sex was not significantly associated with pregnancy among never-married women but two factors associated with unwanted pregnancy were increased among lifetime partners and not having a casual partner in the past year (Calvet et al., 2013). Women who had higher lifetime number of partners were likely to have more sexual exposures and high risk behaviour such as not using contraceptives. The association of not having a casual partner and pregnancy is explained by lower levels of sexual activity among women who have a casual partner compared to who have regular partner (Calvet et al., 2013).

Among the married mothers in this study, only one was involved with premarital sexual activity, but there was no data on number of sexual partners. The age of first sexual debut among married women reflect the age of they get married and cannot be compared to unmarried group. There may be some information bias in getting the correct information on age of the first sexual debut or numbers of sexual partner among married women. This is due to cultural sensitivity on premarital sex among Malaysian people (Saim et al., 2014). Married women may be reluctant to provide any information deemed to be culturally unacceptable, although we guaranteed the confidentiality.

This study found that being pregnant in a love relationship with one sexual partner was the predominant situation among unmarried women in our study and this is similar to a study

in Sri Lanka (Olsson & Wijewardena, 2010). This was also supported from our qualitative findings where almost all had sex in a relationship with one sexual partner and only one women involved with multiple sexual partner for pleasure. Due to the types of relationship, 55.2% of the unmarried women said their sexual intercourse was voluntary, 26.4% said they were persuaded, and 18.4% said they were coerced and raped. In concordance with adolescent pregnancy in Tan et al. (2012), 63.0% were pregnant from consensual sexual activity, 18.5% were coerced by boyfriends, and 3.8% were raped by unknown person.

The main reason many women engaged in sex was to proof their love to the partner followed by promises of marriage from their partners and curiosity. Among the adolescent boys the reasons for having sex was due to natural urges, curiosity and wanting to try, procreation and expression of love (Low et al., 2007). Females in the previous study stated the reason they engaged in sex activity were to fulfil partners' demand, expressing love, improving their relationship, and sexual pleasure. In fact, most of them did not regret having sex or losing their virginity (Ng & Kamal, 2006).

About 9.6% unmarried women in our study have experienced sexual abuse before and this was a factor to unmarried pregnancy ($p<0.05$). In a study on pregnancy among adolescent, multivariate analysis found that history of sexual abuse especially during childhood-adolescence was related to pregnancy (Goicolea et al., 2009). The perpetrator reported among women in our study was someone known to them, including family members and boyfriends. This finding is similar to what has been reported by Mohamed Nasimul et al. (2006) study, where victims of rape cases mostly knew their perpetrator beforehand and these perpetrators could be a friend, a male partner, or a family member.

Although use of contraceptives was high among unmarried women (44.0%) compared to married women (11.4%), most used the withdrawal method. The withdrawal method is not as effective technique as other methods (Jones, Fennell, Higgins, & Blanchard, 2009). The reason for choosing this method is unknown, since it was not explored in this study. The cost of a modern contraceptive has been reported to play an important role in the usage, particularly among those financially disadvantage women (Finer & Henshaw, 2006).

In Malaysia, despite easy access to health facilities, access to effective contraception method among unmarried couples may be difficult. This is in view of the stigma surrounding premarital sex, embarrassment and fear to be recognized by people in the community (Najafi-Sharjabad et al., 2013) . Unmarried young people may have difficulty in asking for family planning services and purchasing condoms, particularly in the public health sector (Wong, 2012a; Zulkifli & Low, 2000). Besides the technique used, frequency of contraceptive used was also important where only 5.4% unmarried women consistently used it every time they had sexual intercourse. Based on the in-depth interviews, among the reason for not using modern contraceptive were pressure from male partner, male partner do not want to miss the pleasurable of sex and assuming that pregnancy would not occur. This is similar to what have been reported in another study (Ng & Kamal, 2006).

Some women were not aware that first incident of sexual intercourse could result in pregnancy. This is a common scenario among women in our study and agreed by another study (Wong, 2012b) where the first sexual experience without any protection resulted in pregnancy. In-depth interviews found few cases of unmarried women were pregnant resulting from first and one time sexual intercourse with their partners. These women were either

having a poor risk perception in getting pregnant with unprotected sex or being ignorant of the consequence of their sexual behaviour. There are also myths and misinformation about contraception, which leads to inconsistent use and not practicing modern contraception among young women.

In the non-sexual and sexual behaviour variables, cigarette and alcohol use, exposure to pornographic material, age of menarche, age of first sexual intercourse, history of sexual abuse and contraceptive use were predictor factors to unmarried pregnancy. Only drug use does not have an association with unmarried pregnancy. Adjusted in multivariate analyses found that contraceptive used, exposure to pornographic material and cigarette used were significantly associated to unmarried pregnancy. This is discussed in section 6.7.

6.6.4 Partner's profile

Sexual partner or father of the baby among unmarried women were much older than the married women; the oldest age was 53 years old. In Ng and Kamal (2006) study, they found more females preferred older partners because of their maturity and felt that older male partner would know how to take care of them.

Most unmarried partners were in their secondary education and only half of them were employed, as compared to partner of married mothers, of whom most had tertiary education and all are employed. About thirteen percent (31 out of 245) of the unmarried women in our study did not know the details about their sexual partners or father of their baby. Those who could not provide details of the father of the babies was due to a casual relationship with casual partners and had multiple partners in certain period. Based on the qualitative findings,

characteristic of male partners were either older or same age, students or employed with unstable job and also married men.

Mean duration of relationship with baby's father was 24 months (2 year) but about half of the unmarried women had a relationship for less than 1 year (42.4%) and 26.3% had relationship between 1-2 years. Our findings indicated that the love relationship and dating behaviour within a short term duration (<2 years) rendered more risk to young women being involved with unmarried pregnancy. This however differs from findings by Noor Azlan et al. (2011) and Olsson and Wijewardena (2010), in which they become pregnant with partner or love affair that had been ongoing for a long time, up to 9 years.

In our study, although most of the pregnancies among unmarried women resulted from consensual intercourse, some of them did not inform their partners regarding their pregnancy and carried out the pregnancies on their own. This is partly due to lack or no social obligation placed on the men without formal marital bond. It was also found that about half of the women were abandoned by their partners and continued on to become single mothers; a common phenomenon for young women (Mngadi, 2007). The qualitative findings provided further evidence to this issue where it was reported that despite the expression of love and promise to be responsible for what their sexual act, the male partners did not fulfil their promise once pregnancy had occurred. Women were left to bear the issue of pregnancy and future life.

The reaction to the pregnancy differed among partners. Most unmarried women (66.4%) reported that their partner wanted the baby and that they would take care of the baby. However, 22.5% partner ignored the pregnancy and avoid getting involved in any part of the

pregnancy. This was also mentioned by a few respondents in our in-depth interview, as their male partners denied and rejected the babies as theirs and often stated that the women had an affair with another men. This become a phenomena in intention of the men to refuse their responsibility as reported in another local study (Saim et al., 2014) and a study in other developing countries (Jordal et al., 2013).

Exploring this issue in our qualitative interviews found that half of the partner accepted the pregnancy in the beginning and wanting to take responsibilities of what they did and planned to marry the women. But going through the process of discussing with the families, different reasons were given, then a change of their marriage plans, most probably from family obstacles. Family or parents did not support the marriage idea, as they had a view or thinking that this marriage will not succeed. Another major obstacle was that their male partner did not have secure job and did not know how to handle this situation or have strong stand on their decision. Further reactions of the male partners who did not want the baby further pressured the women into abortion by traditional methods or clinical abortions. In fact, few of them helped the respondents in searching information about traditional methods for abortion. Due to those reactions, half of the fathers of the babies were no longer in contact or cannot be contacted (disappeared), whereas the other half were still in contact with the respondents. Respondents' parents also did not allow them to contact the partners or have any connection with the partners or his family.

6.7 Factors Influencing Unmarried Pregnancy

Multivariate regression analysis in our study showed that seven risk factors associated with pregnancy among unmarried women in Malaysia were age, having friends involved with risky behaviour, sexual health information, social support, cigarette use, exposure to pornographic material and contraceptive use.

Age was proven to be a risk factor for unmarried pregnancy. As the age decreased, there is an increase of unmarried pregnancy. With an increase of every year, the age of a woman is 0.62 times less likely to become unmarried pregnancy. It is similar to the analysis from the Lindberg and Singh (2008), the proportion of single women at risk of unintended pregnancy declined with age; 62.7% among women age 20-29 and 24.8% among women age 40-44.

The second factor significantly influencing unmarried pregnancy is specifically related to the type of friends or characteristics of friends. Women with friends involving with risky behaviour were 18.09 times more likely to become pregnant than women that had no friends involved with risky behaviour. Study by Bhatta et al. (2013) supported this findings as they found that the peers characteristics i.e. involved with risk behaviour had significant association with women's sexual behaviour ($p<0.01$) and lead to the unwanted pregnancy (Omar et al., 2010). This can be seen from social cognitive models on how specific socialization influence one's sexual behaviour. Families, parents, schools, peers and mass media are the key socializing agents and youth get a lot of information from these sources. Youth tend to shift their orientation from family to peers while grown up and get more information especially about sexuality from peers (L'Engle & Jackson, 2008). In fact they

are more likely to follow what their peers do (Ankomah et al., 2011). However, lack of information among peers may also contribute to the incidence of unwanted pregnancy.

Availability of sexual and reproductive health information is the third risk factor influencing unmarried pregnancy. Those who have never received any sexual and reproductive health information were 10.54 times more at risk of becoming pregnant before marriage. There is a concern where 12.8% participants of this study reported not having any idea of what sexual and reproductive health is. A few studies have reported the lack of sexual health knowledge had significant association with sexual behaviour (Ab Rahman et al., 2015; Haldre et al., 2009) and unmarried pregnancy (Moni et al., 2013). Our multivariate findings indicated the important of sexual health information as risk factor influencing unmarried pregnancy. This is because in comparing to previous studies, the element of sexual health information in our study was superficial and not measuring in details on the level of sexual health knowledge.

The next factor influencing unmarried pregnancy is cigarette use and exposure to pornographic materials. Women who ever smoked cigarette and exposed to pornography were 22 times and 11 times respectively, more likely to be involved with unmarried pregnancy than those who were not. Any single risk behaviour increases the likelihood of involvement in other risky behaviours or its recurrence (Tu et al., 2012), and young women in our study who were sexually experienced were more likely to engage in two or more non-sexual risky behaviours than those who were not sexually experienced. It was reported in a previous study that adolescents who were more frequently exposed to pornography had their first sexual experience at younger age and engaged in more risky sexual behaviour such as

anal sex and sex with multiple partners (Haggstrom-Nordin, Hanson, & Tyden, 2005; Owens, Behun, Mannings, & Reid, 2012).

Our in-depth interview has supported the friend's factors and exposure to pornography factors, where the unmarried women especially younger one said they learnt about sex from their friends, partners and via pornographic videos/films. A few women did highlight how their friends influenced them in doing this sexual activity. Even worse, these women knew the consequences of this premarital sexual activity and mentioned their friends who were pregnant and dumped their babies.

Contraceptive use is another important factor influencing unmarried pregnancy. However, from our analysis, women who had never used contraception were 0.15 times less likely to become pregnant than women who had ever used contraception which means that those using contraception still become pregnant. Using less effective contraceptive, inconsistent use of contraceptive and lack of proper knowledge about contraception may explain the reasons for contraceptive failure among young people (Low et al., 2007). Wong (2012b) in her study found that young women lacked in their knowledge of contraception, pregnancy, and the fertile period; suggesting that education in Malaysia for young people is limited on information about their bodies, sexuality changes, reproduction and birth control. The limitation of our study is that we did not ask about the frequency of sexual intercourse and its correlation with contraceptive use, since these factors are known to be important predictors of pregnancy risk (Ma et al., 2008; Wang et al., 2003).

This contraceptive use factor also supported in our qualitative findings which almost all unmarried women had a basic knowledge about contraception, mainly use of condoms in

preventing pregnancy. Condoms, withdrawal, and douching post intercourse were among the method they used. Only half unmarried women used contraceptive methods, but even then it was not used all the time. Some just followed their partners, as their partners refused to use it and some thought nothing about that. This has been agreed with by a study in Thailand in which boys are not put under the same degree of pressure in term of premarital sexual activity and their consequences of such behaviours. Premarital sexual activity did not give much effect to the male, as commonly society is accepting of them and considering it is a normal experience for young man. Thus they would not be worried about likelihood of pregnancy or sexually transmitted disease and would not consider the use of contraceptives (Sridawruang et al., 2010).

Last factor that influenced unmarried pregnancy is social support from significant others. For every additional score of social support from significant others, women were 0.78 times less likely to be involved with unmarried pregnancy. Perceived lack of social support was associated with unmarried pregnancy in our study similar to previous studies (Majumdar, 2006; Reininger et al., 2012). Significant factors in the measurement were referred to special person other than their family or friends such as male partners or best friends. This indicates that unmarried women in our study were less likely to have special persons in sharing their feelings, in comforting them and helping them as compared to married women. This is because majority of the unmarried women usually had unstable relationships with their male partners or short term relationships.

6.8 Chapter summary

This chapter discussed in detail the findings of the study from both the quantitative and qualitative part supported with previous study and theory. The methodological reflection including study limitations and strength has been discussed. This findings can be summarized in one framework as seen on Figure 6.1.

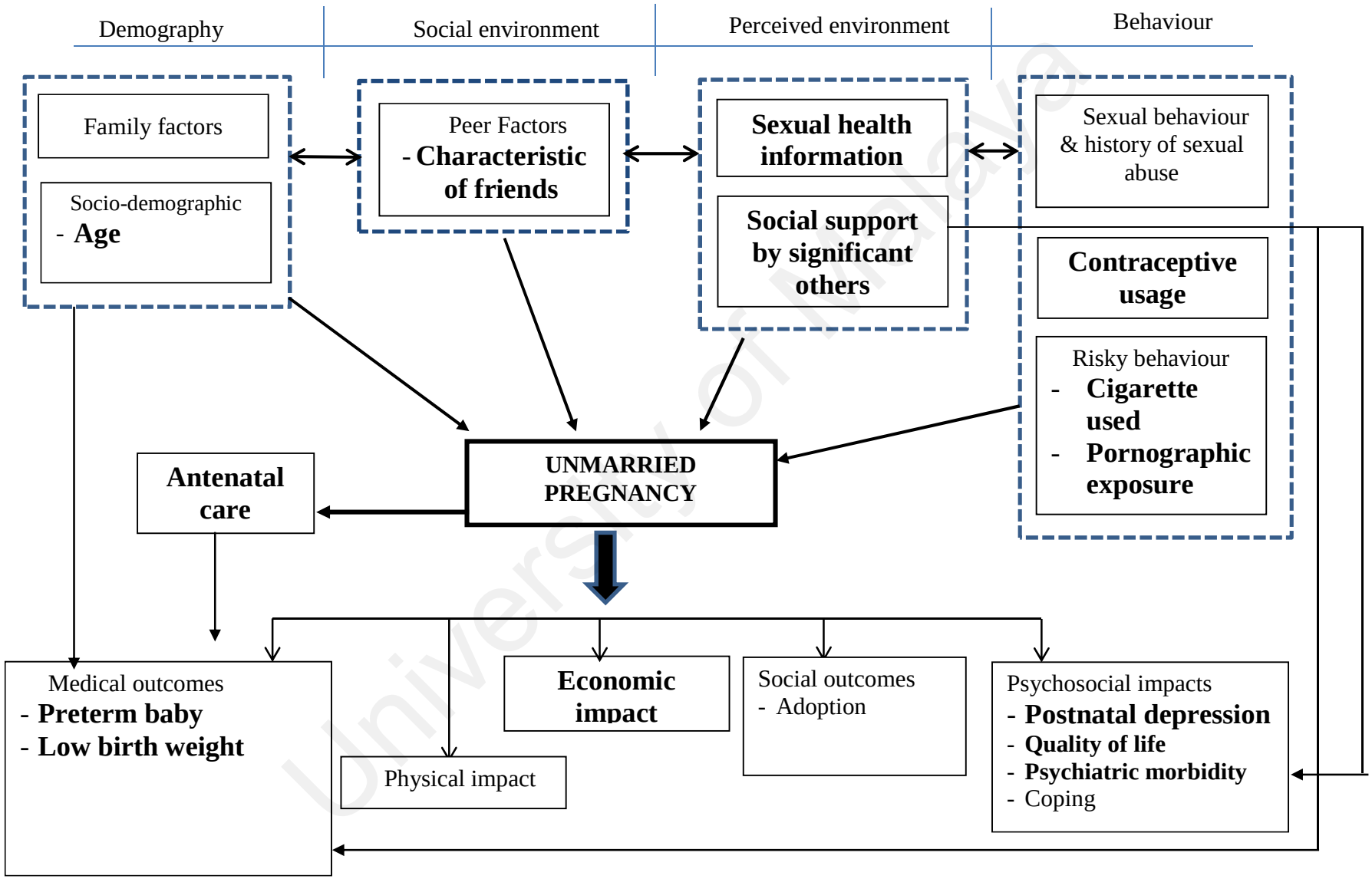

Figure 6.1: Study framework of outcomes and factors associated with unmarried pregnancy

CHAPTER 7: CONCLUSIONS AND RECOMMENDATIONS

This study has highlighted several important findings in relation to unmarried pregnancy; the impact of the pregnancy as well as factors associated to the pregnancy. The major discovery of this study is that unmarried pregnancy is a risk factor for postpartum depression and adverse birth outcomes, particularly preterm birth and low birth weight.

Unmarried pregnant women in Malaysia were much younger, from urban areas, from low socioeconomic groups, still studying and lived with parents prior to pregnancy. The majority of the unmarried women were primigravidae with unplanned pregnancy. There were pregnant due to consensual sexual intercourse and half of the unmarried mothers had never used any contraceptive methods. The majority of the unmarried mothers and received antenatal care at government health centres.

This study found that unmarried pregnancy also affects the quality of life, mental health status, economic and social impact on the women and their child. Unmarried mothers were more likely to have lower social support, poor quality of life (PCS high and MCS low), poor psychological well-being and poor coping strategies as compared to married mothers. The unmarried mothers experienced economic hardship during pregnancy and reported that their pregnancy affected their job and also their education. Some chose to give their child for adoption, some chose motherhood, some chose kinship fostering and some were parented (married to the father of the baby).

The other significant factors in the final model associated with adverse birth outcomes were antenatal care, used of drugs, mother's age and number of antenatal visits. The unmarried women had initiated late attendance of antenatal visits (at second and third trimester) and had less numbers of antenatal visits compared to married women. However,

the unmarried women less likely to have antenatal complications compared to the married women.

Parents of unmarried women were much younger, have higher education, working, less strict, less control over their daughter's activities and had poor parent-child relationship compared to parents of married women. The unmarried women had more interaction with their friends compared to the married women, but they were more likely to have friends involved with social misconduct activities and less perception of social support. The unmarried women were more likely to engage in risky behaviours and experienced the first sexual contact earlier than the married women. However, mass media and the internet were the main source of information about sexual reproductive health for the both groups

This study also revealed that a wide range of factors was associated with unmarried pregnancy. These include socio-demographic, family factor, including parenting style, community factor, including friends, religiosity and sexual reproductive health information, risk and sexual behaviour and social support. However, from the multivariate regression analysis, risk factors to unmarried pregnancy were age, have friends involved with risky behaviour, smoked cigarettes, exposed to pornographic material, sexual health information, contraceptive usage, and have social support of significant others.

Based on qualitative findings in this study, the unmarried women usually had a sexual partner who fathered their babies. Their relationships with their partners were out of parents' knowledge, contraceptive use were uncommon, especially among younger age and the pregnancies were most probably unexpected by the women. Overall, there were three reactions when women, their partners or their family found out about the pregnancy; abortion, marriage or staying in shelter homes. This study revealed that most unmarried women attempted abortion or planned for marriage, however, for a certain reason they probably

chose to stay in shelter homes or with relatives. In terms of community reactions, people gave support to these women, which included emotional and material support.

Although unmarried pregnancy were stigmatized by the community in Malaysia but public hospital still the main place they went to for safe delivery. The unmarried women are more likely to undergo spontaneous vaginal deliveries due to their health condition at a younger age. Being alone during childbirth was a bad experience for the unmarried women. All the women accept their babies and felt a loving bond with them, although most of the babies were unexpected. However, in terms of their family, some women's family were not able to accept the babies and some willing to take care of the babies. There were three possible decisions made by women about their babies; adoption, motherhood or kinship fostering. The belief that proper family will guarantee the best of life for babies was the main reason women gave up their babies for adoption. The whole journey of being pregnant, childbirth and life post-delivery impacted on women's economic, emotional, health and physical and social and lifestyle. Overall, going through unmarried pregnancy is a very hard, depressing and stressful journey that realized the unmarried women to change and start a better life.

7.1 Recommendations

Therefore several implications and recommendations are put forward based on the findings of this study.

7.1.1 Impacts of unmarried pregnancy

1) Postpartum depression & Mental health = The risk of postpartum depression and poor mental health can be minimised by considering or prioritized the voices, opinion and needs of unmarried mothers such as involving them in decision making or their future plan. Social support and coping skills play important role in minimizing the postpartum depression due to loss of attachment with the baby. Besides that, shelter home may also worsen the mental health condition. It is strongly recommended that the shelter homes develop variation in their program to include more than just religious activity.
2) Low birth weight & Preterm birth = Poor birth outcome among unmarried mothers can be handled by encouraging women to have early antenatal care and attended each antenatal visit. Efforts to create better access to antenatal care is warranted to unmarried pregnant women. so that detection of unhealthy baby or any pregnancy problem can be done. Health education regarding pregnancy and post pregnancy can also be given by health care provider. This ensure necessary support to mothers and unborn babies. The important of antenatal care should be disseminated through education systems, counsellors, employers and parent. The use of illicit drugs among pregnant mothers contributing to the adverse birth outcome must be emphasized and support for addiction made accessible no matter how young they are or their marital status.
3) Social support and coping strategies = Apart from accessible services, a continuing social support group programme must be given during pregnancy and after the pregnancy. A special attention is necessary for unmarried mother by a multidisciplinary team that

include community nurse, social worker or social support group. This support should be aim to help this unmarried mothers dealing with any difficulties after the pregnancy crisis emotionally or physically such as taking care of baby, health problem and so on. For unmarried mothers in shelters home, social support group can be among their friends in the shelter home or others from outside the shelters home which can focus on emotional issue or coping strategies. The most important social support were from family members itself although it is the toughest things to do.

From this study, social support is also the risk factor influence youth to become pregnant outside marriage especially social support from significant others.

4) There is need of one guideline or standard of practice given to the health care providers, teachers/ schools, counsellors or any authority people in handling unmarried pregnancy. This guideline would be useful in helping this young women or their families in solving this pregnancy crisis and also reduce dumping babies issue or unattended birth delivery.

7.1.2 Risk factors to unmarried pregnancy

Based on the finding of risk factors influencing unmarried pregnancy, the following recommendations on preventing the pregnancy among unmarried women are hereby made.

1) Age = Younger age are more vulnerable to get pregnant outside marriage due to many reason such as low knowledge on contraception and safe sex or low confidence level on their right. Thus at young age, girls must be equipped with accurate knowledge such as menses and reproductive health. Education should improve their self-esteem, self-confidence and knowledge on self-protection as well as skills in managing the social relationship in which sexual contact may occur. SRH should be introduced as early as possible at home by their parents before entering primary school.

2) Have friends involved with risky behaviour = The characteristic of friends gave great influence on being pregnant outside marriage. Thus parental or guardian monitoring on who are youth's friends and the activities with their friends is important. In order to monitor effectively, parent or guardian should have good, open and caring parents-child communication but be strict on at-risk behaviour. There are no specific rule of parenting propose by any psychologist in term of preventing unmarried pregnancy among youth however parent and child should have a discussion on rules and expectations that suit to their family.
3) Smoked cigarettes and exposed to pornographic material = Promoting better lifestyle among youth such as say no to cigarette, alcohol would be effective and might influence sexual behaviour and decrease risk of getting pregnant outside marriage. Technology give great opportunities to all humankind but we need to know when it became harmful and illegals; pornography. Restricted the use and easy access of internet among youth is very tough in this globalization era but very important to prevent from pornography. Since the internet easily accessible from mobile phones, it recommended that these mobile phone were banned from school. Parents must assess their children curiosity about sex and have open conversation with them before they turn out to get information from pornography.
4) Sexual health information = Distribution of right sexual health information have a big impact on preventing youth involved with risky sexual activity and harmful effect of such activity. Finding of this study also showed that mass media are the main sources of information about SRH. Thus we recommend various agencies such Ministry of Health and Ministry of Communication to have good collaboration and use this mass media in distributing health message to the community. We also believe that if the content of the information on SRH are well designed, the community will receive a right knowledge

through these most effective channels. In addition to that, parents, teachers or health care providers should be prepared to integrate with those information into their discussion with youth, educate and encourage responsible behaviours and decisions on their actions.

5) Contraceptive usage = Accurate information on contraception and accessibility to effective contraceptive method should be made to all women who are about to engage or already engaged in sexual activity. Health facilities will be able to provide point of access to contraceptive counselling and different type of contraception provided that the services are inclusive regardless of individual's marital status and age.

7.1.3 Future research

Future studies should address the limitations noted. Future research in the Malaysian cultural context is needed such as on health needs of unmarried mothers, impact of marital status on long-term child health and development. Paternal involvement in pregnancy and post-natal care should also be considered in future studies, especially in the Malaysian cultural context.

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LIST OF PUBLICATIONS AND PAPERS PRESENTED

Journal Publications

Article 1.

Norhasmah Mohd Zain, Wah Yun Low, and Sajaratulnisah Othman (2015). Impact of maternal marital status on birth outcomes among young Malaysian women: A prospective cohort study. Asia Pac J Public Health. Vol 27 (3) pp 335 – 347

- Article published online on Jun 2014.

Article 2.

Norhasmah Mohd Zain, Wah Yun Low, and Sajaratulnisah Othman (2015). Factors associated with unmarried pregnancy among young women in Malaysia. Southeast Asian Journal of Tropical Medicine and Public Health. 46 (3) pp 526-538

- Article published on May 2015

Conference Presentations

Oral presentation

1) Risk factors that influence unwanted pregnancy among unmarried mothers in Malaysia. In 2nd International of Public Health Conference, 3-4 Oct 2012. Renaissance Kuala Lumpur Hotel
2) Maternal Marital Status and Other Risk Factors of Adverse Birth Outcomes among Young Malaysia Women. In The 45th APACPH Conference 2013, 24-27 Oct 2013. Wuhan University, China
3) Factors Associated with Unmarried Pregnancy among Young Malaysian Women. In International Research Symposium on Population Health 2013, 19-20 Nov 2013. Menara Selatan, University Malaya Medical Center

Poster presentation

1) The Mental Health Status of Unmarried Mothers in Malaysia. In International Research Symposium on Population Health 2013, 19-20 Nov 2013. Menara Selatan, University Malaya Medical Center

APPENDIX A

(Ethical Approval)

UNIVERSITY OF MALAYA
KUALA LUMPUR
UM MEDICAL CENTRE

MEDICAL ETHICS COMMITTEE
UNIVERSITY MALAYA MEDICAL CENTRE
ADDRESS: LEMBAH PANTAI, 59100 KUALA LUMPUR, MALAYSIA
TELEPHONE: 03-79493209 FAXIMILE: 03-79494638

NAME OF ETHICS COMMITTEE/IRB: Medical Ethics Committee, University Malaya Medical Centre **ADDRESS:** LEMBAH PANTAI 59100 KUALA LUMPUR	**ETHICS COMMITTEE/IRB REFERENCE NUMBER:** 800.3
PROTOCOL NO: **TITLE:** Study on pregnancy among unmarried mothers in Malaysia: Associated factors and outcomes of pregnancy	
PRINCIPAL INVESTIGATOR: Puan Norhasmah bt. Mohd Zain **TELEPHONE:** **KOMTEL:**	**SPONSOR:**

The following item [✓] have been received and reviewed in connection with the above study to be conducted by the above investigator.

[✓] Borang Permohonan Penyelidikan	Ver date: 10 Jun 10
[✓] Study Protocol	Ver date:
[ ] Investigator Brochure	Ver date:
[✓] Patient Information Sheet	Ver date:
[✓] Consent Form	Ver date:
[✓] Questionnaire	
[✓] Investigator (s) CV's(Puan Norhasmah bt. Mohd Zain)	

and have been [✓]

[✓] Approved
[ ] Conditionally approved (identify item and specify modification below or in accompanying letter)
[ ] Rejected (identify item and specify reasons below or in accompanying letter)

Comments:

Investigator are required to:

1) *follow instructions, guidelines and requirements of the Medical Ethics Committee.*
2) *report any protocol deviations/violations to Medical Ethics Committee.*
3) *provide annual and closure report to the Medical Ethics Committee.*
4) *comply with International Conference on Harmonization – Guidelines for Good Clinical Practice (ICH-GCP) and Declaration of Helsinki.*
5) *note that Medical Ethics Committee may audit the approved study.*

Date of approval: 21st JULY 2010

c.c Head
Medical Education Research & Development Unit
(MERDU)

Deputy Dean (Research)
Faculty of Medicine

Secretary
Medical Ethics Committee
University Malaya Medical Centre

.....
PROF. LOOI LAI MENG
Chairman
Medical Ethics Committee

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and have been [✓]

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c.c Head
Medical Education Research & Development Unit
(MERDU)

Deputy Dean (Research)
Faculty of Medicine

Secretary
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PROF. LOOI LAI MENG
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MEDICAL ETHICS COMMITTEE COMPOSITION, UNIVERSITY MALAYA MEDICAL CENTRE
Date: 21st JULY 2010

Member (Title and Name)	**Occupation (Designation)**	**Male/Female (M/F)**	**Tick (✓) if present when above items were reviewed**
Chairperson: Prof. Looi Lai Meng	Senior Consultant Department of Pathology	Female	✓
Deputy Chairperson: Prof. Kulenthran Arumugam	Senior Consultant Medical Education Research and Development Unit (MERDU)	Male	✓
Secretary (non-voting): Cik Norashikin Mahmood	Scientific Officer Medical Development Unit	Female	✓
Members: 1. Y. Bhg. Prof. Dato' Patrick Tan Seow Koon	Deputy Director (Professional)	Male	
2. Prof. Nor Zuraida Zainal	Head Department of Psychological Medicine	Female	✓
3. Assco. Prof. Mohamed Ibrahim Noordin	Head Department of Pharmacy Faculty of Medicine	Male	✓
4. Assco. Prof. Tan Chong Tin	Representative of Head Department of Medicine	Male	✓
5. Assco. Prof. Alizan Abdul Khalil	Representative of Head Department of Surgery	Male	✓
6. Pn. Che Zuraini	Representative of Senior Principal Assistant Manager Pharmacy Centre University Malaya Medical Centre	Female	✓
7. Y. Bhg. Prof. Madya Datin Grace Xavier	Representative of Dean Faculty of Law University Malaya	Female	
8. Y. Bhg. Datin Aminah Pit Abdul Rahman	Public Representative	Female	
9. Madam Ong Eng Lee	Public Representative	Female	✓

Comments: The MEC of University Malaya Medical Centre is operating according to ICH-GCP guidelines and the Declaration of Helsinki. Member's no. 7, 8 & 9 are representatives from Faculty of Law in the University Malaya and the public, respectively. They are independent of the hospital or trial site.

.....
PROF. LOOI LAI MENG
Chairman
Medical Ethics Committee

Pejabat Pelantar Penyelidikan Sains Klinikal

Clinical Sciences
Research Platform Office

Universiti Sains Malaysia
Kampus Kesihatan,
16150 Kubang Kerian,
Kelantan. Malaysia.
T: 609 - 767 3000 *samb.* 2350 / 2352
F: 609 - 767 2351
E: crp_dean@kk.usm.my
www.crp.kk.usm.my

Our. Ref. : USMKK/PPP/JEPeM [233.4.(1.1)]
Date : 5th January 2011

Mrs. Norhasmah Mohd Zain
Ph. D Student
Medical Research and Development Unit (MERDU)
Faculty of Medicine
University of Malaya
50603 Kuala Lumpur

Dear Mrs,

APPLICATION FOR ETHICAL APPROVAL

"Study on Pregnancy among Unmarried Mothers in Malaysia: Associated Factors and Outcomes of Pregnancy".

We are pleased to inform, The Research Ethics Committee (Human), Universiti Sains Malaysia has approved in principle the protocol study of the above title:

- Study protocol received 30 August 2010
- Expedited Ethical Review 15 December 2010
- Received amended protocol 16 December 2010
- Endorsed by The Research Ethics Committee (Human) 29 December 2010
- Date of Approval 05 January 2011

Research Center	:	Hospital Universiti Sains Malaysia, Kubang Kerian, Hospital Raja Perempuan Zainab II, Kota Bharu, Hospital Sultanah Nur Zahirah, Kuala Terengganu and Hospital Tengku Ampuan Afzan, Kuantan.
Date Start	:	January 2011
Duration	:	36 Months
Number of Samples	:	496 subjects
Name of Principal Researcher	:	Mrs. Norhasmah Mohd Zain
Co- researcher	:	Prof. Dr. Sarinah Low Abdullah @ Low Wah Yun Assoc. Prof. Dr. Sajaratulnisah Othman
PG Student	:	Mrs. Norhasmah Mohd Zain
Financial Support	:	-

The following item have been received and reviewed and in connection with the above study to be conducted by the above investigator -:

(✓) **Study Protocol**

(✓) **Patients Information Sheet**
(✓)→ English Version
(✓)→ Malay Version
( ) Other

(✓) **Consent Form**
(✓)→ English Version
(✓)→ Malay Version
( ) Other

Members of the Sub Committee of the Research & Ethics Committee who reviewed the above protocol/documents are as follows:

Member (Title and Name)		Occupation (Designation)	Male/ Female (M/F)	Tick (✓) if present when above items, were reviewed
Chairperson : Professor Mohd Shukri Othman		Chairman of Research Ethics Committee (Human)	M	✓ **(Chairperson)**
Secretary : Ms. Mazlita Zainal Abidin		Scientific Officer	F	x
Members :				
1.	Profesor Datin Dr. Rashidah Shuib	Professor and Director of Women's Development Research Centre (KANITA)	F	✓
2.	Dato' Professor Jamalludin Sulaiman	Lecturer, School of Social Sciences	M	✓
3.	Professor Rusli Ismail	Director of Institute for Research in Molecular Medicine (INFORMM)	M	x
4.	Professor Rahmat Awang	Lecturer, National Poison Centre	M	x
5.	Professor Mohd Razali Salleh	Lecturer, School of Medical Sciences	M	x
6.	Professor Dr. Ibrahim Lutfi Shuaib	Deputy Director, Advance Medical & Dental Institute	M	x
7.	Professor Dr. Saringat Hj Baie	Lecturer, School of Pharmaceutical Sciences	M	x

8.	Professor Dr. Zulmi Wan	Lecturer, School of Medical Sciences	M	x
9.	Professor Yuen Kah Hay	Lecturer, School of Pharmaceutical Sciences	M	x
10.	Professor Quah Ban Seng	Lecturer, School of Medical Sciences	M	x
11.	Professor Sharif Mahsufi Mansor	Director of Centre for Drug Research (CDR)	M	x
12.	Professor Yahaya Hasan	Lecturer, School of Pharmaceutical Sciences	M	x
13.	Associate Professor Dr. Zainul Ahmad Rajion	Lecturer, School of Dental Sciences	M	x
14.	Associate Professor Sharifah Mastura Syed Mohamad	Lecturer, School of Health Sciences	F	x
15.	Associate Professor Siti Hawa Ali	Lecturer, School of Health Sciences	F	✓
16.	Dato' Hj. Wan Mohamed Yusoff	Ex-State Secretary of Kelantan	M	✓
17.	Dato' Hj. Abdul Razak Salleh	Ex-State Secretary of Kelantan	M	✓
18.	Dr. Mohammad Ismail	Director of Hospital Raja Perempuan Zainab 2	M	x
19.	Dr. Mohamed Azmi Ahmad Hassali	Lecturer, School of Pharmaceutical Sciences	M	x
20.	Tn. Hj Ismail Hassan	Ex-USM Linguistic Teacher	M	✓
21.	Tn. Hj. Elias Zakaria	Lecturer, School of Humanities	M	✓
22.	Mr. Wan Mohd Suyuti Wan Ismail	Senior Deputy Director, HUSM	M	x
23.	Mr. Khairul Anuar Che Azmi	Technology Licensing Officer, Innovation Office, USM	M	x
24.	Tn. Hj. Halim Othman	Scientific Officer	M	x

Please submit your **Final Report** upon completion of the research to Chairman of Research Ethics Committee (Human), Universiti Sains Malaysia Health Campus.

For research that involves Ministry of Health (MOH) personnel or to be conducted in MOH facility or to be funded by MOH research grants, kindly please register your research at the National Medical Research Register on line at www.nmrr.gov.my. Please **submit a copy of your registration confirmation** to the Research Ethics Committee (Human), Universiti Sains Malaysia Health Campus.

The Research Ethics Committee (Human) of Universiti Sains Malaysia is in compliance with ICH GCP guidelines.

Thank you.

"ENSURING A SUSTAINABLE TOMORROW"

Yours sincerely,

PROFESSOR MOHD SHUKRI OTHMAN
Chairman of Research Ethics Committee (Human)

c.c Secretary of Research Ethics Committee, USM

PEJABAT TIMBALAN KETUA PENGARAH KESIHATAN
OFFICE OF THE DEPUTY DIRECTOR-GENERAL OF HEALTH
(PENYELIDIKAN & SOKONGAN TEKNIKAL)
(RESEARCH & TECHNICAL SUPPORT)
KEMENTERIAN KESIHATAN MALAYSIA
MINISTRY OF HEALTH MALAYSIA
Aras 12, Blok E7, Parsel E, Presint 1
Level 12, Block E7, Parcel E, Precint 1
Pusat Pentadbiran Kerajaan Persekutuan
Federal Government Administrative Centre
62590 PUTRAJAYA

Tel. : 03-88832543
Faks : 03-88895184

MEDICAL RESEARCH & ETHICS COMMITTEE
MINISTRY OF HEALTH MALAYSIA
National Institutes of Health
c/o Institute Health Management
Jalan Rumah Sakit, Bangsar
59000 Kuala Lumpur

(3)dlm.KKM/NIHSEC/08/0804/P010-545
04 Julai 2011

Puan Norhasmah Bt Mohd Zain
Jabatan Pembangunan Kesihatan Wanita
Pusat Perubatan Universiti Malaya

Puan,

NMRR-10-901-6800
Study On Pregnancy Among Unmarried Mothers In Malaysia: Associated Factors And Outcomes Of Pregnancy.

Dengan hormatnya dimaklumkan bahawa Jawatankuasa Etika & Penyelidikan Perubatan, Kementerian Kesihatan Malaysia tiada halangan ke atas permohonan Puan untuk menambahkan satu (1) lagi pusat penyelidikan iaitu:-

1) Hospital Kuala Lumpur

Puan juga perlu menyediakan laporan "All adverse events, both serious and unexpected" kepada jawatankuasa Etika & Penyelidikan Perubatan, KKM.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"

Saya yang menurut perintah,

(DATO' DR CHANG KIAN MENG)
Pengerusi
Jawatankuasa Etika & Penyelidikan Perubatan
Kementerian Kesihatan Malaysia

PEJABAT TIMBALAN KETUA PENGARAH KESIHATAN
OFFICE OF THE DEPUTY DIRECTOR-GENERAL OF HEALTH
(PENYELIDIKAN & SOKONGAN TEKNIKAL)
(RESEARCH & TECHNICAL SUPPORT)
KEMENTERIAN KESIHATAN MALAYSIA
MINISTRY OF HEALTH MALAYSIA
Aras 12, Blok E7, Parsel E, Presint 1
Level 12, Block E7, Parcel E, Precinct 1
Pusat Pentadbiran Kerajaan Persekutuan
Federal Government Administrative Centre
62590 PUTRAJAYA

Tel. : 03 88832543
Faks : 03 88895184

JAWATANKUASA ETIKA & PENYELIDIKAN PERUBATAN
KEMENTERIAN KESIHATAN MALAYSIA
d/a Institut Pengurusan Kesihatan
Jalan Rumah Sakit, Bangsar
59000 Kuala Lumpur

Ruj. Kami : (2) dlm.KKM/NIHSEC/08/0804/P10-545
Tarikh : 14 Disember 2010

Cik Norhasmah Bt Mohd Zain
Jabatan Pembangunan Kesihatan Wanita
Pusat Perubatan Universiti Malaya

Puan,

NMRR-10-901-6800
Study On Pregnancy Among Unmarried Mothers In Malaysia: Associated Factors And Outcomes Of Pregnancy.

Lokasi Projek : Hospital Raja Perempuan Zainab II/ Hospital Sultanah Nur Zahirah/
Hospital Tengku Ampuan Afzan/ Hospital Universiti Sains Malaysia

Dengan hormatnya perkara di atas adalah dirujuk.

2. Jawatankuasa Etika & Penyelidikan Perubatan (JEPP), Kementerian Kesihatan Malaysia (KKM) mengambil maklum bahawa projek tersebut adalah untuk memenuhi keperluan akademik Program PhD di Universiti Malaya.

3. Sehubungan dengan ini, dimaklumkan bahawa pihak JEPP KKM tiada halangan, dari segi etika, ke atas pelaksanaan projek tersebut. JEPP mengambil maklum bahawa kajian ini tidak melibatkan sebarang intervensi dan menggunakan borang soal-selidik untuk mengumpul data kajian. Segala rekod dan data pegawai adalah SULIT dan hanya digunakan untuk tujuan kajian dan semua isu serta prosedur mengenai *data confidentiality* mesti dipatuhi. Kebenaran daripada Pengarah Hospital di mana kajian akan dijalankan mesti diperolehi terlebih dahulu sebelum kajian dijalankan. Puan perlu akur dan mematuhi keputusan tersebut.

4. Laporan tamat kajian dan sebarang penerbitan dari kajian ini hendaklah dikemukakan kepada Jawatankuasa Etika & Penyelidikan Perubatan selepas tamatnya projek ini.

Sekian terima kasih.

BERKHIDMAT UNTUK NEGARA

Saya yang menurut perintah,

(DATO' DR CHANG KIAN MENG)
Pengerusi
Jawatankuasa Etika & Penyelidikan Perubatan
Kementerian Kesihatan Malaysia

APPENDIX B

(Patient Information Sheet)

RESEARCH INFORMATION

Reseacrh Title: Study on pregnancy and its outcomes among mothers in Malaysia

Researcher's Name: **Norhasmah binti Mohd Zain**

Research ID: NMRR-10-901-6800

Introduction

You are invited to take part in this study where it is estimated that 248 unmarried and married pregnant women will be participating. This research is carried out by the Faculty of Medicine, University of Malaya, Kuala Lumpur, Malaysia in conjunction with Hospital Universiti Sains Malaysia (USM), Hospital Raja Perempuan Zainab II Kota Bharu, Hospital Sultanah Nur Zahirah Kuala Terengganu and Hospital Tengku Ampuan Afzan Kuantan.

Pregnancy among unmarried women has become a disturbing public health problem as it poses a serious reproductive health and development challenge especially in developing countries. In Malaysia, reports have shown that there are increasing numbers of premarital sexual activities and birth outside marriage. Many pregnancies outside marriage are associated with an increased risk of negative health and social outcome for both mother and child that later on contribute to maternal and neonatal morbidities and mortalities. Thus, a more comprehensive research and concrete data regarding the problem is needed.

The Purpose of the Research

The objectives of this study are:

1. To determine the socio-demographic profile of pregnancy among unmarried women.
2. To examine the risk factors influencing of pregnancy among unmarried women and its predictors of pregnancy among unmarried women.
3. To assess the impact of pregnancy outside marriage towards the mothers and their children.
4. To identify the accessibility of women with unmarried pregnancy in Malaysia towards antenatal care.

The Procedure

You will be interviewed by a researcher based on a set of questionnaire consisted of associated factors of unmarried pregnancy, evaluation of quality of life, psychiatric morbidity, social support and coping strategies. Your information on socio-demographic, pregnancy and delivery are also needed. The interview will be done with you in 4 phases: prior to delivery, shortly after delivery, at 6^{th} weeks post partum and 3 months post natal. Every interview session will take about 1 hour.

Patient's responsibility

The participant needs to contact the researcher shortly after delivery or at post natal ward or if there are any changes in contact information.

Benefit and risk

Benefits:

a) To you as the participant

Your participation in this study will provide an understanding of your pregnancy; the risk factor and the outcome of pregnancy as well as your quality of life, psychiatric morbidity, social support and coping strategies.

b) To the researcher

We hope this study will provide baseline data for the health organisation to develop prevention and intervention programme as well as in management of this high risk pregnancy.

Risks:

Participants in this study involve **NO** potential risks. However, in the course of this study, if there is a need for further support, we will provide or refer you to the relevant organisation.

Confidentiality

Your identity, personal particular and medical information in this study will be kept strictly confidential and to the extent permitted by the laws and accessible only to the researchers in this research study. Your medical information may be held and processed on a computer. Data may be reported in scientific journals, but will not include any information that identifies you.

Voluntary participation

Participation in this research is entirely voluntary. Your refusal to participate in this research study will not result in any penalty or loss of any benefits. You can stop participation at any point without losing any of your rights for proper medical treatment. If you want to participate in this study, please sign the attached consent form in duplicate and please provide information requested. You will be given a copy of the Informed Consent Form to keep after the researcher has signed the form as well.

Researcher contact information

Please read the following information carefully and if you have any question about this study or your rights, please contact researcher during working hours at the telephone numbers as below.

Puan Norhasmah Mohd Zain (PhD Candidate)
Medical Education & Research Development Unit (MeRDU)
Faculty of Medicine, University of Malaya, Kuala Lumpur
Phone No.: 019-9913018/017-9479165

Professor Dr. Sarinah Low binti Abdullah/ Low Wah Yun
Medical Education & Research Development Unit (MeRDU)
Faculty of Medicine, University of Malaya, Kuala Lumpur
Phone No.: 03-79675729

Associate Professor Dr. Sajaratulnisah Othman
Department of Primary Care Medicine
Faculty of Medicine, University of Malaya, Kuala Lumpur
Phone No.: 03-79492306

If you need any other information, regarding the Ethical Approval, pleases contact;

Secretariat of Medical Ethics Committee
University of Malaya Medical Centre, Kuala Lumpur
Phone No.: 03-79492306

Puan Mazlita Zainal Abidin
Secretary of Research Ethics Committee (Human) USM
Clinical Sciences Research Platform, USM Health Campus.
Phone No.: 09-767 2355 / 09-767 2352
Email: jepem@kk.usm.my

Medical Research & Ethic Committee
Ministry of Health Malaysia
c/o Institute of Health Management, Kuala Lumpur
Phone No.: 03-22874032
Email: nihsec@nih.gov.my

Signature

To participate in the study, you must sign and date the signature page as attached.

MAKLUMAT KAJIAN

Tajuk Kajian: Kajian kehamilan dan hasil kehamilan di kalangan ibu di Malaysia
Nama Penyelidik: **Norhasmah binti Mohd Zain**
ID Kajian: NMRR-10-901-6800

Pendahuluan

Anda dijemput untuk mengambil bahagian dalam penyelidikan ini di mana dianggarkan penyertaan seramai 248 wanita hamil tidak berkahwin dan berkahwin. Kajian ini dijalankan oleh Fakulti Perubatan, Universiti Malaya, Kuala Lumpur, kerjasama dengan Hospital Universiti Sains Malaysia (HUSM), Hospital Raja Perempuan Zainab II Kota Bharu, Hospital Sultanah Nur Zahirah Kuala Terengganu dan Hospital Tengku Ampuan Afzan Kuantan.

Kehamilan di kalangan wanita tidak berkahwin telah menjadi gangguan masalah kesihatan awam kerana menimbulkan cabaran yang serius dalam pembangunan kesihatan reproduksi terutama di negara sedang membangun. Di Malaysia, laporan telah menunjukkan terdapat peningkatan jumlah aktiviti hubungan seksual luar nikah dan kelahiran luar nikah. Kehamilan luar nikah telah dikaitkan dengan peningkatan risiko kesan negatif dari segi kesihatan dan sosial kepada ibu dan anak yang kemudiannya menyumbang kepada morbiditi dan kematian ibu anak. Dengan itu, kajian yang lebih menyeluruh dan data konkrit mengenai masalah ini diperlukan.

Tujuan Kajian

Objektif kajian ini ialah:

1. Untuk menentukan profil sosio-demografi kehamilan di kalangan wanita yang tidak berkahwin
2. Untuk mengkaji faktor risiko yang mempengaruhi kehamilan di kalangan wanita tidak berkahwin dan prediktor atas kehamilan di kalangan wanita belum berkahwin.
3. Untuk menilai kesan kehamilan luar nikah terhadap ibu dan anak.
4. Untuk mengenalpasti capaian wanita tidak berkahwin yang hamil di Malaysia terhadap perkhidmatan antenatal.

Prosedur

Anda akan ditemubual oleh seorang penyelidik berdasarkan soalan kaji selidik yang merangkumi faktor berkaitan kehamilan luar nikah, penilaian terhadap kualiti hidup, morbiditi psikiatri, sokongan sosial dan strategi menangani masalah. Maklumat anda berkaitan sosio-demografi, kehamilan dan kelahiran juga diperlukan. Anda akan ditemubual pada 4 fasa: sebelum kelahiran, sejurus selepas kelahiran, pada 6 minggu selepas kelahiran dan 3 bulan selepas kelahiran. Setiap temubual mengambil masa selama lebih kurang 1 jam.

Tanggungjawab responden

Responden perlu menghubungi penyelidik sejurus selepas melahirkan bayi semasa di wad pos natal atau jika berlaku perubahan maklumat perhubungan.

Faedah dan risiko

Faedah kajian:

a) Kepada anda sebagai responden

Penyertaan anda dalam kajian ini akan membantu memberikan pemahaman tentang kehamilan anda, faktor risiko dan hasil kehamilan serta kualiti hidup anda, morbiditi psikiatri, sokongan sosial dan strategi menangani masalah.

b) Kepada penyelidik

Kami berharap kajian ini akan memberi satu data asas kepada organisasi berkaitan untuk membentuk programme pencegahan dan intervensi serta pengurusan kehamilan berisiko tinggi.

Risiko:

Penyertaan dalam kajian ini **TIDAK** melibatkan sebarang risiko. Namun dalam programme kajian ini, jika ada keperluan untuk sokongan lebih lanjut, kami akan memberikan atau merujuk anda kepada organisasi yang berkaitan.

Kerahsiaan

Identiti, maklumat peribadi dan maklumat perubatan anda dalam kajian ini akan dirahsiakan dan hanya boleh dicapai oleh para penyelidik dalam kajian ini melainkan jika dikehendaki oleh undang-undang. Maklumat perubatan anda mungkin akan disimpan dalam komputer dan diproses dengannya. Data akan dilaporkan dalam jurnal sains tetapi tidak akan memasukkan maklumat yang mengenalpasti anda secara perseorangan.

Penyertaan dalam kajian

Penyertaan dalam kajian ini adalah secara sukarela. Keenganan anda untuk menyertai kajian ini tidak akan menghasilkan sebarang denda atau kehilangan manfaat. Anda juga boleh berhenti dari kajian ini pada bila-bila masa tanpa kehilangan sebarang hak penjagaan perubatan. Jika anda ingin menyertai kajian ini, sila tandangan borang keizinan dan sila berikan maklumat yang dikehendaki. Anda akan diberi salinan borang maklumat untuk disimpan selepas penyelidik telah menandatanganinya.

Maklumat penyelidik

Sila baca maklumat berikut dengan teliti dan sekiranya anda mempunyai sebarang soalan mengenai prosedur kajian atau hak-hak anda, sila hubungi penyelidik di talian berikut.

Puan Norhasmah Mohd Zain (Pelajar PhD)
Unit Pembangunan Pendidikan dan Penyelidikan Perubatan (MeRDU)
Fakulti Perubatan, Universiti Malaya, Kuala Lumpur
No. Tel: 019-9913018/017-9479165

Professor Dr. Sarinah Low binti Abdullah/ Low Wah Yun
Unit Pembangunan Pendidikan dan Penyelidikan Perubatan (MeRDU)
Fakulti Perubatan, Universiti Malaya, Kuala Lumpur
No. Tel: 03-79675729

Professor Madya Dr. Sajaratulnisah Othman
Jabatan Perubatan Rawatan Utama
Fakulti Perubatan, Universiti Malaya, Kuala Lumpur
No. Tel: 03-79492306

Sekiranya anda memerlukan sebarang maklumat berkaitan kelulusan etika kajian ini, sila hubungi:

Sekretariat Jawatankuasa Etika Perubatan
Pusat Perubatan Universiti Malaya, Kuala Lumpur
No Tel: 03-79493209

Puan Mazlita Zainal Abidin
Setiausaha Jawatankuasa Etika Penyelidikan (Manusia) USM
Pelantar Penyelidikan Sains Klinikal, USM Kampus Kesihatan.
No. Tel: 09-767 2355 / 09-767 2352
Email : jepem@kk.usm.my

Jawatankuasa Etika & Penyelidikan Perubatan
Kementerian Kesihatan Malaysia
d/a Institut Pengurusan Kesihatan, Kuala Lumpur
No. Tel: 03-22874032
Email: nihsec@nih.gov.my

Tandatangan

Untuk menyertai kajian ini, anda atau wakil sah anda mesti menandatangani serta menarikhkan halaman tandatangan yang dilampirkan.

APPENDIX C

(Informed Consent Form)

INFORMED CONSENT FORM

Reseacrh Title: Study on pregnancy and its outcomes among mothers in Malaysia
Researcher's Name: **Norhasmah binti Mohd Zain**
Research ID: NMRR-10-901-6800

To participate in this study, you or your legal representative must sign this page.
By signing this page, I am confirming the following:

- I have read and understood all the information in the Patient Information Sheet for the above study, including information regarding the risk in this study and I have had time to think about it.
- All of my questions have been answered to my satisfaction.
- I may freely choose to withdraw from the study at any time without my medical care or right being affected.
- I understand that information about my progress in this study will be kept securely and confidentially
- I understand that my other health record may need to be looked at by authorized individuals from this study and I give permission to these individual to have access to my records on the understanding that this will be done in confidence.
- I have received a copy of this Patient Information Sheet and Informed Consent Form to keep for myself.
- I voluntarily agree to participate in this study, to follow the study procedure and to provide necessary information to the researcher, as requested.

Name of participants:	I/C No:	Signature:	Date:
Name of researcher:	I/C No:	Signature:	Date:
Name of witness:	I/C No:	Signature:	Date:

BORANG KEIZINAN PESAKIT

Tajuk Kajian: Kajian kehamilan dan hasil kehamilan di kalangan ibu di Malaysia
Nama Penyelidik: **Norhasmah binti Mohd Zain**
ID Kajian: NMRR-10-901-6800

Untuk menyertai kajian ini, anda atau wakil sah anda perlu menandatangani halaman ini. Dengan menandatangani halaman ini, saya telah memastikan perkara berikut:

- Saya telah membaca dan memahami semua maklumat dalam Borang Maklumat Pesakit termasuk maklumat mengenai risiko dalam kajian ini dan saya mempunyai masa untuk berfikir tentang hal itu.
- Semua pertanyaan saya sudah dijawab dan saya berpuas hati dengannya.
- Saya bebas memilih untuk menarik diri dari penyelidikan ini bila-bila masa saja tanpa menjejaskan hak saya dalam rawatan perubatan.
- Saya faham bahawa segala maklumat mengenai perkembangan saya dalam penyelidikan ini akan disimpan dengan selamat dan sulit
- Saya memahami bahawa lain-lain rekod kesihatan saya mungkin perlu dilihat oleh pihak berkuasa dari penyelidikan ini dan saya memberi kebenaran kepada individu tersebut untuk memiliki akses kepada rekod-rekod saya dengan persetujuan bahawa hal ini akan dilakukan secara sulit.
- Saya telah menerima satu salinan Borang Maklumat Pesakit dan Borang Keizinan Pesakit untuk simpanan saya.
- Saya dengan sukarela bersetuju untuk mengambil bahagian dalam penyelidikan ini, mengikuti prosedur kajian dan memberikan maklumat yang diperlukan oleh penyelidik.

Nama peserta:	No K/P:	Tandatangan:	Tarikh:
Nama penyelidik:	No K/P:	Tandatangan:	Tarikh:
Nama saksi:	No K/P:	Tandatangan:	Tarikh:

APPENDIX D

(Questionnaires)

STUDY ON PREGNANCY AND ITS OUTCOMES IN MALAYSIA

QUESTIONNAIRE

For Office Use

ID Number: _____

Registration Number: _____

Enumerator's Name:_____

Please tick √

☐ KB Hospital Raja Perempuan Zainab II, Kota Bharu

☐ KT Hospital Sultanah Nur Zahirah, Kuala Terengganu

☐ KTN Hospital Tengku Ampuan Afzan, Kuantan

☐ USM Hospital Universiti Sains Malaysia, Kota Bharu

Questionnaire completed: Visit 1 ☐ , Visit 2 ☐ , Visit 3 ☐ , Visit 4 ☐

Verified by: _____

Date: _____/_____/_____

Study conducted by
Norhasmah binti Mohd Zain
Medical Education & Research Development Unit
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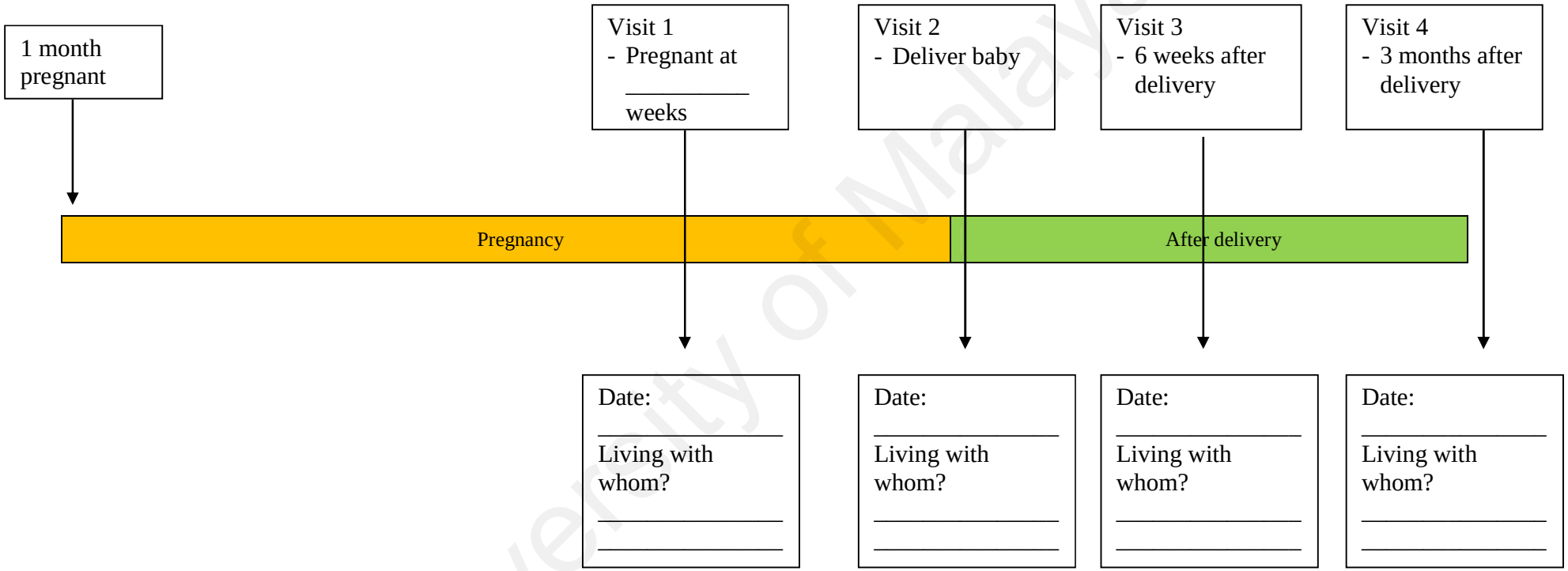
Please fill in the following information.



For mothers who are not married, please provide the following information (if applicable):

a) Date of entry into the shelter: _____
b) Date of discharge from the shelter: _____
c) Please specify what are the activities carried out at the shelter:

i. _____
ii. _____

STUDY ON PREGNANCY AMONG UNMARRIED MOTHERS IN MALAYSIA: ASSOCIATED FACTORS AND OUTCOMES OF PREGNANCY

Thank you for your interest in this project. Your participation is much appreciated. Any information that you provided will be kept strictly anonymous and confidential and used for research purpose only.

Please fill in or tick (**√**) your particulars as deemed appropriate.

SECTION A : SOCIO-DEMOGRAPHIC INFORMATION

FOR OFFICE USE

The following questions are about your general background.

1. When is your birthday? _____/_____/_____ A1☐☐

2. What is your ethnicity? A2☐
   (1) Malay
   (2) Chinese
   (3) Indian
   (4) Others, specify _____

3. What is your religion? A3☐
   (1) Islam
   (2) Christian
   (3) Buddha
   (4) Hindu
   (5) Others, specify_____

4. What is your marital status? A4☐
   (1) Single
   (2) Married, please state date of marriage:_____/_____/_____
   (3) Divorced/ Separated A4a☐
      → Please state date of marriage: _____/_____/_____
      → Please state date of divorced (mm/yyyy): _____/_____
   (4) Widowed,
      → Please state date of marriage: _____/_____/_____
      → Please state date of death of spouse (mm/yyyy): _____/_____
   (5) Cohabitate

5. Where is your place of residence? A5☐
   _____
   (1) Rural
   (2) Urban

6. What is your highest educational level? A6☐
   (1) No formal education
   (2) Primary education
   (3) Lower secondary education (≤ Form 3)
   (4) Upper secondary education (≤ Form 5)
   (5) Form 6/ Certificate/ Diploma
   (6) Tertiary Education (Degree/ Postgraduate)

7. What is your current employment status? A7 ☐
   (1) Employed,
      → Please specify your current job:_____ A7a ☐
      → What is your monthly income? RM _____ per month
   (2) Unemployed
   (3) Student

8. What is your employment status before this pregnancy? A8 ☐
   (1) Employed, please specify your job:_____
   (2) Unemployed A8a ☐
   (3) Student

9. How much is your total household income (per month)? RM _____ per month A9 ☐☐☐☐

10. Who are you currently living with? A10 ☐
   (1) Parents
   (2) Partner/ husband
   (3) Siblings
   (4) Relatives A10a ☐
   (5) Friends
   (6) Alone
   (7) Shelter, **(Please answer information on page 2)**
      → Please state date of entry into the shelter: _____/_____/_____
   (8) Others, specify_____

11. Who are you living with during the past 12 month before this pregnancy? Please specify the period of living with them. *(You can give more than 1 answer)* A11 ☐

	The period of living with them
(1) Parents	
(2) Partner/ husband	
(3) Siblings	
(4) Relatives	
(5) Friends	
(6) Hostel	
(7) Alone	
(8) Others, specify _____	

A11a ☐

SECTION B: FAMILY BACKGROUND

The following questions are about your family background.

1. How old is your **mother**? _____years B1 ☐☐

2. What is your mother's highest educational level? B2 ☐
   (1) No formal education
   (2) Primary education
   (3) Lower secondary education (≤ Form 3)
   (4) Upper secondary education (≤ Form 5)
   (5) Form 6/ Certificate/ Diploma
   (6) Tertiary/ Degree
   (7) Do not know

3. What is your mother's occupation? _____ B3 ☐

4. How old is your **father**? _____years B4 ☐☐

5. What is your father's highest educational level? B5 ☐
   (1) No formal education
   (2) Primary education
   (3) Lower secondary education (≤ Form 3)
   (4) Upper secondary education (≤ Form 5)
   (5) Form 6/ Certificate/ Diploma
   (6) Tertiary/ Degree
   (7) Do not know

6. What is your father's occupation? _____ B6 ☐

7. What is your currently parental marital status? B7 ☐
   (1) Married → ***(Please go to question 8)***
   (2) Single → ***(Please go to question 8)***
   (3) Divorced
   (4) Widow/ widower /partner died
   (5) Separated

   If **divorced/widow/widower/separated**,
   a) Please state since when is the divorce/ death/ separation occurs? (mm/yyyy) B7a ☐☐
   _____

   b) Who are you staying with after your parents were divorced/widow/widower/separated? B7b ☐
   _____

8. How many siblings do you have including yourself? B8 ☐☐
   _____persons

9. Who are the people currently living in your household?

Family members	Number of persons
(1) Parents	
(2) Partner/ Spouse	
(3) Siblings - Male - Female	_____ _____
(4) Children (own children)	
(5) Grandparent	
(6) Others, specify _____	
(7) Others, specify _____	

B9a ☐
B9b ☐
B9c ☐
B9d ☐
B9e ☐
B9f ☐
B9g ☐

10. How many of your immediate family members have finished secondary education?
_____

B10 ☐☐

11. The following questions are about any current or past incidence of physical violence within your family. Please tick (√) for the following statement:

(Example of physical violence: slapped, thrown something, shoved, pulled hair, hit with his fist or something else, kicked, beaten up, dragged, choked or burnt on purpose, threatened or used weapon against other people)

	Yes$_1$	No$_2$
a) Has your father ever abused you?		
b) Has your mother ever abused you?		
c) Has your father ever abused your mother?		
d) Has your father ever abused your siblings?		
e) Has your mother ever abused your siblings?		

B11a ☐
B11b ☐
B11c ☐
B11d ☐
B11e ☐

12. The following questions ask about your relationship with your parents? Please tick (√) for the statement below.

Relationship with parents	Strongly disagree$_1$	Disagre$_2$	Agree$_3$	Strongly agree$_4$	
a) You are close to your **mother**?					B12a
b) You feel happy that you could talk to your mother?					B12b
c) You enjoy spending time with mother?					B12c
d) You can share your problems with mother?					B12d
e) You like to ask opinion from your mother about anything you care?					B12e
f) You always get all the support needed from your mother?					B12f
g) You are close to your **father**?					B12g
h) You feel happy that you could talk to your father?					B12h
i) You enjoy spending time with father?					B12i
j) You can share your problems with father?					B12j
k) You like to ask opinion from your father about anything you care?					B12k
l) You always get all the support needed from your father?					B12l

13. How do you rate your parent's strictness on the following matters?

	Father				**Mother**				
	Not strict at all$_1$	Neutral$_2$	Strict$_3$	Very strict$_4$	Not strict at all$_1$	Neutral$_2$	Strict$_3$	Very strict$_4$	
a) Your behavior									B13a
b) Your self-discipline									B13b
c) Your religious practice									B13c
d) Your performances in school/ college/ university									B13d
e) Your activities that you are involve in									B13e
f) Your fashion, style or appearance									B13f
g) The friends you have									B13g
h) Punishment if you did something wrong									B13h

14. Do you ask for permission from your parents or guardian when you….

	Not applicable$_0$	Don't ask for permission$_1$	Let them know$_2$	As for permission$_3$	
a) Choose your school or course					
b) Choose your work/ job					B14a
c) Choose your outdoor activities					B14b
d) Buy your clothes, groceries, stationeries or toiletries					B14c
e) Go to mosque/ temple/ church					B14d
f) Go for shopping					B14e
g) Go for a movie/ fair					B14f
h) Go for travelling/ camping/ picnic with friends					B14g
i) Go out till late night					B14h
j) Put up a night with your friends					B14i
k) Go out on a date with boy friend					B14j
					B14k

SECTION C: PEER AND COMMUNITY INFLUENCE

The following questions are about your friends and your participation in the community.

1. How many friends do you have? (Close friends to share your thought, feelings, problem and the one that you feel comfortable with): _____person C1☐☐

2. How often do you see, talk to or have interaction with your friend(s)? C2☐
   (1) Every day or nearly everyday
   (2) At least once a week
   (3) At least once a month
   (4) Never

3. Are your friends involved with any of these activities?

Activities	Yes$_1$	No$_2$	
a) Taking drugs (e.g. marijuana/ heroin/ cocaine/ pill ecstasy)			C3a☐
b) Sniffing glue			C3b☐
c) Smoking cigarette			C3c☐
d) Consume alcohol			C3d☐
e) Watching pornographic film			C3e☐
f) Premarital sexual activity			C3f☐
g) Unmarried pregnancy			C3g☐

4. Who would be the MOST LIKELY for you to discuss the following matters?

	Never discuss$_0$	Peers$_1$	Parents$_2$	Siblings$_3$	Partner$_4$	Other$_5$	
a) School matters							C4a☐
b) Work / job							C4b☐
c) Family problems							C4c☐
d) Peer problems							C4d☐
e) Health matters							C4e☐
f) Religious matters							C4f☐
g) Relationship with opposite sex							C4g☐
h) Sexual development (physical changes, menstruation)							C4h☐
i) Sexual health issue (HIV/AIDS, pregnancy, breast health)							C4i☐
j) Sexual urge/ desire/ interest							C4j☐
k) Others, specify_____							C4k☐

5. Who will you contact first when you experience any problems? C5☐
   (1) Friends
   (2) Parents
   (3) Siblings
   (4) Partner/ spouse
   (5) Others, specify _____

6. Have you ever joined any group/ organization/ association? C6☐
   (1) Yes (2) No → ***(Please go to question 8)***

7. If **YES**, what kind of group/ organization/ association?

   7b. How often do you attend this group/ organization/ association? *(Please tick frequencies for a group/ organization/ association that were joined only)*

Group/ Organization/ Association	At least once a week$_1$	At least once a month$_2$	At least once or twice a year$_3$	
a) Political/ Civic/ Union				C7a☐
b) Social work/ Charitable				C7b☐
c) Crafts/ Arts/ Sports				C7c☐
d) Women's organization				C7d☐
e) Religious organization				C7e☐
f) Others, specify _____				C7f☐

8. How often you attend any religious activity in mosque/ church/ temple? C8☐
   (1) Every day or nearly everyday
   (2) At least once a week
   (3) At least once a month
   (4) At least once or twice a year
   (5) Never

9. How important is your religion to you? C9☐
   (1) Extremely important
   (2) Fairly important
   (3) Not at all important

10. Does your religious belief influence your attitudes towards sexual matters? C10☐
    (1) A great deal
    (2) Sometimes
    (3) Not at all

11. Have you ever obtained information about reproductive and sexual health? (Such as pregnancy/ sexually transmitted disease/ HIV/AIDS/ family planning/ sex education) C11☐
    (1) Yes (2) No → ***(Please go to question 13)***

12. If **YES,** where do you get information about reproductive and sexual health?

12b. How often do you get the information during your life time? *(Please tick frequencies for a source of information that available only)*

Sources of information	Once or twice$_1$	A few times (3-5 times)$_2$	Many times (> 5 times)$_3$	
a) Health professionals (doctor, nurse etc)				C12a ☐
b) Teachers/ Counselors				C12b ☐
c) Sexual and reproductive educational information/materials				C12c ☐
d) Mass media (TV, radio, newspaper, magazine)				C12d ☐
e) Internet				C12e ☐
f) Family members				C12f ☐
g) Friends				C12g ☐
h) Others, specify _____				C12h ☐

13. Have you ever attended any seminar or courses related to reproductive and sexual health?

Seminars/ Courses	Yes$_1$	No$_2$	
a) Pregnancy/ fertility			C13a ☐
b) Family planning/ contraceptive			C13b ☐
c) Abortion			C13c ☐
d) HIV/AIDS/Sexual Transmitted Diseases			C13d ☐
e) Sex education			C13e ☐
f) Breast cancer/ breast health/ mammography			C13f ☐
g) Cervical cancer/ Pap smear			C13g ☐
h) Ovarian cancer			C13h ☐
i) Others, specify _____ _____			C13i ☐

14. Generally, how do you rate yourself on knowledge of reproductive and sexual health? C14 ☐
(1) Very knowledgeable
(2) Average
(3) No knowledge at all

SECTION D : PARTNER PROFILE (FATHER OF THE BABY)

The following questions are about the father of the baby.

1. Do you know the father of this baby? D1☐
   (1) Yes (2) No → ***(Please go to question 8)***

2. How old is your spouse/ partner/ father of this baby? _____years D2☐

3. What is the highest educational level of your spouse/ partner/ father of this baby? D3☐
   (1) No formal education
   (2) Primary education
   (3) Lower secondary education (≤ Form 3)
   (4) Upper secondary education (≤ Form 5)
   (5) Form 6/ Certificate/ Diploma
   (6) Tertiary/ Degree
   (7) Do not know

4. What is the employment status of your spouse/ partner/ father of this baby? D4☐
   (1) Employed, please specify the job:_____
   (2) Unemployed
   (3) Student

For MARRIED MOTHERS, please go to question 8

5. How long did you know your partner/ father of this baby? _____years/ month D5☐

6. Do your partner/ father of this baby know about this baby and your pregnancy? D6☐
   (1) Yes (2) Do not know → **(*Please go to question 8)***

7. Does your partner/ father of this baby want this baby to be born and to look after the baby with you? D7☐
   (1) He wants this baby born and to look after the baby with me
   (2) He wants this baby born but do not want to look after the baby
   (3) He does not want this baby
   (4) He does not acknowledge this baby
   (5) He does not want to know about this baby
   (6) Others, specify _____

8. What is your current relationship status with spouse/ partner/ father of this baby? D8☐
   (1) Still in contact/ Good relationship
   (2) No longer in contact
   (3) Disappeared /Cannot be contacted
   (4) No relationship at all
   (5) Others, specify_____

9. Did your spouse/ partner/ father of this baby ever physically force you to have sexual intercourse when you did not want to? D9☐
   (1) Yes (2) No

SECTION E : RISKY BEHAVIOR AND SEXUAL BEHAVIOR

I would now like to ask a few sensitive questions about your risky behavior which relate to the pregnancy.

1. Do you smoke cigarettes? E1☐
   (1) Yes, currently smoking
   (2) No, but ex-smoker
   (3) No, I am non smoker → ***(Please go to question 2)***

   a) If **currently smoking and been ex-smoker**, how many cigarettes did you smoke?
      i. Every day or nearly everyday
         → specify how many cigarettes? _____ E1a☐
      ii. At least once a week
         → specify how many cigarettes? _____ E1i☐
      iii. At least once a month
         → specify how many cigarettes? _____
      iv. A little of the time
      v. Others, specify _____ E1b☐

   b) How long have you been smoking? _____years _____month E1c☐

   c) If you are ex-smoker, how long have you stopped? _____

2. Do you consume alcohol? E2☐
   (1) Yes
   (2) No, but ex-drinker
   (3) No, never drink → ***(Please go to question 3)***

   If **YES and been ex-drinker**, how often do you drink alcohol? E2a☐
   (1) Every day or nearly everyday
   (2) At least once a week
   (3) At least once a month
   (4) Occasionally, less than once a month
   (5) Others, specify _____

3. Have you ever had involve with substance abuse during your life time (such as marijuana/ heroin/ syabu/ ecstasy/ codeine/ sniffing glue)? E3☐
   (1) Yes (2) No → ***(Please go to question 4)***

   If **YES**, please specify type of drugs and mode of taking drugs (injection, sucking, etc)

Type of drugs	Mode of taking drugs
i.	
ii.	
iii.	

4. Have you ever been involved with this kind of activities?

	Yes$_1$	No$_2$	
a) Watching pornographic film			E4a
b) Premarital sexual activity			E4b
c) Unnatural sex			E4c
d) Others, specify _____			E4d

5. During this pregnancy, did you smoke any cigarette or use tobacco? E5
(1) Yes (2) Occasionally (3) Not at all

6. During this pregnancy, did you consume any alcoholic drinks? E6
(1) Yes (2) Occasionally (3) Not at all

7. During this pregnancy, did you take any drugs (e.g marijuana/ heroin/ syabu/ ecstasy/ sniffing glue)? E7
(1) Yes (2) Occasionally (3) Not at all

8. Have you ever had been abuse sexually before this pregnancy / during childhood? E8
(1) Yes (2) No → ***(Please go to question 9)***

If **YES**, who did it to you? E8a
(1) Family members
(2) Boyfriends/ partner
(3) Relatives
(4) Friends
(5) Neighbors
(6) Others, specify _____
(7) Unknown

9. At what age did you begin menstruation/ period?_____ years old E9

10. At what age did you had first sexual experience with a man? _____ years old E10

11. Have you ever had sexual transmitted disease (STD)? E11
(1) Yes (2) No (3) Unknown / not tested

12. Did you have HIV/AIDS? E12
(1) Yes (2) No (3) Unknown / not tested

For MARRIED MOTHERS, please direct to Section M

13. In your lifetime, how many sexual partner have you had? E13
(1) 1 person → ***(Please go to question 15)***
(2) 2 person
(3) 3 person
(4) 4 person
(5) 5 or more person
(6) None → ***(Please go to question 20)***

14. During the past 12 month, how many sexual partner have you had? _____ person E14☐

15. What are your reasons for being involved with premarital sexual activity? (*You can give more than 1 answer)* E15b☐
(1) Self-satisfaction c☐
(2) Material gain d☐
(3) Peer influence e☐
(4) Promise of marriage f☐
(5) Proof of love g☐
(6) Experimentation h☐
(7) Coercion/ rape
(8) Others, specify _____

16. Generally, your participation in sexual intercourse are, E16☐
(1) Voluntary
(2) Persuaded
(3) Coerced

17. Were you concern of getting pregnant when you had sexual intercourse? E17☐
(1) Yes (2) No

18. Have you or your partner used any method to prevent pregnancy when you had sexual intercourse?
(*You can give more than 1 answer)*

→ ***From question 6, section F (For married mothers)*** – Since you do not plan to become pregnant this time, did you and your spouse use any method of contraception before this pregnancy? (Y*ou can give more than 1 answer)*

E18☐☐☐☐

(1) Birth control pills
(2) Condoms
(3) Injectable birth control
(4) Implant
(5) Intra uterine device (IUD)
(6) Withdrawal
(7) Others, specify _____
(8) None

19. How consistent were you using the method when you had sexual intercourse? E19☐
(1) Every time (2) Frequently (3) Seldom use (4) Never use

20. Since you do not have any sexual partner, could you please tell us what had happened to you till you becomes pregnant? E20☐
_____

21. Did you recognize the perpetrator? E21☐
(1) Yes (2) No

22. Did you report this matter to police/ hospital or related party? E22☐
(1) Yes
(2) No, please specify why _____
_____

SECTION F: PREGNANCY DETAILS

The following questions are about your current pregnancy.

1. Have you ever been pregnant before? F1☐
   (1) Yes (2) No → ***(Please go to question 5)***

2. This is the _____ pregnancy F2☐

3. How many children do you have (before this pregnancy)? _____ person F3☐

4. Have you ever had a miscarriage or undergone an abortion before? F4☐ F4a☐ F4b☐
   (1) Yes, please specify how many times;
   → miscarriage: _____
   → abortion: _____
   (2) Never

5. Expected date of this delivery (dd/mm/yyyy)? _____/_____/_____ F5☐

6. Was this pregnancy planned? F6☐
   (1) Yes (2) No → ***(For married mothers, please answer question 16,17 section L)***

For MARRIED MOTHERS, please go to question 11

7. How did you know that you are pregnant? F7☐
   (1) Aware after missing 1st & 2nd menstrual periods
   (2) Aware after missing between 3 to 4 month of menstrual periods
   (3) Aware of physiological changes during pregnancy e.g. swelling breast/changes color of skin/peeing more than usual/sensitive nipples
   (4) Others, specify _____

8. How did you feel when you first knew that you are pregnant? *(You can give more than 1 answer)* F8☐ b☐ c☐ d☐ e☐ f☐ g☐ h☐
   (1) Happy
   (2) Shock
   (3) Angry
   (4) Hopeless
   (5) Frightened
   (6) Confused
   (7) Others, specify_____

9. What have you done initially when you know you are pregnant? (*You can give more than 1 answer)* F9☐ b☐ c☐ d☐ e☐
   (1) I accept the pregnancy
   (2) I have use folk remedies to abort it
   (3) I had go for abortion in clinic
   (4) I had make a plan to attempt suicide
   (5) Others, specify_____

10. What is your family reaction towards the pregnancy*? (You can give more than 1 answer)* F10 b c d e f g h
    (1) Chase me away from home
    (2) Sent me to a place where you are not known
    (3) My family move to another place where they are not known
    (4) Force me into marriage
    (5) Accept the pregnancy
    (6) My family does not know about the pregnancy
    (7) Others, specify_____

11. Did you go for antenatal care/services at health center? F11
    (1) Yes (2) No → **(*Please go to question 17)***

12. Where do you get the antenatal care/services? F12
    (1) Government Hospital
    (2) Health Clinic
    (3) Private Hospital
    (4) Private Clinic

    12b. Please state name of the place:
    _____

13. How many month were you pregnant when you first present to a health facility (either for an antenatal care or to confirm this pregnancy)? F13
    (1) Month 1 to 3, specify _____
    (2) Month 4 to 6, specify _____
    (3) Month 7 to 9, specify _____

14. Which health facility did you go for your first antenatal care or to confirm this pregnancy? F14
    (1) Government Hospital
    (2) Health Clinic
    (3) Private Hospital
    (4) Private Clinic
    (5) Others, specify _____

15. Who brought you for your first antenatal care at the health facility? F15
    (1) Alone
    (2) My family members
    (3) My partner/spouse
    (4) My relatives
    (5) My friends
    (6) Warden of shelter home
    (7) Others, specify _____

16. Who brought you for every antenatal care at health facility? F16
    (1) Alone
    (2) My family members
    (3) My partner/spouse
    (4) My relatives
    (5) My friends
    (6) Warden of shelter home
    (7) Others, specify _____

17. Why did you not go for any antenatal care at clinic? *(You can give more than 1 answer)*
(1) I am embarrass for being pregnant outside a marriage
(2) I am afraid of being scolded by doctor and nurses
(3) I think antenatal care is not important
(4) Nobody advice me for antenatal care
(5) Nobody can bring me for antenatal care
(6) I received services from a traditional birth attendant
(7) Others, specify _____

F17a ☐ b ☐ c ☐ d ☐ e ☐ f ☐ g ☐

18. Did you experience any of the following problems during this pregnancy?

	Problems	Yes$_1$	No$_2$
a)	Ante Partum Hemorrhage (any per vaginal bleeding during pregnancy)		
b)	Intra Uterine Growth Retardation (poor growth of the baby)		
c)	Diabetes		
d)	Hypertensive disorder of pregnancy		
e)	Decreased fetal movement		
f)	Multiple pregnancies		
g)	Anemia (inadequate red blood cells)		
h)	Urinary Tract Infection		
i)	Sexual Transmitted Infection		
j)	Poor weight gain		
k)	Others, specify_____		
l)	Unknown		

F18 ☐ b ☐ c ☐ d ☐ e ☐ f ☐ g ☐ h ☐ i ☐ j ☐ k ☐ l ☐

19. Did you receive any support from your **partner/spouse** during pregnancy?
(1) Yes (2) No → **(*Please go to question 20*)**

F19

19a. If **YES**, what kind of support you get from your **partner/spouse** during pregnancy? *(You can give more than 1 answer)*
(1) Prepare all the baby stuff e.g. clothes, diapers, bottle and etc
(2) Prepare good diet/ supplement/ vitamin for me
(3) Help me with household work
(4) Advice me on antenatal care
(5) Bring me to clinic/ hospital
(6) Others, specify_____

☐ a1 ☐ a2 ☐ a3 ☐ a4 ☐ a5 ☐

20. Did you receive any support from your **family** during pregnancy? F20 ☐
(1) Yes (2) No → ***(Please go to question 21)***

20a. If **YES**, what kind of support you get from your **family** during pregnancy*? (You can give more than 1 answer)*
a1 ☐ a2 ☐ a3 ☐ a4 ☐ a5 ☐
(1) Prepare all the baby stuff e.g. clothes, diapers, bottle and etc
(2) Prepare good diet/ supplement/ vitamin for me
(3) Help me with household work
(4) Advise me on antenatal care
(5) Bring me to clinic/ hospital
(6) Others, specify_____

21. Did you receive any support from your **friends** during pregnancy? F21
(1) Yes (2) No → **(*Please go to question 22*)**

21a. If **YES,** what kind of support you get from your **friends** during pregnancy? *(You can give more than 1 answer)*
a1 ☐ a2 ☐ a3 ☐ a4 ☐ a5 ☐
(1) Prepare all the baby stuff e.g. clothes, diapers, bottle and etc
(2) Prepare good diet/ supplement/ vitamin for me
(3) Help me with household work
(4) Advise me on antenatal care
(5) Bring me to clinic/ hospital
(6) Others, specify_____

For MARRIED MOTHERS, please go to question 24

22. Did your partner/ father of this baby give financial support during this pregnancy? F22 ☐
(1) Yes, once or twice
(2) Yes, few times (3-5 times)
(3) Yes, many times (more than 5 times)
(4) No support at all → ***(Please go to question 23)***

22b. Please specify what kind of financial support he gave and the amount that he gave? (such as cash, payment for hospital bill, gave cheque etc)
_____
_____

23. Who give financial support to you during this pregnancy? *(You can give more than 1 answer)* F23a ☐ F23b ☐ F23c ☐ F23d ☐ F23e ☐ F23f ☐
(1) My parents
(2) My siblings
(3) My relatives
(4) My friends
(5) My partner/ father of this baby
(6) Others, specify _____
(7) No support at all → ***(Please go to question 24)***

23b. Please specify what kind of financial support they gave and the amount that they gave? (such as cash, payment for hospital bill, buy household groceries etc)
_____
_____

24. What is your plan for the baby after the birth of your child? F24☐
(1) I want to look after the child
(2) I want to give to family/ relatives to look after
→ please specify who? _____
(3) I want to give the child up for adoption
(4) I want to get married with my partner and look after the child
(5) I do not know
(6) Others, specify_____

25. Has this pregnancy affected your job/study? F25a☐
(1) Yes (2) No → ***(Please go to question 26)***

If **YES**, in what way? F25b☐
(1) I have lost my job/ I have stopped working
(2) I have changed my job to another place
(3) I have been changed to another department/ scope of job
(4) I have stopped studying
(5) I have changed my study to another place
(6) I have delayed my study for a period of time
(7) Others, specify_____

26. Has this pregnancy affected your income? F26☐
(1) Yes (2) No (3) Not applicable

27. Did you face financial problem due to your pregnancy? F27☐
(1) Yes (2) No → ***(Please go to section G)***

I**f YE**S, what financial problem have you had? (Such as borrow money from friends, sale of properties)
_____
_____

Information on the Section M must be referred to the Patient Medical Record/ Health Card
Name of enumerator: _____
Date/ time: _____ / _____

SECTION G: DELIVERY DETAILS

1. Total number of attendance to antenatal care: _____ G1☐☐

2. Date of delivery (dd/mm/yyyy): _____/_____/_____ G2☐☐☐☐

3. Delivery is at : _____weeks pregnant G3☐☐

4. Mode of delivery: G4☐
   (1) Vaginal
   (2) Instrumental:
      (2a) Vacuum
      (2b) Forceps
   (3) Caesarean:
      (3a) Elective
      (3b) Emergency
   (4) Others, specify _____

5. Place of delivery: G5☐
   (1) Government Hospital
   (2) Health Clinic
   (3) Home
   (4) Others, specify _____

6. Outcome of pregnancy: G6☐
   (1) Alive → ***(please go to question 7)***
   (2) Dead :
      (2a) Macerated stillbirth (≥500g or ≥22 weeks gestation)
      (2b) Fresh stillbirth (≥500g or ≥22 weeks gestation)

   6a. If DEAD, please specify
   a) Date of death: _____
   b) Time of death: _____

7. Weight of baby: _____kg G7☐☐☐

8. Apgar score at 1 min (1-10): _____ G8☐☐

9. Apgar score at 5 min (1-10): _____ G9☐☐

10. Admitted to special care unit: G10☐
    (1) Yes (2) No

11. Please specify if baby have any abnormal condition: G11☐
_____

12. Did the baby have any of the following complications? G12☐
(1) Asphyxia
(2) Meconium aspiration syndrome
(3) Shoulder dystocia
(4) Birth injuries, specify _____
(5) Others, specify _____
(6) None

13. Did the mother have any of the following intra-partum complications? G13☐
(1) Fetal distress
(2) Cord prolapsed
(3) Maternal prolapsed
(4) Pyrexia
(5) Eclampsia
(6) Retained placenta
(7) Prolonged labor
(8) Intrapartum hemorrhage
(9) Others, specify _____
(10) None

14. Length of stay of this mother in the ward;

If the mother has been warded before delivery, please state the date of admission to the ward, discharge from the ward and the problems.

a) Antenatal ward :

Date of admission	Date of discharge	Problems
i.		
ii.		
iii.		

G14a☐☐

Please specify date of admission to the ward/ labor room and date of discharge from the ward for delivery and length of stay in the ward.

b) Antenatal ward/ labor room/ post-natal ward : _____ days G14b☐☐
→ date of admission to the ward, _____
→ date of discharge from the ward, _____

15. What is your plan for your baby? G15☐
(1) I want to look after the child
(2) I want to give to family/ relatives to look after
→ please specify who? _____
(3) I want to give the child up for adoption
(4) I want to get married with my partner and look after the child
(5) I do not know
(6) Others, specify_____

SECTION H: OTHER IMPACT

The following questions ask about impact that you experienced after delivery this time.

1. Who is taking care of your child now? H1☐
   (1) I gave to my family/ relatives to look after
   → Please specify who _____
   (2) I gave the child up for adoption
   (3) I look after the child by self
   (4) I got married and look after the child with my partner
   (5) The child is dead
   → please specify
   a) Date of death: _____
   b) Time of death: _____
   (6) Others, specify _____

2. What are you doing now? H2☐
   (1) Go back to work
   (2) Go back to school/ college/ university
   (3) Stay at home
   (4) Others, specify _____

3. Did you experience any medical problem after the delivery of your baby? H3☐
   (1) Yes, specify _____
   (2) No

4. The following question asked how you feel about your physical and any changes that may have resulted from your pregnancy. Please answer which come closest to the way you have been feeling about yourself.

Changes	Not at all$_1$	A little$_2$	Quite a bit$_3$	Very much$_4$	
a) Have you felt less physically attractive as a result of your pregnancy?					H4a☐
b) Have you been feeling less sexually attractive as a result of your pregnancy?					H4b☐
c) Have you been feeling less energetic as a result of your pregnancy?					H4c☐
d) Have you been feeling more energetic as a result of your pregnancy?					H4d☐
e) Have you been dissatisfied with your body and appearance as a result of your pregnancy??					H4e☐
f) Have you been feeling the pregnancy has left your body less whole?					H4f☐

5. Has this pregnancy affected your job/study? H5☐
(1) Yes (2) No → ***(Please go to question 5)***

If **YES**, in what way? H5a☐
(1) I have lost my job/ I have stopped working
(2) I have changed my job to another place
(3) I have been changed to another department/ scope of job
(4) I have stopped studying
(5) I have changed my study to another place
(6) I have delayed my study for a period of time
(7) Others, specify_____

6. Has this pregnancy affected your income? H6☐
(1) Yes (2) No

7. Did you face financial problem due to your pregnancy? H7☐
(1) Yes (2) No → **(*Please go to section G3*)**

I**f YE**S, what financial problem have you had? (such as borrow money from friends, sale of properties)
_____
_____

SECTION I : MULTIDIMENSIONAL SCALE OF PERCEIVED SOCIAL SUPPORT (MSPSS)

We are interested in how you feel about the following statements. We will read each statement for you and please tell us how you feel about each statement.

1	2	3	4	5	6	7
Very strongly disagree	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Very strongly agree

1.	There is a special person who is around when I am in need.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I1 ☐
2.	There is a special person with whom I can share my joys and sorrows.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I2 ☐
3.	I have special person who is a real source of comfort to me.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I3 ☐
4.	There is a special person in my life that cares about my feelings.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I4 ☐
5.	My family really tries to help me.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I5 ☐
6.	I get the emotional help and support I need from my family.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I6 ☐
7.	I can talk about my problem with my family.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I7 ☐
8.	My family is willing to help me to make decisions.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I8 ☐
9.	My friends really try to help me.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I9 ☐
10.	I can count on my friends when things go wrong.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I10 ☐
11.	I have friends with whom I can share my joys and sorrows.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I11 ☐
12.	I can talk about my problem with my friends.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I12 ☐

Section J: YOUR HEALTH AND WELL-BEING

This questionnaire asks for your views about your health. This information will help keep track of how you feel and how well you are able to do your usual activities.
Thank you for completing this survey!

For each of the following questions, please mark an ☒ in the one box that best describes your answer..

1. In general, would you say your health is:

Excellent	Very Good	Good	Fair	Poor
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. The following questions are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

		Yes, limited a lot	Yes, limited a little	No, not limited at all
a	Moderate activities, such as moving a table, sweeping, playing badminton, or gardening	☐ 1	☐ 2	☐ 3
b	Climbing several flights of stairs	☐ 1	☐ 2	☐ 3

3. During the <u>past 4 weeks</u>, how much of the time have you had any of the following problems with your work or other regular activities <u>as a result of your physical health</u> ?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a <u>Accomplished less</u> than you would like	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Were limited in the <u>kind</u> of work or other activities	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

4. During the <u>past 4 weeks</u>, how much of the time have you had any of the following problems with your work or other regular activities as a result of any emotional problems (such as feeling depressed and being anxious)?

	All of the time	Most of the time	Some of the time	A little of the time	None of the time
a <u>Accomplished less</u> than you would like	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Did work or other activities less carefully than usual	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

5. During <u>the past 4 weeks</u>, how much did <u>pain</u> interfere with your normal work (including both work outside the home and housework)?

Not at all	A little bit	Moderately	Quite a bit	Extremely
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

6. This questions are about how you feel and how things has been with you <u>during the past 4 weeks</u>. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the <u>past 4 weeks</u>…

		All of the time	Most of the time	Some of the time	A little of the time	None of the time
		▼	▼	▼	▼	▼
a	Have you felt calm and peaceful?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b	Did you have a lot of energy?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c	Have you felt downhearted and depressed?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

7. During the past 4 weeks, how much of the time has your physical health and emotional problem interfered with your social activities (like visiting friends, relatives, etc)?

All of the time	Most of the time	Some of the time	A little of the time	None of the time
▼	▼	▼	▼	▼
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Thank you for completing these questions!

SECTION K : GENERAL HEALTH QUESTIONNAIRE GHQ-12

We would like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks. Please answer ALL the question simply by underlining the answer which you think most nearly applies to you.
Remember that we want to know about present and recent complaints, not those you had in the past. It is important that you try to answer ALL the questions.
Thank you for your cooperation.

HAVE YOU RECENTLY:

1.	Been able to concentrate on whatever you're doing?	(1) More than usual	(2) No more than usual	(3) Less than usual	(4) Much less than usual K1 ☐
2.	Lost much sleep over worry?	(1) Not at all	(2) No more than usual	(3)More than usual	(4) Much more than usual K2 ☐
3.	Felt that you are playing a useful part in things?	(1) More than usual	(2) No more than usual	(3) Less than usual	(4) Much less than usual K3 ☐
4.	Felt capable of making decision about things?	(1) More than usual	(2) No more than usual	(3) Less than usual	(4) Much less than usual K4 ☐
5.	Felt constantly under strain?	(1) Not at all	(2) No more than usual	(3) More than usual	(4) Much more than usual K5 ☐
6.	Felt you couldn't overcome your difficulties?	(1) Not at all	(2) No more than usual	(3) More than usual	(4) Much more than usual K6 ☐
7.	Been able to enjoy your normal day-to-day activities?	(1) More than usual	(2) No more than usual	(3) Less than usual	(4) Much less than usual K7 ☐
8.	Been able to face up to your problems?	(1) More than usual	(2) No more than usual	(3) Less than usual	(4) Much less than usual K8 ☐
9.	Been feeling unhappy and depressed?	(1) Not at all	(2) No more than usual	(3) More than usual	(4) Much more than usual K9 ☐
10.	Been losing confidence in yourself?	(1) Not at all	(2) No more than usual	(3) More than usual	(4) Much more than usual K10 ☐
11.	Been thinking of yourself as a worthless person?	(1) Not at all	(2) No more than usual	(3) More than usual	(4) Much more than usual K11 ☐
12.	Been feeling reasonably happy, all things considered?	(1) More than usual	(2) No more than usual	(3) Less than usual	(4) Much less than usual K12 ☐

SECTION L : MEDICAL OUTCOME STUDY (MOS) SOCIAL SUPPORT

1. How many close friends or relatives do you have (those that you feel comfortable with and to express what come to your mind)?
State number of your friends or relatives you have: _____ person L1☐☐

People sometimes look into others for companionships, assistance, or other types of support. How often is each of the following kinds of support available to you if you need it? Circle one number on each line.

		None of the time	A little of the time	Some of the time	Most of the time	All of the time	
2.	Someone you can count on to listen to you when you need to talk	(0)	(1)	(2)	(3)	(4)	L2☐
3.	Someone to give you information to help you understand a situation	(0)	(1)	(2)	(3)	(4)	L3☐
4.	Someone to give you good advice about a crisis	(0)	(1)	(2)	(3)	(4)	L4☐
5.	Someone to confide in or talk to about yourself or your problems	(0)	(1)	(2)	(3)	(4)	L5☐
6.	Some whose advice you really want	(0)	(1)	(2)	(3)	(4)	L6☐
7.	Someone to share your most private worries and fear with	(0)	(1)	(2)	(3)	(4)	L7☐
8.	Someone to turn to for suggestions about how to deal with a personal problem	(0)	(1)	(2)	(3)	(4)	L8☐
9.	Someone who understands your problems	(0)	(1)	(2)	(3)	(4)	L9☐
10.	Someone to help you if you were confined to bed	(0)	(1)	(2)	(3)	(4)	L10☐
11.	Someone to take you to the doctor if you needed it	(0)	(1)	(2)	(3)	(4)	L11☐
12.	Someone to prepare your meals if you were unable to do it yourself	(0)	(1)	(2)	(3)	(4)	L12☐
13.	Someone to help with daily chores if you were sick	(0)	(1)	(2)	(3)	(4)	L13☐
14.	Someone who shows you love and affection	(0)	(1)	(2)	(3)	(4)	L14☐
15.	Someone to love and make you feel wanted	(0)	(1)	(2)	(3)	(4)	L15☐
16.	Someone who hugs you	(0)	(1)	(2)	(3)	(4)	L16☐
17.	Someone to have a good time with	(0)	(1)	(2)	(3)	(4)	L17☐
18.	Someone to get together with for relaxation	(0)	(1)	(2)	(3)	(4)	L18☐
19.	Someone to do something enjoyable with	(0)	(1)	(2)	(3)	(4)	L19☐
20.	Someone to do things with to help you get your mind off things	(0)	(1)	(2)	(3)	(4)	L20☐

SECTION M : EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)

As you are pregnant now, we would like to know how you are feeling. Please check the answer that comes closest to how you have felt in the past 7 days, not just how you feel today.

1. I have been able to laugh and see the funny side of things. M1
   - (1) As much as I always could 0 ☐
   - (2) Not quite so much now 1
   - (3) Definitely not so much now 2
   - (4) Not at all 3

2. I have looked forward with enjoyment to things. M2
   - (1) As much as I ever did 0 ☐
   - (2) Rather less than I used to 1
   - (3) Definitely less than I used to 2
   - (4) Hardly at all 3

3. I have blamed myself unnecessarily when things went wrong. M3
   - (1) Yes, most of the time 3 ☐
   - (2) Yes, some of the time 2
   - (3) Not very often 1
   - (4) No, never 0

4. I have been anxious or worried for no good reason. M4
   - (1) No, not at all 0 ☐
   - (2) Hardly ever 1
   - (3) Yes, sometimes 2
   - (4) Yes, very often 3

5. I have felt scared or panicky for no very good reason. M5
   - (1) Yes, quite a lot 3 ☐
   - (2) Yes, sometimes 2
   - (3) No, not much 1
   - (4) No, not at all 0

6. Things have been getting on top of me. M6
   - (1) Yes, most of the time I haven't been able to cope at all 3 ☐
   - (2) Yes, sometime I haven't been coping as well as usual 2
   - (3) No, most of the time I have coped quite well 1
   - (4) No, have been coping as well as ever 0

7. I have been so unhappy that I have had difficulty sleeping. M7
   - (1) Yes, most of the time 3 ☐
   - (2) Yes, sometime 2
   - (3) Not very often 1
   - (4) No, not at all 0

8. I have felt sad or miserable. M8

(1)	Yes, most of the time	3
(2)	Yes, quite often	2
(3)	Not very often	1
(4)	No, not at all	0

9. I have been so unhappy that I have been crying. M9

(1)	Yes, most of the time	3
(2)	Yes, quite often	2
(3)	Only occasionally	1
(4)	No, never	0

10. The thought of harming myself has occurred to me. M10

(1)	Yes, quite often	3
(2)	Sometimes	2
(3)	Hardly ever	1
(4)	Never	0

BAHAGIAN N : *BRIEF COPE SCALE*

These items deal with ways you've been coping with the stress in your life since you found out you were going to have to have this operation. There are many ways to try to deal with problems. These items ask what you've been doing to cope with this one. Obviously, different people deal with things in different ways, but I'm interested in how you've tried to deal with it. Each item says something about a particular way of coping. I want to know to what extent you've been doing what the item says. How much or how frequently. Don't answer on the basis of whether it seems to be working or not—just whether or not you're doing it. Use these response choices. Try to rate each item separately in your mind from the others. Make your answers as true FOR YOU as you can.

		I usually don't do this at all	I usually do this a little bit amount	I usually do this a medium	I usually do this a lot	
1.	I've been turning to work or other activities to take my mind off things.	(1)	(2)	(3)	(4)	N1☐
2.	I've been concentrating my efforts on doing something about the situation I'm in.	(1)	(2)	(3)	(4)	N2☐
3.	I've been saying to myself "this isn't real".	(1)	(2)	(3)	(4)	N3☐
4.	I've been using alcohol or other drugs to make myself feel better.	(1)	(2)	(3)	(4)	N4☐
5.	I've been getting emotional support from others.	(1)	(2)	(3)	(4)	N5☐
6.	I've been giving up trying to deal with it.	(1)	(2)	(3)	(4)	N6☐
7.	I've been taking action to try to make the situation better.	(1)	(2)	(3)	(4)	N7☐
8.	I've been refusing to believe that it has happened.	(1)	(2)	(3)	(4)	N8☐
9.	I've been saying things to let my unpleasant feelings escape.	(1)	(2)	(3)	(4)	N9☐
10.	I've been getting help and advice from other people.	(1)	(2)	(3)	(4)	N10☐
11.	I've been using alcohol or other drugs to help me get through it.	(1)	(2)	(3)	(4)	N11☐

12.	I've been trying to see it in a different light, to make it seem more positive.	(1)	(2)	(3)	(4)	N12
13.	I've been criticizing myself.	(1)	(2)	(3)	(4)	N13
14.	I've been trying to come up with a strategy about what to do.	(1)	(2)	(3)	(4)	N14
15.	I've been getting comfort and understanding from someone.	(1)	(2)	(3)	(4)	N15
16.	I've been giving up the attempt to cope.	(1)	(2)	(3)	(4)	N16
17.	I've been looking for something good in what is happening.	(1)	(2)	(3)	(4)	N17
18.	I've been making jokes about it.	(1)	(2)	(3)	(4)	N18
19.	I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	(1)	(2)	(3)	(4)	N19
20.	I've been accepting the reality of the fact that it has happened.	(1)	(2)	(3)	(4)	N20
21.	I've been expressing my negative feelings.	(1)	(2)	(3)	(4)	N21
22.	I've been trying to find comfort in my religion or spiritual beliefs.	(1)	(2)	(3)	(4)	N22
23.	I've been trying to get advice or help from other people about what to do.	(1)	(2)	(3)	(4)	N23
24.	I've been learning to live with it.	(1)	(2)	(3)	(4)	N24
25.	I've been thinking hard about what steps to take.	(1)	(2)	(3)	(4)	N25
26.	I've been blaming myself for things that happened.	(1)	(2)	(3)	(4)	N26
27.	I've been praying or meditating.	(1)	(2)	(3)	(4)	N27
28.	I've been making fun of the situation.	(1)	(2)	(3)	(4)	N28

KAJIAN KEHAMILAN DAN HASILNYA DI MALAYSIA

SOAL SELIDIK

Untuk Kegunaan Pejabat

Nombor ID : _____

Nombor Pendaftaran : _____

Nama Penemuramah:_____

Sila tandakan √

☐ KB Hospital Raja Perempuan Zainab II, Kota Bharu

☐ KT Hospital Sultanah Nur Zahirah, Kuala Terengganu

☐ KTN Hospital Tengku Ampuan Afzan, Kuantan

☐ USM Hospital Universiti Sains Malaysia, Kota Bharu

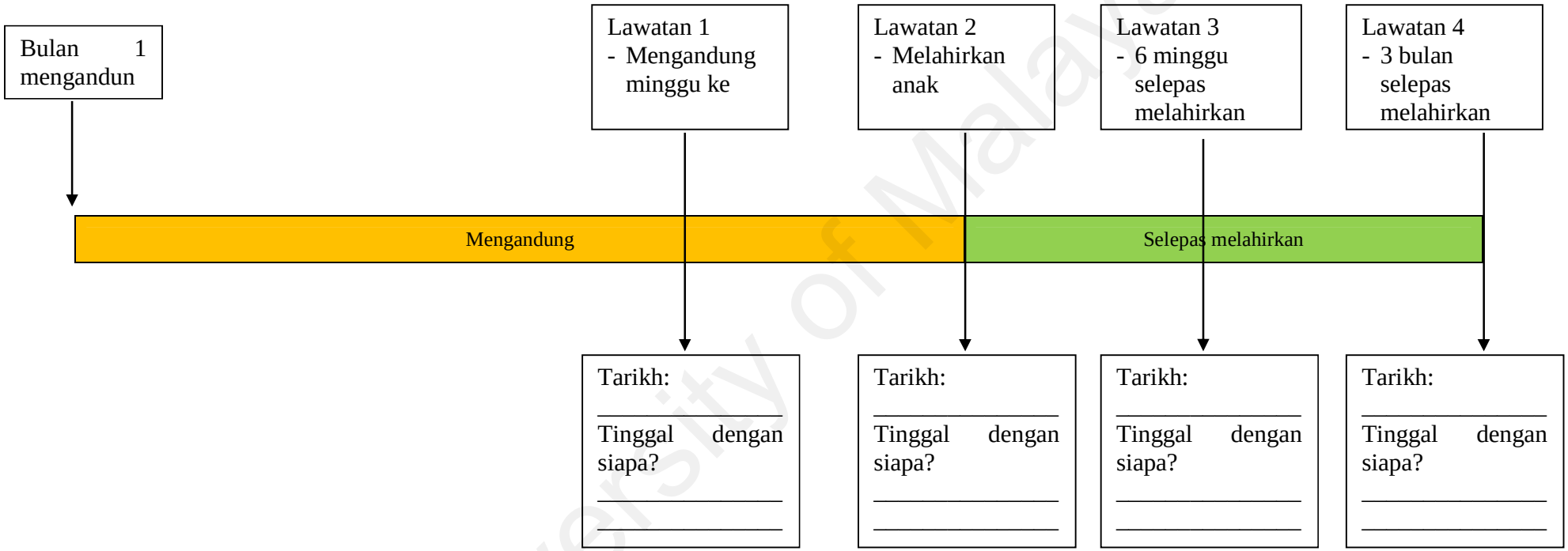
Soal Selidik Lengkap: Lawatan 1 ☐, Lawatan 2 ☐, Lawatan 3 ☐, Lawatan 4 ☐

Disahkan oleh: _____

Tarikh : _____

Kajian dikendalikan oleh
Norhasmah binti Mohd Zain.
Unit Pembangunan Pendidikan dan Penyelidikan Perubatan,
Fakulti Perubatan, Universiti Malaya,
50603, Kuala Lumpur.
Tel: 019-9913018

Sila isikan maklumat berikut.



Bagi **ibu yang tidak berkahwin**, sila nyatakan maklumat berikut (jika berkenaan):

a) Tarikh masuk ke rumah pelindungan: _____
b) Tarikh keluar dari rumah perlindungan: _____
c) Sila nyatakan apakah aktiviti yang dijalankan di rumah perlindungan tersebut:

_____
_____

KAJIAN KEHAMILAN DI KALANGAN IBU TANPA NIKAH DI MALAYSIA: FAKTOR YANG BERKAITAN DAN KESAN KEHAMILAN

Terima kasih atas minat anda dalam kajian ini. Penglibatan anda sangat dihargai. Segala maklumat yang diberikan akan kekal tanpa nama, dirahsiakan dan hanya digunakan untuk tujuan penyelidikan sahaja.

Sila isikan maklumat atau tandakan (√) diruang jawapan yang berkenaan.

BAHAGIAN A : MAKLUMAT SOSIO-DEMOGRAFI	UNTUK KEGUNAAN PEJABAT

Soalan berikut adalah tentang latar belakang anda.

1. Bilakah tarikh lahir anda? _____/_____/_____ A1 ☐☐

2. Apakah bangsa anda? A2 ☐
   (1) Melayu
   (2) China
   (3) India
   (4) Lain-lain, nyatakan _____

3. Apakah agama anda? A3 ☐
   (1) Islam
   (2) Kristian
   (3) Buddha
   (4) Hindu
   (5) Lain-lain, nyatakan_____

4. Apakah status perkahwinan anda? A4 ☐
   (1) Bujang
   (2) Berkahwin, sila nyatakan tarikh perkahwinan anda:_____/_____/_____
   (3) Bercerai/ Berpisah A4a ☐☐
      → Sila nyatakan tarikh perkahwinan anda: _____/_____/_____
      → Sila nyatakan tarikh penceraian (mm/yyyy): _____/_____
   (4) Janda,
      → Sila nyatakan tarikh perkahwinan anda: _____/_____/_____
      → Sila nyatakan tarikh kematian pasangan (mm/yyyy): _____/_____
   (5) Tinggal bersama

5. Dimana tempat tinggal anda? _____ A5 ☐
   (1) Bandar
   (2) Luar Bandar

6. Apakah tahap pendidikan tertinggi anda? A6 ☐
   (1) Tidak pernah bersekolah
   (2) Pendidikan sekolah rendah
   (3) Pendidikan menengah rendah (Tingkatan 3)

(4) Pendidikan menengah tinggi (Tingkatan 5)
(5) Tingkatan 6 / Sijil / Diploma
(6) Pendidikan tinggi (Ijazah/ Ijazah lanjutan)

7. Apakah status pekerjaan anda sekarang? A7 ☐
(1) Bekerja,
→Sila nyatakan pekerjaan anda:_____ A7a ☐
→ Berapakah pendapatan sebulan anda? RM_____sebulan
(2) Tidak bekerja
(3) Belajar

8. Apakah status pekerjaan anda sebelum mengandung kali ini? A8 ☐
(1) Bekerja, sila nyatakan pekerjaan anda:_____
(2) Tidak bekerja A8a ☐
(3) Belajar

9. Berapakah jumlah pendapatan isi rumah anda (sebulan)? RM_____sebulan A9 ☐

10. Anda tinggal dengan siapa sekarang ini? A10 ☐
(1) Ibu bapa
(2) Pasangan/suami
(3) Adik beradik
(4) Saudara mara A10a ☐
(5) Kawan
(6) Sendiri
(7) Rumah perlindungan **(Sila isi maklumat di mukasurat 2)**
→ Sila nyatakan tarikh anda masuk ke rumah perlindungan tersebut: _____/_____/_____
(8) Lain-lain, nyatakan_____

11. Anda tinggal dengan siapa <u>dalam tempoh 12 bulan</u> sebelum mengandung kali ini? *(Anda boleh beri lebih dari 1 jawapan)* A11 ☐

	Tempoh tinggal bersama
(1) Ibu bapa	
(2) Pasangan/ suami	
(3) Adik beradik	
(4) Saudara mara	
(5) Kawan	
(6) Asrama	
(7) Sendiri	
(8) Lain-lain, nyatakan _____	

A11a ☐

BAHAGIAN B: MAKLUMAT KELUARGA

Soalan berikut adalah tentang latar belakang keluarga anda.

1. Berapakah umur ibu anda? _____tahun B1☐☐

2. Apakah tahap pendidikan tertinggi ibu anda? B2☐
   (1) Tiada pendidikan formal
   (2) Pendidikan sekolah rendah
   (3) Pendidikan menengah rendah (Tingkatan 3)
   (4) Pendidikan menengah tinggi (Tingkatan 5)
   (5) Tingkatan 6 / Sijil / Diploma
   (6) Ijazah / Ijazah tinggi
   (7) Tidak tahu

3. Apakah pekerjaan ibu anda? _____ B3☐

4. Berapakah umur bapa anda? _____tahun B4☐☐

5. Apakah tahap pendidikan tertinggi bapa anda? B5☐
   (1) Tiada pendidikan formal
   (2) Pendidikan sekolah rendah
   (3) Pendidikan menengah rendah (Tingkatan 3)
   (4) Pendidikan menengah tinggi (Tingkatan 5)
   (5) Tingkatan 6 / Sijil / Diploma
   (6) Ijazah / Ijazah tinggi
   (7) Tidak tahu

6. Apakah pekerjaan bapa anda? _____ B6☐

7. Apakah status perkahwinan ibu bapa anda sekarang? B7☐
   (1) Berkahwin → **(*Sila terus ke soalan 8*)**
   (2) Bujang → **(*Sila terus ke soalan 8*)**
   (3) Bercerai
   (4) Balu/Duda/Pasangan mati
   (5) Berpisah

   Jika **bercerai/duda/balu/berpisah**,
   a) Sila nyatakan sejak bila penceraian/kematian/perpisahan berlaku? (mm/yyyy) B7a☐☐
      _____

   b) Dengan siapa anda tinggal bersama selepas ibu bapa bercerai/duda/balu/berpisah? B7b☐
      _____

8. Berapakah bilangan adik beradik termasuk anda? _____ orang B8☐☐

9. Siapakah yang tinggal serumah dengan anda sekarang?

Ahli keluarga	Jumlah orang	
(1) Ibu bapa		B9a
(2) Pasangan/ suami		B9b
(3) Adik-beradik - Lelaki - Perempuan	_____ _____	B9c B9d B9e
(4) Anak (anak kandung)		B9f
(5) Datuk/nenek		B9g
(6) Lain-lain, nyatakan _____		
(7) Lain-lain, nyatakan _____		

10. Berapakah bilangan ahli keluarga terdekat anda yang tamat pendidikan menengah? B10
_____

11. Soalan berikut adalah berkaitan sebarang penderaan fizikal yang berlaku dalam keluarga anda sekarang ini atau masa lampau. Sila tandakan (√) bagi kenyataan berikut:

(Contoh penderaan fizikal: menampar, melemparkan sesuatu, mengasak, menarik rambut, memukul dengan penumbuk atau sesuatu objek yang lain, menendang, memukul, mengheret, mencekik dan membakar dengan sengaja, mengugut atau menggunakan senjata terhadap orang lain)

	Ya$_1$	Tidak$_2$	
a) Adakah bapa anda pernah mendera anda?			B11a
b) Adakah ibu anda pernah mendera anda?			B11b
c) Adakah bapa anda pernah mendera ibu anda?			B11c
d) Adakah bapa anda pernah mendera adik beradik yang lain?			B11d
e) Adakah ibu anda pernah mendera adik beradik yang lain?			B11e

12. Soalan berikut bertanyakan tentang hubungan anda dengan ibu bapa. Sila tandakan (√) bagi kenyataan berikut.

Hubungan dengan ibubapa	Sangat tidak bersetuju$_1$	Tidak bersetuju$_2$	Bersetuju$_3$	Sangat bersetuju$_4$	
a) Anda merasa rapat dengan **ibu**?					
b) Anda merasa gembira dapat bercakap dengan ibu anda?					B12a☐
c) Anda gembira meluangkan masa dengan ibu anda?					B12b☐
d) Anda boleh berkongsi masalah dengan ibu anda?					B12c☐
e) Anda gemar mendapatkan pandangan ibu mengenai perkara yang anda ambil berat?					B12d☐
f) Anda sentiasa mendapat segala sokongan yang diperlukan daripada ibu anda?					B12e☐
g) Anda merasa rapat dengan **bapa**?					B12f☐
h) Anda merasa gembira dapat bercakap dengan bapa anda?					B12g☐
i) Anda gembira meluangkan masa dengan bapa anda?					B12h☐
j) Anda boleh berkongsi masalah dengan bapa anda?					B12i☐
k) Anda gemar mendapatkan pandangan bapa mengenai perkara yang anda ambil berat?					B12j☐
l) Anda sentiasa mendapat segala sokongan yang diperlukan daripada bapa anda?					B12k☐
					B12l☐

13. Bagaimana anda menilai ketegasan ibubapa anda pada perkara berikut?

	Bapa				**Ibu**				
	Tidak tegas sama sekali$_1$	Neutral$_2$	Tegas$_3$	Sangat tegas$_4$	Tidak tegas sama sekali$_1$	Neutral$_2$	Tegas$_3$	Sangat tegas$_4$	
a) Tingkahlaku anda									B13a☐
b) Disiplin diri anda									B13b☐
c) Amalan agama anda									B13c☐
d) Prestasi anda di sekolah/ kolej/ universiti									B13d☐
e) Aktiviti yang anda ceburi									B13e☐
f) Fesyen, gaya dan penampilan anda									B13f☐
g) Kawan yang anda ada									B13g☐
h) Hukuman jika anda melakukan kesilapan									B13h☐

14. Adakah anda meminta kebenaran daripada ibu bapa atau penjaga anda bila anda….

	Tidak bekenaan$_0$	Tidak meminta kebenaran$_1$	Hanya memberitahu$_2$	Meminta kebenaran$_3$	
a) Memilih sekolah atau kursus anda					B14a☐
b) Memilih pekerjaan anda					B14b☐
c) Memilih aktiviti luar anda					B14c☐
d) Membeli pakaian, barangan keperluan atau alat tulis					B14d☐
e) Pergi ke masjid/ kuil/ gereja					B14e☐
f) Pergi membeli belah					B14f☐
g) Pergi ke pesta /menonton filem					B14g☐
h) Pergi mengembara/ perkhemahan/ perkelahan dengan kawan-kawan					B14h☐
i) Keluar hingga larut malam					B14i☐
j) Bermalam dengan kawan-kawan					B14j☐
k) Keluar temujanji dengan teman lelaki anda					B 14k☐

BAHAGIAN C: PENGARUH RAKAN DAN MASYARAKAT

Soalan berikut adalah tentang kawan dan penglibatan anda dalam masyarakat.

1. Berapakah jumlah kawan yang anda ada? (Kawan yang agak rapat untuk anda berkongsi fikiran, masalah, perasaan dan anda rasa selesa bersama): _____orang C1☐☐

2. Berapa kerap anda berjumpa, bercakap atau berinteraksi dengan kawan anda? C2☐
   (1) Setiap hari atau hampir setiap hari
   (2) Sekurang-kurangnya sekali seminggu
   (3) Sekurang-kurangnya sekali sebulan
   (4) Tidak pernah

3. Adakah kawan anda pernah terlibat dengan aktiviti berikut?

Aktiviti	Ya$_1$	Tidak$_2$	
a) Mengambil atau menagih dadah (seperti ganja/ heroin)			C3a☐
b) Menghidu gam			C3b☐
c) Merokok			C3c☐
d) Minum minuman keras/ minuman yang memabukkan			C3d☐
e) Menonton filem/video lucah			C3e☐
f) Melakukan seks luar nikah			C3f☐
g) Mengandung luar nikah			C3g☐

4. Siapakah yang PALING ANDA SUKA untuk berbincang berkaitan isu berikut:

	Tidak pernah bincang$_0$	Kawan$_1$	Ibubapa$_2$	Adik beradik$_3$	Pasangan/ suami$_4$	Lain-lain$_5$	
a) Hal sekolah/kolej/universiti							C4a☐
b) Pekerjaan							C4b☐
c) Masalah keluarga							C4c☐
d) Masalah kawan							C4d☐
e) Hal kesihatan							C4e☐
f) Hal keagamaan							C4f☐
g) Hubungan dengan lelaki							C4g☐
h) Perkembangan seksual (perubahan fizikal, menstruasi							C4h☐
i) Isu kesihatan seksual (HIV/AIDS, kehamilan)							C4i☐
j) Keinginan/ dorongan seksual							C4j☐
k) Lain-lain, nyatakan_____							C4k☐

5. Siapakah yang utama anda akan hubungi apabila anda mengalami sebarang masalah? C5☐
   (1) Kawan
   (2) Ibu bapa
   (3) Adik beradik
   (4) Pasangan / suami
   (5) Lain-lain, nyatakan _____

6. Adakah anda pernah menyertai mana-mana kumpulan/ organisasi/ pertubuhan? C6☐
   (1) Ya (2) Tidak → **(*Sila terus ke soalan 8*)**

7. Jika **YA**, apakah jenis kumpulan/ organisasi/ pertubuhan tersebut?

   7b. Berapa kerap anda menghadiri kumpulan/ organisasi/ pertubuhan tersebut? *(Sila tandakan kekerapan bagi pilihan kumpulan/ pertubuhan/ organisasi yang disertai sahaja)*

Kumpulan/ Organisasi/ Pertubuhan	Sekurang-kurangnya sekali seminggu$_1$	Sekurang-kurangnya sekali sebulan$_2$	Sekurang-kurangnya 1 atau 2 kali setahun$_3$	
a) Politik/ Sivik/ Kesatuan				C7a☐
b) Kerja Sosial/ Kerja amal				C7b☐
c) Kraft/ Seni/ Sukan				C7c☐
d) Pertubuhan wanita				C7d☐
e) Pertubuhan agama				C7e☐
f) Lain-lain, nyatakan _____				C7f☐

8. Berapa kerap anda menghadiri aktiviti keagamaan di masjid/ kuil/ gereja? C8☐
   (1) Setiap hari atau hampir setiap hari
   (2) Sekurang-kurangnya sekali seminggu
   (3) Sekurang-kurangnya sekali sebulan
   (4) Sekurang-kurangnya 1 atau 2 kali setahun
   (5) Tidak pernah

9. Sejauh manakah pentingnya agama kepada anda? C9☐
   (1) Sangat penting
   (2) Sederhana penting
   (3) Tidak penting langsung

10. Adakah kepercayaan agama anda mempengaruhi sikap anda terhadap hal seksual? C10☐
   (1) Sangat mempengaruhi
   (2) Kadang-kadang
   (3) Tidak langsung

11. Adakah anda mendapat maklumat tentang kesihatan reproduksi dan seksual? (Seperti kesihatan payudara, penyakit jangkitan kelamin, HIV/AIDS, perancang keluarga, seks yang selamat) C11☐
    (1) Ya (2) Tidak → ***(Sila terus ke soalan 13)***

12. Jika **YA** dari manakah anda mendapat maklumat tentang kesihatan reproduksi dan seksual?

    10b. Berapa kerap anda mendapat maklumat tersebut sepanjang hidup ini? *(Sila tandakan kekerapan bagi pilihan sumber maklumat yang diperolehi sahaja)*

	1 atau 2 kali$_1$	Beberapa kali (3-5 kali)$_2$	Banyak kali (> 5 kali)$_3$	
a) Pakar kesihatan (doktor, jururawat dll)				C12a☐
b) Guru/ Kaunselor				C12b☐
c) Bahan pendidikan seksual/ reproduksi				C12c☐
d) Media massa (TV, radio, akhbar, majalah)				C12d☐
e) Internet				C12e☐
f) Ahli keluarga				C12f☐
g) Kawan				C12g☐
h) Lain-lain, nyatakan _____				C12h☐

13. Pernahkan anda mengahadiri seminar atau kursus berkaitan dengan kesihatan reproduksi dan seksual?

Seminar/ Kursus	Ya$_1$	Tidak$_2$	
a) Kehamilan/ kesuburan			C13a☐
b) Perancang keluarga/ kontraseptif			C13b☐
c) Pengguguran			C13c☐
d) HIV/AIDS/ Penyakit Jangkitan Kelamin			C13d☐
e) Pendidikan seks			C13e☐
f) Kanser payudara/ kesihatan payudara/ mammografi			C13f☐
g) Kanser serviks/ Calitan pap			C13g☐
h) Kanser ovari	\		C13h☐
i) Lain-lain, nyatakan _____			C13i☐

14. Secara umum, bagaimana anda menilai diri anda terhadap pengetahuan tentang kesihatan reproduksi dan seksual? C14☐
    (1) Sangat berpengetahuan
    (2) Sederhana
    (3) Tidak berpengetahuan langsung

BAHAGIAN D : PROFIL PASANGAN (AYAH KEPADA ANAK YANG DIKANDUNG)

Soalan berikut adalah tentang ayah kepada bayi yang dikandung sekarang ini.

1. Adakah anda mengenali ayah kepada bayi yang dikandung ini? D1☐
   (1) Ya (2) Tidak → ***(Sila terus ke soalan 8)***

2. Berapakah umur suami/ pasangan/ ayah bayi ini? _____tahun D2☐

3. Apakah tahap pendidikan tertinggi suami/ pasangan/ ayah bayi ini? D3☐
   (1) Tiada pendidikan formal
   (2) Pendidikan sekolah rendah
   (3) Pendidikan menengah rendah (Tingkatan 3)
   (4) Pendidikan menengah tinggi (Tingkatan 5)
   (5) Tingkatan 6 / Sijil / Diploma
   (6) Ijazah / Ijazah tinggi
   (7) Tidak tahu

4. Apakah status pekerjaan suami/ pasangan/ ayah bayi ini? D4☐
   (1) Bekerja, sila nyatakan pekerjaannya:_____
   (2) Tidak bekerja
   (3) Belajar

Bagi IBU YANG BERKAHWIN, sila terus ke soalan 8

5. Berapa lama anda mengenali pasangan/ ayah bayi ini? _____tahun/ bulan D5☐

6. Adakah pasangan anda/ ayah bayi ini tahu mengenai bayi yang anda kandung sekarang ini? D6☐
   (1) Ya, tahu (2) Tidak tahu → **(*Sila terus ke soalan 8*)**

7. Adakah pasangan anda/ ayah bayi ini menginginkan bayi ini dilahirkan dan mahu menjaga bayi ini bersama anda? D7☐
   (1) Inginkan bayi ini dan mahu menjaganya
   (2) Inginkan bayi ini tapi tidak mahu menjaganya
   (3) Tidak inginkan bayi ini
   (4) Tidak mengakui anaknya
   (5) Tidak ambil peduli langsung tentang bayi ini
   (6) Lain-lain, nyatakan _____

8. Apakah status perhubungan anda dengan suami/ pasangan/ ayah bayi ini sekarang? D8☐
   (1) Masih berhubung/ hubungan baik
   (2) Sudah tidak berhubung lagi
   (3) Menghilangkan diri/tidak dapat dihubungi
   (4) Tiada hubungan langsung
   (5) Lain-lain, nyatakan_____

9. Adakah suami/ pasangan/ ayah bayi ini pernah memaksa anda secara fizikal untuk melakukan hubungan seks ketika anda tidak menginginkannya? D9☐
   (1) Ya (2) Tidak

BAHAGIAN E : AKTIVITI BERISIKO DAN AKTIVITI SEKSUAL

Sekarang kami ingin bertanya beberapa soalan sensitif mengenai aktiviti berisiko yang anda lakukan pada masa lampau yang berkait dengan kehamilan ini.

1. Adakah anda merokok? E1☐
   (1) Ya
   (2) Tidak, tapi bekas perokok
   (3) Tidak, saya bukan perokok → ***(Sila terus ke soalan 2)***

   a) Jika **Ya atau bekas perokok**, berapa kerap anda merokok? E1a☐
      i. Setiap hari atau hampir setiap hari E1i☐
         → Nyatakan berapa batang? _____
      ii. Sekurang-kurangnya sekali seminggu
         → Nyatakan berapa batang? _____
      iii. Sekurang-kurangnya sekali sebulan
         → Nyatakan berapa batang? _____
      iv. Jarang-jarang
      v. Lain-lain, nyatakan _____

   b) Berapa lama anda merokok? _____tahun _____ bulan E1b☐☐

   c) Jika anda bekas perokok, sudah berapa lama anda berhenti merokok? _____ E1c☐☐

2. Adakah anda mengambil minuman keras/ alkohol? E2☐
   (1) Ya
   (2) Tidak, tapi bekas peminum
   (3) Tidak, tidak pernah minum → ***(Sila terus ke soalan 3)***

   E2a☐

   Jika **Ya atau bekas peminum**, berapa kerap anda mengambil minuman keras/ alkohol?
   (1) Setiap hari atau hampir setiap hari
   (2) Sekurang-kurangnya sekali seminggu
   (3) Sekurang-kurangnya sekali sebulan
   (4) Kadang-kadang, kurang dari sekali sebulan
   (5) Lain-lain, nyatakan _____

3. Adakah anda pernah terlibat dengan penyalahgunaan dadah sepanjang hidup ini (Seperti ganja/ heroin/ syabu/ pil *ecstacsy*/ pil kuda/ ubat batuk/ hidu gam)? E3☐
   (1) Ya (2) Tidak → ***(Sila terus ke soalan 4)***

   Jika **YA**, sila nyatakan jenis dadah tersebut dan kaedah pengambilannya (Contoh suntikan, makan, hisap)

Jenis dadah	Kaedah pengambilan
i.	
ii.	
iii.	

4. Adakah anda pernah terlibat dengan aktiviti berikut?

	Ya$_1$	Tidak$_2$	
a) Menonton filem/video lucah			E4a☐
b) Melakukan seks luar nikah			E4b☐
c) Melakukan seks luar tabii			E4c☐
d) Lain-lain, nyatakan _____			E4d☐

5. Semasa anda mengandung pada kali ini, adakah anda merokok? E5☐
(1) Ya (2) Kadang-kadang (3) Tidak sama sekali

6. Semasa anda mengandung pada kali ini, adakah anda mengambil sebarang minuman keras/ alkohol? E6☐
(1) Ya (2) Kadang-kadang (3) Tidak sama sekali

7. Semasa anda mengandung pada kali ini, adakah anda mengambil sebarang dadah (Seperti ganja/ heroin/ syabu/ pil *ecstacsy*/ pil kuda/ ubat batuk/ hidu gam)? E7☐
(1) Ya (2) Kadang-kadang (3) Tidak sama sekali

8. Adakah anda pernah didera secara seksual sebelum kehamilan ini/ semasa kanak-kanak? E8☐
(1) Ya (2) Tidak → ***(Sila terus ke soalan 9)***

Jika **YA,** siapa yang melakukannya? E8a☐
(1) Ahli keluarga
(2) Teman lelaki
(3) Saudara mara
(4) Kawan
(5) Jiran
(6) Lain-lain, nyatakan _____
(7) Tidak dikenali

9. Pada umur berapa anda mulai datang haid?_____ tahun E9☐☐

10. Pada umur berapa anda mula melakukan hubungan seksual dengan lelaki? _____tahun E10☐☐

11. Pernahkah anda mengidap penyakit jangkitan kelamin E11☐
(1) Ya (2) Tidak (3) Tidak tahu/ tidak melakukan ujian

12. Adakah anda mengidap HIV/AIDS? E12☐
(1) Ya (2) Tidak (3) Tidak tahu/ tidak melakukan ujian

Bagi IBU YANG BERKAHWIN, sila terus ke Bahagian M

13. Sepanjang hidup anda, berapa ramai pasangan seksual yang anda ada? E13☐
(1) 1 orang → ***(Sila terus ke soalan 15)***
(2) 2 orang
(3) 3 orang
(4) 4 orang
(5) 5 orang dan lebih
(6) Tiada → ***(Sila terus ke soalan 20)***

14. Dalam tempoh 12 bulan ini, berapa ramai pasangan seksual yang anda ada? _____ orang E15☐☐

15. Mengapa anda melakukan hubungan seks luar nikah? *(Anda boleh beri lebih dari 1 jawapan)* E16☐b☐
    (1) Kepuasan diri
    (2) Ganjaran material
    (3) Pengaruh kawan c☐d☐
    (4) Janji untuk berkahwin
    (5) Bukti cinta
    (6) Ingin mencuba e☐f☐
    (7) Dipaksa/ rogol
    (8) Lain-lain, nyatakan _____ g☐h☐

16. Secara umum, penglibatan anda dalam hubungan seksual adalah, E17☐
    (1) Sukarela
    (2) Dipujuk rayu
    (3) Dipaksa

17. Adakah anda mengambil berat tentang kemungkinan mengandung apabila anda melakukan hubungan seks? E18☐
    (1) Ya (2) Tidak

18. Adakah anda dan pasangan menggunakan sebarang kaedah untuk mengelak dari mengandung semasa melakukan hubungan seks? *(Anda boleh beri lebih dari 1 jawapan)*

    → ***Dari soalan 6, bahagian F (Bagi ibu yang berkahwin)*** - Oleh kerana anda tidak merancang untuk mengandung kali ini, adakah anda dan suami menggunakan sebarang kaedah perancang keluarga sebelum mengandung kali ini? *(Anda boleh beri lebih dari 1 jawapan)*

    E19☐
    (1) Pil perancang
    (2) Kondom ☐☐
    (3) Suntikan perancang ☐☐
    (4) Implanon
    (5) Alat dalam rahim (ADR)
    (6) Azal (*Withdrawal*)
    (7) Lain-lain, nyatakan _____
    (8) Tiada langsung

19. Berapa kerap anda menggunakan kaedah tersebut semasa melakukan hubungan seks? E20☐
    (1) Setiap masa (2) Selalu (3) Jarang-jarang (4) Tidak pernah

20. Oleh kerana anda tidak mempunyai pasangan seksual, boleh anda beritahu apakah yang telah terjadi kepada anda sehingga menyebabkan anda mengandung? E21E
    _____

21. Adakah anda mengenali si pelaku tersebut? E22☐
    (1) Ya (2) Tidak

22. Adakah anda melaporkan perkara ini kepada pihak polis/ hospital/ pihak yang berkenaan? E23☐
    (1) Ya
    (2) Tidak, sila nyatakan sebabnya
    _____

BAHAGIAN F: MAKLUMAT KEHAMILAN

Soalan berikut adalah tentang kehamilan anda sekarang ini.

1. Pernahkah anda mengandung sebelum ini? F1☐
   (1) Ya, pernah (2) Belum pernah → ***(sila terus ke soalan 5)***

2. Ini adalah kandungan yang ke berapa? _____ F2☐

3. Berapa bilangan anak yang anda ada sekarang? _____ F3☐☐

4. Adakah anda pernah mengalami keguguran/ melakukan pengguguran sebelum ini? F4☐
   (1) Ya, sila nyatakan berapa kali;
   → mengalami keguguran: _____ F4a☐
   → melakukan pengguguran: _____ F4b☐
   (2) Tidak pernah

5. Bilakah tarikh jangkaan bersalin (dd/mm/yyyy)? _____/_____/_____ F5☐☐

6. Adakah anda memang merancang/ bercadang untuk mengandung pada kali ini? F6☐
   (1) Ya (2) Tidak → ***(Bagi ibu yang berkahwin, sila jawab soalan 16,17 bahagian L)***

Bagi IBU YANG BERKAHWIN, sila terus ke soalan 11

7. Bagaimana anda tahu anda mengandung pada kali ini? F7☐
   (1) Sedar selepas tidak datang haid selama 1 @ 2 bulan
   (2) Sedar selepas tidak datang haid selama 3 @ 4 bulan
   (3) Sedar setelah berlaku perubahan fisiologi seperti warna kulit berubah, payudara bengkak, kerap kencing, perut membesar
   (4) Lain-lain, nyatakan_____

8. Bagaimana perasaan anda bila anda tahu anda mengandung pada kali ini? (*Anda boleh beri lebih daripada 1 jawapan*) F8☐ b☐
   (1) Gembira
   (2) Terkejut c☐ d☐
   (3) Marah e☐ f☐
   (4) Putus asa g☐ h☐
   (5) Takut
   (6) Keliru
   (7) Lain-lain, nyatakan_____

9. Apakah yang anda telah lakukan bila anda tahu anda mengandung pada kali ini? *(Anda boleh beri lebih daripada 1 jawapan)* F9☐
   (1) Menerima kehamilan ini b☐
   (2) Menggunakan pelbagai ubatan tradisional untuk menggugurkannya c☐
   (3) Pergi ke klinik untuk menggugurkan d☐
   (4) Cuba untuk bunuh diri e☐
   (5) Lain-lain, nyatakan_____

10. Apakah reaksi keluarga anda terhadap kehamilan ini? (*Anda boleh beri lebih daripada 1 jawapan*) F10☐b☐
(1) Menghalau saya keluar dari rumah
(2) Menghantar saya ke tempat dimana orang tidak mengenali saya c☐d☐
(3) Menghantar saya ke rumah perlindungan
(4) Keluarga saya berpindah ke tempat dimana saya sekeluarga tidak dikenali e☐f☐
(5) Memaksa saya untuk berkahwin/ mengahwinkan saya dengan pasangan g☐h☐
(6) Menerima kehamilan saya
(7) Keluarga tidak mengetahui tentang kehamilan ini
(8) Lain-lain, nyatakan _____

11. Adakah anda pergi mendapatkan perkhidmatan ibu mengandung di pusat kesihatan? F11☐
(1) Ya (2) Tidak → **(*Sila terus ke soalan 17*)**

12. Dimanakah tempat anda mendapatkan perkhidmatan ibu mengandung? F12☐
(1) Hospital Kerajaan
(2) Klinik Kesihatan
(3) Hospital Swasta
(4) Klinik Swasta
(5) Lain-lain, nyatakan _____

12b. Sila nyatakan nama tempat tersebut:
_____

13. Berapa bulan kandungan anda semasa pertama kali anda ke pusat kesihatan untuk perkhidmatan ibu mengandung atau mengesahkan kehamilan ini? F13☐
(1) Bulan ke 1 hingga ke 3, nyatakan _____
(2) Bulan ke 4 hingga ke 6, nyatakan _____
(3) Bulan ke 7 hingga ke 9, nyatakan _____

14. Dimanakah pusat kesihatan pertama yang anda pergi untuk perkhidmatan ibu mengandung atau mengesahkan kehamilan ini? F14☐
(1) Hospital Kerajaan
(2) Klinik Kesihatan
(3) Hospital Swasta
(4) Klinik Swasta
(5) Lain-lain, nyatakan _____

15. Siapakah yang membawa anda semasa pertama kali mendapatkan perkhidmatan ibu mengandung? F15☐
(1) Sendiri
(2) Ahli keluarga saya
(3) Pasangan saya/ suami
(4) Saudara mara saya
(5) Kawan saya
(6) Warden rumah perlindungan
(7) Lain-lain, nyatakan_____

16. Siapakah yang membawa anda setiap kali mendapatkan perkhidmatan ibu mengandung? F16☐
(1) Sendiri
(2) Ahli keluarga saya
(3) Pasangan saya/ suami
(4) Saudara mara saya
(5) Kawan saya
(6) Warden rumah perlindungan
(7) Lain-lain, nyatakan_____

17. Kenapa anda tidak mendapatkan perkhidmatan ibu mengandung di klinik? *(Anda boleh beri lebih daripada 1 jawapan)* F17a☐
(1) Saya malu kerana hamil luar nikah b☐
(2) Saya takut dimarahi oleh doktor dan jururawat c☐ d☐
(3) Saya merasakan penjagaan antenatal tidak penting
(4) Tiada orang menasihatkan saya untuk mendapatkan penjagaan antenatal e☐ f☐
(5) Tiada orang yang boleh membawa saya ke pusat kesihatan
(6) Saya telah mendapatkan khidmat bidan kampung g☐
(7) Lain-lain, nyatakan _____

18. Adakah anda mengalami masalah berikut semasa mengandung pada kali ini?

Masalah	**Ya$_1$**	**Tidak$_2$**	
a) Pendarahan semasa mengandung *(AntePartum Hemorrhage)*			F18☐
b) Tumbesaran janin terencat *(Intra Uterine Growth Retardation*)			b☐
c) Kencing manis *(Diabetes)*			c☐
d) Tekanan darah tinggi *(Hyertensive disorder of pregnancy)*			d☐
e) Kurang pergerakan janin *(Decreased fetal movement)*			e☐
f) Mengandung kembar *(Multiple pregnancies)*			f☐
g) Kurang sel darah merah *(Anemia)*			g☐
h) Jangkitan kuman pada salur kencing *(UTI)*			h☐
i) Jangkitan kelamin *(STI)*			i☐
j) Kurang berat badan *(Poor weight gain)*			j☐
k) Lain-lain, nyatakan_____			k☐
l) Tidak tahu			l☐

19. Adakah anda ada menerima sokongan daripada **pasangan/suami** semasa mengandung pada kali ini? F19☐
(1) Ya (2) Tidak → **(*Sila terus ke soalan 20*)**

19a. Jika **YA**, apakah jenis sokongan yang diberikan oleh pasangan anda semasa mengandung? (A*nda boleh beri lebih daripada 1 jawapan)*
(1) Menyediakan barangan bayi seperti pakaian, lampin, botol susu dan lain-lain a1☐
(2) Menyediakan pemakanan yang bagus /vitamin kepada saya a2☐
(3) Membantu meringankan kerja rumah a3☐
(4) Nasihat kepada saya tentang penjagaan antenatal a4☐
(5) Membawa saya ke klinik/hospital a5☐
(6) Lain-lain nyatakan _____

20. Adakah anda ada menerima sokongan daripada **keluarga anda** semasa mengandung pada kali ini? F20☐
(1) Ya (2) Tidak → **(*Sila terus ke soalan 21*)**

20a. Jika **YA**, apakah jenis sokongan yang diberikan oleh keluarga anda semasa mengandung? (*Anda boleh beri lebih daripada 1 jawapan)*
(1) Menyediakan barangan bayi seperti pakaian, lampin, botol susu dan lain-lain a1☐
(2) Menyediakan pemakanan yang bagus /vitamin kepada saya a2☐
(3) Membantu meringankan kerja rumah a3☐
(4) Nasihat kepada saya tentang penjagaan antenatal a4☐
(5) Membawa saya ke klinik/hospital a5☐
(6) Lain-lain nyatakan _____

21. Adakah anda ada menerima sokongan daripada **kawan anda** semasa mengandung pada kali ini? F21☐
(1) Ya (2) Tidak → **(*Sila terus ke soalan 22*)**

21a. Jika **YA**, apakah jenis sokongan yang diberikan oleh kawan anda semasa mengandung? *(Anda boleh beri lebih daripada 1 jawapan)*
(1) Menyediakan barangan bayi seperti pakaian, lampin, botol susu dan lain-lain a1☐
(2) Menyediakan pemakanan yang bagus /vitamin kepada saya a2☐
(3) Membantu meringankan kerja rumah a3☐
(4) Nasihat kepada saya tentang penjagaan antenatal a4☐
(5) Membawa saya ke klinik/hospital a5☐
(6) Lain-lain nyatakan _____

Bagi IBU YANG BERKAHWIN, sila terus ke soalan 24

22. Adakah pasangan anda/ ayah bayi ini ada memberi bantuan kewangan kepada anda sepanjang anda mengandung pada kali ini? F22☐
(1) Ya, 1 atau 2 kali
(2) Ya, beberapa kali (3-5 kali)
(3) Ya, banyak kali (lebih 5 kali)
(4) Tidak ada langsung → ***(Sila terus ke soalan 23)***

22b. Sila nyatakan apakah bentuk bantuan kewangan yang diberikan dan nyatakan jumlah yang diberikan? (contohnya wang tunai, membayar kos perubatan, memberi cek dll)
_____
_____

23. Siapakah yang memberi bantuan kewangan kepada anda sepanjang anda mengandung pada kali ini? *(Anda boleh beri lebih daripada 1 jawapan)* F23a☐
(1) Ibu bapa F23b☐
(2) Adik beradik F23c☐
(3) Saudara mara F23d☐
(4) Kawan F23e☐
(5) Pasangan F23f☐
(6) Lain-lain, nyatakan _____
(7) Tidak ada bantuan → ***(Sila terus ke soalan 24)***

23b. Sila nyatakan apakah bentuk bantuan kewangan yang diberikan dan nyatakan jumlah yang diberikan? (contohnya wang tunai, membeli barangan keperluan, membayar kos perubatan dll)
_____
_____

24. Apakah perancangan anda terhadap bayi ini selepas kelahirannya nanti? F24☐
(1) Saya akan menjaganya sendiri
(2) Saya akan menyerahkannya kepada keluarga/ saudara mara untuk menjaganya
→ Sila nyatakan siapa? _____
(3) Saya akan menyerahkannya kepada keluarga angkat
(4) Saya akan berkahwin dengan pasangan saya dan bersama menjaganya
(5) Saya tidak tahu
(6) Lain-lain, nyatakan_____

25. Adakah kehamilan pada kali ini mempengaruhi pekerjaan/ pelajaran anda? F25a☐
(1) Ya (2) Tidak → ***(Sila terus ke soalan 26)***

Jika **YA**, bagaimana? F25b☐
(1) Saya telah hilang pekerjaan/ Saya telah berhenti kerja
(2) Saya telah bertukar kerja ke tempat lain
(3) Saya telah bertukar ke jabatan lain/ skop kerja lain
(4) Saya telah berhenti belajar
(5) Saya telah bertukar ke sekolah/ kolej/ universiti yang lain
(6) Saya telah menangguhkan pelajaran ke satu tempoh waktu
(7) Lain-lain, nyatakan_____

26. Adakah kehamilan pada kali ini mempengaruhi pendapatan anda? F26☐
(1) Ya (2) Tidak

27. Adakah anda mengalami masalah kewangan akibat daripada kehamilan pada kali ini? F27☐
(1) Ya (2) Tidak → **(*Sila terus ke bahagian G*)**

Jika **YA**, sila nyatakan apakah masalah kewangan yang anda pernah alami? (Seperti meminjam wang dari kawan, menjual harta benda)
_____
_____

Maklumat di bahagian M ini hendaklah dirujuk dari Rekod Perubatan Pesakit/ Kad Kesihatan
Nama petugas: _____
Tarikh/ masa: _____ / _____

BAHAGIAN G: MAKLUMAT KELAHIRAN

1. Jumlah kehadiran ke klinik ibu mengandung: _____ GM1☐

2. Tarikh kelahiran bayi (dd/mm/yyyy): _____/_____/_____ G2☐☐☐☐

3. Lahir pada : _____minggu G3☐☐

4. Cara kelahiran: G4☐
   (1) Melalui vagina
   (2) Menggunakan bantuan alat
      (2a) Vacuum
      (2b) Forcep
   (3) Pembedahan
      (3a) Elektif
      (3b) Kecemasan
   (4) Lain-lain, nyatakan _____

5. Tempat kelahiran: G5☐
   (1) Hospital kerajaan
   (2) Klinik Kesihatan
   (3) Rumah
   (4) Lain-lain, nyatakan _____

6. Hasil kelahiran: G6☐
   (1) Hidup → ***(sila terus ke soalan 7)***
   (2) Mati :
      (2a) *Macerated stillbirth (≥500g or ≥22 weeks gestation)*
      (2b) *Fresh stillbirth (≥500g or ≥22 weeks gestation)*

   6a. Jika **MATI**, sila nyatakan
   a) Tarikh kematian: _____
   b) Waktu kematian: _____

7. Berat bayi: _____kg G7☐☐

8. Skor Apgar pada minit pertama (1-10): _____ G8☐☐

9. Skor Apgar pada minit ke 5 (1-10): _____ G9☐☐

10. Dimasukkan ke unit khas? G10☐
    (1) Ya (2) Tidak

11. Sila nyatakan jika ada sebarang kecacatan pada bayi: _____ G11☐

12. Adakah bayi mendapat sebarang komplikasi berikut? G12☐
    (1) *Asphyxia*
    (2) *Meconium aspiration syndrome*
    (3) *Shoulder dystocia*
    (4) *Birth injuries*, nyatakan _____
    (5) Lain-lain, nyatakan _____
    (6) Tiada

13. Adakah ibu mengalami komplikasi berikut semasa proses bersalin? G13☐
    (1) *Fetal distress*
    (2) *Cord prolapsed*
    (3) *Maternal prolapsed*
    (4) *Pyrexia*
    (5) *Eclampsia*
    (6) *Retained placenta*
    (7) *Prolonged labour*
    (8) *Intrapartum hemorrhage*
    (9) Lain-lain, nyatakan _____
    (10) Tiada

14. Tempoh ibu berada di wad;

    Jika ibu pernah dimasukkan wad sebelum melahirkan bayi sila nyatakan tarikh masuk dan keluar wad beserta masalah yang dihadapi.
    a) Wad antenatal :

Tarikh masuk	Tarikh keluar	Masalah
i.		
ii.		
iii.		

G14a☐☐

    Sila nyatakan tarikh masuk wad/ bilik bersalin dan tarikh keluar wad untuk proses bersalin dan nyatakan tempoh ibu berada di wad.
    b) Wad antenatal/ bilik bersalin/ wad pos-natal : _____ hari
    → tarikh masuk wad/ bilik bersalin, _____
    → tarikh keluar wad, _____

G14b☐☐

15. *Nota tambahan: Sila tanya pesakit mengenai soalan ini*

16. Apakah perancangan anda terhadap bayi ini? G15☐
    (1) Saya akan menjaganya sendiri
    (2) Saya akan menyerahkannya kepada keluarga/ saudara mara untuk menjaganya
        → sila nyatakan siapa? _____
    (3) Saya akan menyerahkannya kepada keluarga angkat
    (4) Saya akan berkahwin dengan pasangan saya dan bersama menjaganya
    (5) Saya tidak tahu
    (6) Lain-lain, nyatakan_____

BAHAGIAN H: LAIN-LAIN KESAN

Soalan berikut adalah tentang kesan yang anda alami selepas melahirkan anak pada kali ini.

1. Siapa yang menjaga anak anda sekarang? H1☐
   (1) Saya telah serahkannya kepada keluarga/ sauadara mara untuk menjaganya
   → Sila nyatakan siapa _____
   (2) Saya telah serahkannya kepada keluarga angkat
   (3) Saya menjaganya sendiri
   (4) Saya telah berkahwin dengan pasangan dan menjaganya bersama
   (5) Anak saya telah meninggal dunia
   → Sila nyatakan
   a) Tarikh kematian: _____
   b) Masa kematian: _____
   (6) Lain-lain, nyatakan _____

2. Apa yang anda lakukan sekarang? H2☐
   (1) Kembali bekerja
   (2) Kembali ke sekolah/ kolej/ universiti
   (3) Hanya duduk di rumah
   (4) Lain-lain, nyatakan _____

3. Adakah anda mengalami sebarang masalah kesihatan selepas melahirkan anak pada kali ini? H3☐
   (1) Ya, sila nyatakan _____
   (2) Tidak

4. Soalan berikut mengenai perasaan anda tentang sebarang perubahan yang berlaku selepas melahirkan anak pada kali ini. Sila jawab yang mana paling hampir dengan apa yang anda rasa tentang diri anda.

Perubahan	Tidak Sama sekali$_1$	Sedikit$_2$	Sebahagian$_3$	Sangat$_4$	
a) Adakah anda merasa kurang menarik secara fizikal?					H4a☐
b) Adakah anda merasa kurang menarik secara seksual?					H4b☐
c) Adakah anda merasa kurang bertenaga?					H4c☐
d) Adakah anda merasa lebih bertenaga?					H4d☐
e) Adakah anda tidak berpuas hati dengan tubuh dan penampilan diri anda?					H4e☐
f) Adakah anda merasa kehamilan/kelahiran ini menyebabkan badan anda telah tidak sempurna?					H4f☐

5. Adakah kelahiran pada kali ini mempengaruhi pekerjaan/ pelajaran anda? H5☐
(1) Ya (2) Tidak → ***(Sila terus ke soalan 6)***

Jika **YA**, bagaimana? H5a☐
(1) Saya telah hilang pekerjaan/ Saya telah berhenti kerja
(2) Saya telah bertukar kerja ke tempat lain
(3) Saya telah bertukar ke jabatan lain/ skop kerja lain
(4) Saya telah berhenti belajar
(5) Saya telah bertukar ke sekolah/ kolej/ universiti yang lain
(6) Saya telah menangguhkan pelajaran ke satu tempoh waktu
(7) Lain-lain, nyatakan_____

6. Adakah kelahiran pada kali ini mempengaruhi pendapatan anda? H6☐
(1) Ya (2) Tidak

7. Adakah anda mengalami masalah kewangan selepas melahirkan anak pada kali ini? H7☐
(1) Ya (2) Tidak → ***(Sila terus ke bahagian G3)***

Jika **YA**, sila nyatakan apakah masalah kewangan yang pernah anda alami?
_____
_____

BAHAGIAN I : SKALA MULTIDIMENSIONAL UNTUK SOKONGAN SOSIAL (MSPSS)

Kami ingin mengetahui bagaimana perasaan anda tentang kenyataan berikut. Kami akan membaca setiap pernyataan untuk anda dan sila beritahu kami bagaimana perasaan anda tentang setiap kenyataan berikut mengikut skala di bawah.

1	2	3	4	5	6	7
Tersangat tidak setuju	Sangat tidak setuju	Tidak setuju	Berkecuali	Setuju	Sangat setuju	Tersangat setuju

1.	Ada seseorang yang sentiasa ada ketika saya memerlukan.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I1	☐
2.	Ada seseorang yang boleh berkongsi kegembiraan dan kesedihan saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I2	☐
3.	Ada seseorang yang menjadi sumber ketenangan bagi saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I3	☐
4.	Ada seseorang dalam hidup saya yang mengambil berat tentang perasaan saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I4	☐
5.	Keluarga saya benar-benar cuba untuk membantu saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I5	☐
6.	Saya mendapat bantuan emosional dan sokongan yang saya perlukan daripada keluarga saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I6	☐
7.	Saya dapat berbincang mengenai masalah saya dengan keluarga saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I7	☐
8.	Keluarga saya bersedia membantu saya untuk membuat keputusan.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I8	☐
9.	Teman-teman saya benar-benar cuba untuk membantu saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I9	☐
10.	Saya dapat bergantung pada teman-teman ketika ada masalah.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I10	☐
11.	Ada teman yang boleh berkongsi kegembiraan dan kesedihan saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I11	☐
12.	Saya dapat berbincang tentang masalah saya dengan teman-teman saya.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	I12	☐

Bahagian J: KESIHATAN DAN KESEJAHTERAAN ANDA

Soal selidik ini meminta pandangan anda mengenai kesihatan anda. Maklumat ini akan memantau keadaan anda dan bagaimana anda dapat melakukan aktiviti biasa anda dengan baik. ***Terima kasih kerana melengkapkan tinjauan ini!***
Untuk setiap soalan berikut, sila tandakan ☒ di dalam satu kotak yang paling baik menerangkan jawapan anda.

1. Secara umum, adakah anda akan mengatakan bahawa kesihatan anda adalah:

Paling baik	Sungguh baik	Baik	Sederhana	Tidak baik
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

2. Soalan-soalan berikut adalah mengenai aktiviti yang mungkin akan dilakukan oleh anda pada hari biasa. Adakah <u>anda terhad</u> di dalam sebarang aktiviti berikut kerana <u>keadaan kesihatan anda sekarang</u>?
Jika ya, sejauh mana?

		Ya, terbatas dengan banyaknya	Ya, terbatas dengan sedikitnya	Tidak, tidak terbatas sama sekali
a	<u>Aktiviti sederhana</u>, seperti mengalihkan meja, menyapu, bermain badminton atau bercucuk tanam.....	☐ 1	☐ 2	☐ 3
b	Menaiki <u>beberapa</u> larian tangga	☐ 1	☐ 2	☐ 3

3. Dalam masa 4 minggu yang lalu, berapa kerapkah anda mengalami sebarang masalah berikut dengan pekerjaan atau aktiviti harian tetap anda yang lain akibat daripada kesihatan fizikal anda?

	Setiap masa	Kebanyakan masa	Kadang-kala	Sedikit masa	Tidak sama sekali
a Mencapai kurang daripada yang diingini	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Terbatas dari segi jenis pekerjaan atau aktiviti lain	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

4. Dalam masa 4 minggu yang lalu, berapa kerapkah anda mengalami sebarang masalah berikut dengan pekerjaan atau aktiviti harian tetap anda yang lain akibat daripada sebarang masalah emosi (seperti merasa murung atau bimbang)?

	Setiap masa	Kebanyakan masa	Kadang-kala	Sedikit masa	Tidak sama sekali
a Mencapai kurang daripada yang diingini	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b Melakukan pekerjaan atau aktiviti lain dengan kurang berhati-hati daripada biasa	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

5. Dalam masa 4 minggu yang lalu, sejauh manakah kesakitan telah mengganggu pekerjaan biasa anda (termasuk pekerjaan di luar rumah dan kerja rumah)?

Tidak sama sekali	Sedikit	Sederhana	Agak banyak	Amat sangat
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

6. Soalan-soalan ini adalah mengenai perasaan dan keadaan anda dalam masa 4 minggu yang lalu. Untuk setiap soalan, sila berikan satu jawapan yang paling hampir dengan keadaan perasaan anda. Dalam masa 4 minggu yang lalu, berapa kerapkah…

		Setiap masa	Kebanyakan masa	Kadang-kala	Sedikit masa	Tiada sama sekali
		▼	▼	▼	▼	▼
a	Pernahkah anda merasa tenang dan aman?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
b	Adakah anda sungguh bertenaga?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5
c	Pernahkah anda merasa sedih dan murung?	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

7. Dalam masa 4 minggu yang lalu, berapa kerapkah kesihatan fizikal atau masalah emosi telah mengganggu aktiviti sosial anda (seperti melawat sahabat-handai, sanak-saudara, dll.)?

Setiap masa	Kebanyakan masa	Kadang-kala	Sedikit masa	Tiada sama sekali
▼	▼	▼	▼	▼
☐ 1	☐ 2	☐ 3	☐ 4	☐ 5

Terima kasih kerana melengkapkan soalan-soalan ini!

BAHAGIAN K : *GENERAL HEALTH QUESTIONNAIRE GHQ-12*

Kami ingin mengetahui sama ada anda mempunyai sebarang masalah kesihatan dan bagaimana tahap kesihatan anda keseluruhannya pada minggu-minggu kebelakangan ini. Sila jawab semua soalan di bawah dengan menanda pada kotak jawapan yang paling sesuai dengan anda.
PERINGATAN: Kami ingin mengetahui masalah kesihatan anda pada masa kini dan akhir-akhir ini sahaja dan tidak masa-masa lampau. Adalah amat penting anda menjawab SEMUA soalan.
Terima kasih atas kerjasama anda

ADAKAH ANDA KEBELAKANGAN INI/AKHIR-AKHIR INI:

1.	Boleh menumpukan perhatian kepada apa sahaja yang dibuat?	(1)Lebih dari biasa	(2) Tidak lebih dari biasa	(3) Kurang dari biasa	(4) Sangat kurang dari biasa	K1 ☐
2.	Kekurangan tidur kerana risau?	(1)Tiada langsung	(2) Tidak lebih dari biasa	(3) Lebih dari biasa	(4) Sangat lebih dari biasa	K2 ☐
3.	Rasa yang anda memainkan peranan yang berguna dalam banyak perkara?	(1)Lebih dari biasa	(2) Tidak lebih dari biasa	(3) Kurang dari biasa	(4) Sangat kurang dari biasa	K3 ☐
4.	Merasa mampu membuat keputusan tentang sesuatu?	(1)Lebih dari biasa	(2) Tidak lebih dari biasa	(3) Kurang dari biasa	(4) Sangat kurang dari biasa	K4 ☐
5.	Sentiasa merasa tertekan/tegang?	(1)Tiada langsung	(2) Tidak lebih dari biasa	(3) Lebih dari biasa	(4) Sangat lebih dari biasa	K5 ☐
6.	Rasa yang tidak dapat mengatasi kesukaran/masalah anda?	(1)Tiada langsung	(2) Tidak lebih dari biasa	(3) Lebih dari biasa	(4) Sangat lebih dari biasa	K6 ☐
7.	Dapat menikmati kegiatan harian anda?	(1)Lebih dari biasa	(2) Tidak lebih dari biasa	(3) Kurang dari biasa	(4) Sangat kurang dari biasa	K7 ☐
8.	Dapat mengatasi masalah–masalah anda?	(1)Lebih dari biasa	(2) Tidak lebih dari biasa	(3) Kurang dari biasa	(4) Sangat kurang dari biasa	K8 ☐
9.	Merasa tidak gembira dan sedih?	(1)Tiada langsung	(2) Tidak lebih dari biasa	(3) Lebih dari biasa	(4) Sangat lebih dari biasa	K9 ☐
10.	Telah hilang keyakinan terhadap diri anda sendiri?	(1Tiada langsung	(2) Tidak lebih dari biasa	(3) Lebih dari biasa	(4) Sangat lebih dari biasa	K10 ☐
11.	Memikirkan diri anda seorang yang tidak berguna?	(1)Tiada langsung	(2) Tidak lebih dari biasa	(3) Lebih dari biasa	(4) Sangat lebih dari biasa	K11 ☐
12.	Rasa cukup gembira dalam segala hal yang difikirkan?	(1)Lebih dari biasa	(2) Tidak lebih dari biasa	(3) Kurang dari biasa	(4) Sangat kurang dari biasa	K12 ☐

BAHAGIAN L : *MEDICAL OUTCOME STUDY (MOS) SOCIAL SUPPORT*

Lebih kurang berapa ramai teman atau saudara rapat yang anda punyai (mereka yang anda rasa selesa bersama dengannya dan dapat meluahkan apa yang terlintas difikiran anda)? L1☐☐

Catatkan bilangan teman atau saudara rapat yang anda punyai. _____ orang

Kadang-kadang kita memerlukan orang lain sebagai kawan, pembantu atau lain-lain bentuk sokongan. Berapa kerapkah jenis-jenis sokongan berikut dapat anda perolehi bila anda memerlukannya.

		Tidak langsung	Jarang-jarang	Kadang-kadang	Kebanyakan masa	Sepanjang masa	
2.	Seseorang yang boleh diharap untuk mendengar sekiranya anda ingin berbicara mengenai sesuatu	(0)	(1)	(2)	(3)	(4)	L2☐
3.	Seseorang yang memberi anda maklumat bagi membantu anda memahami sesuatu keadaan	(0)	(1)	(2)	(3)	(4)	L3☐
4.	Seseorang yang boleh memberi nasihat yang baik mengenai sesuatu krisis	(0)	(1)	(2)	(3)	(4)	L4☐
5.	Seseorang yang boleh anda luahkan perasaan mengenai diri atau masalah yang anda hadapi	(0)	(1)	(2)	(3)	(4)	L5☐
6.	Seseorang yang anda harapkan nasihat dan tunjuk ajar darinya	(0)	(1)	(2)	(3)	(4)	L6☐
7.	Seseorang yang boleh anda berkongsi masalah atau kerungsingan yang sulit atau peribadi	(0)	(1)	(2)	(3)	(4)	L7☐
8.	Seseorang yang boleh anda harapkan bagi mendapatkan cadangan bagi mengatasi sesuatu masalah peribadi	(0)	(1)	(2)	(3)	(4)	L8☐
9.	Seseorang yang memahami masalah anda	(0)	(1)	(2)	(3)	(4)	L9☐
10.	Seseorang yang boleh membantu anda sekiranya anda tidak terdaya bergerak (terlantar di katil)	(0)	(1)	(2)	(3)	(4)	L10☐
11.	Seseorang yang dapat membawa anda berjumpa doktor sekiranya perlu	(0)	(1)	(2)	(3)	(4)	L11☐
12.	Seseorang yang boleh membantu menyediakan makanan sekiranya anda tidak berupaya melakukannya	(0)	(1)	(2)	(3)	(4)	L12☐
13.	Seseorang yang boleh membantu anda membuat kerja harian sekiranya anda sakit	(0)	(1)	(2)	(3)	(4)	L13☐
14.	Seseorang yang menunjukkan kasih sayang kepada anda	(0)	(1)	(2)	(3)	(4)	L14☐
15.	Seseorang yang menyayangi anda dan membuat anda berasa diperlukan	(0)	(1)	(2)	(3)	(4)	L15☐
16.	Seseorang yang memeluk anda (membuatkan anda rasa tenang dan selamat)	(0)	(1)	(2)	(3)	(4)	L16☐
17.	Seseorang yang boleh anda bergembira bersama	(0)	(1)	(2)	(3)	(4)	L17☐
18.	Seseorang yang boleh bersama untuk relaksasi	(0)	(1)	(2)	(3)	(4)	L18☐
19.	Seseorang yang boleh anda lakukan sesuatu yang menggembirakan bersama	(0)	(1)	(2)	(3)	(4)	L19☐
20.	Seseorang yang boleh anda lakukan sesuatu bersama untuk mengurangkan kerungsingan anda mengenai sesuatu perkara	(0)	(1)	(2)	(3)	(4)	L20☐

BAHAGIAN M : *EDINBURGH POSTNATAL DEPRESSION SCALE (EPDS)*

Oleh kerana anda sedang mengandung, kami ingin mengetahui bagaimana perasaan anda. Sila tandakan jawapan yang paling hampir dengan anda tentang perasaan anda dalam masa 7 hari lepas, bukan perasaan anda hari ini.

1. Saya dapat ketawa dan melihat kelucuan pada sesuatu perkara M1 ☐
   - (1) Sebanyak mana biasa 0
   - (2) Kurang daripada biasa 1
   - (3) Sangat kurang daripada biasa 2
   - (4) Tiada langsung 3

2. Saya menanti dengan penuh harapan bagi mendapat kenikmatan apabila melakukan sesuatu perkara M2 ☐
   - (1) Sebanyak pernah saya inginkan 0
   - (2) Kurang daripada yang saya pernah inginkan 1
   - (3) Sangat kurang dari selalu 2
   - (4) Tidak sama sekali 3

3. Saya menyalahkan diri sendiri secara tidak sepatutnya apabila sesuatu yang tidak kena terjadi M3 ☐
   - (1) Ya, sepanjang masa 3
   - (2) Ya, kadangkala 2
   - (3) Jarang sekali 1
   - (4) Tidak pernah 0

4. Saya berasa risau atau bimbang tanpa sebab M4 ☐
   - (1) Tidak langsung 0
   - (2) Amat jarang sekali 1
   - (3) Ya, kadangkala 2
   - (4) Ya, sangat kerap 3

5. Saya berasa takut atau panik tanpa sebab M5 ☐
   - (1) Ya, sangat kerap 3
   - (2) Ya, kadangkala 2
   - (3) Jarang sekali 1
   - (4) Tidak pernah 0

6. Saya dibebani oleh terlalu banyak masalah M6 ☐
   - (1) Ya, kebanyakan masa saya tidak berupaya menanganinya langsung 3
   - (2) Ya, kadangkala saya tidak berupaya menanganinya seperti biasa 2
   - (3) Tidak, kebanyakan masa saya berupaya menanganinya dengan baik 1
   - (4) Tidak, saya berupaya menangani semua masalah dengan baik pada setiap masa 0

7. Saya berasa sungguh sedih sehingga saya mengalami kesukaran untuk tidur

(1)	Kebanyakan masa	3	M7 ☐
(2)	Kadang-kadang	2	
(3)	Jarang-jarang sekali	1	
(4)	Tidak pernah	0	

8. Saya berasa sedih atau serabut

(1)	Ya, kebanyakan masa	3	M8 ☐
(2)	Ya, agak kerap	2	
(3)	Jarang-jarang sekali	1	
(4)	Tidak pernah	0	

9. Saya berasa sangat sedih sehingga saya menangis

(1)	Ya, kebanyakan masa	3	M9 ☐
(2)	Ya, agak kerap	2	
(3)	Hanya sekali sekala	1	
(4)	Tidak pernah	0	

10. Pernah terlintas difikiran saya keinginan untuk mencederakan diri sendiri

(1)	Ya, kebanyakan masa	3	M10 ☐
(2)	Ya, agak kerap	2	
(3)	Amat jarang sekali	1	
(4)	Tidak pernah	0	

BAHAGIAN N : *BRIEF COPE SCALE*

Soalan-soalan di bawah adalah tentang cara yang anda guna semasa berhadapan dengan tekanan. Terdapat banyak cara dalam menangani perkara ini. Jelasnya, setiap orang menggunakan cara yang berbeza dalam menghadapi tekanan, dan saya sangat berminat untuk mengetahui cara anda dalam menghadapi situasi sebegini. Setiap soalan di bawah adalah tentang cara-cara tertentu yang digunakan dalam menghadapi tekanan. Saya ingin mengetahui setakat mana perkara-perkara di bawah berhubungan dengan anda, berapa banyak dan berapa kerap. Tolong jangan memberikan jawapan anda berdasarkan apa yang patut dilakukan, tetapi jawapan anda hendaklah berdasarkan apa yang anda lakukan. Gunakan skala jawapan yang diberikan. Cuba berikan jawapan yang seikhlas mungkin tentang apa yang anda lakukan tanpa dipengaruhi oleh orang lain. Berikan jawapan sehampir mungkin yang anda boleh mengenai diri anda.

		Saya tidak pernah melakukannya sama sekali	Saya melakukannya dengan sedikit	Saya melakukannya dengan sederhana	Saya melakukannya dengan banyak	
1.	Saya beralih kepada kerja atau aktiviti-aktiviti lain untuk melupakan perkara yang mengggganggu	(1)	(2)	(3)	(4)	N1☐
2.	Saya menumpukan sepenuh usaha dengan melakukan sesuatu untuk menghadapi masalah ini	(1)	(2)	(3)	(4)	N2☐
3.	Saya mengatakan kepada diri sendiri bahawa ’ini adalah tidak benar’	(1)	(2)	(3)	(4)	N3☐
4.	Saya telah mengambil alkohol/ arak atau dadah untuk menjadikan diri saya merasa lebih tenang .	(1)	(2)	(3)	(4)	N4☐
5.	Saya mendapat sokongan emosi daripada orang lain	(1)	(2)	(3)	(4)	N5☐
6.	Saya berputus asa mencuba mengatasinya	(1)	(2)	(3)	(4)	N6☐
7.	Saya mengambil tindakan untuk mencuba menjadikan situasi lebih baik	(1)	(2)	(3)	(4)	N7☐
8.	Saya enggan mempercayai bahawa ia telah berlaku	(1)	(2)	(3)	(4)	N8☐

9.	Saya telah mengeluarkan kata-kata untuk melepaskan perasaan yang tidak menyenangkan ini	(1)	(2)	(3)	(4)	N9 ☐
10.	Saya mendapatkan nasihat dan pertolongan daripada orang lain	(1)	(2)	(3)	(4)	N10 ☐
11.	Saya mengambil alkohol/ arak atau dadah untuk menolong saya menghadapi masalah ini.	(1)	(2)	(3)	(4)	N11 ☐
12.	Saya cuba melihatnya dari sudut yang berbeza untuk menjadikannya kelihatan lebih positif	(1)	(2)	(3)	(4)	N12 ☐
13.	Saya mengkritik diri saya sendiri	(1)	(2)	(3)	(4)	N13 ☐
14.	Saya cuba memikirkan strategi-strategi tentang tindakan yang perlu diambil	(1)	(2)	(3)	(4)	N14 ☐
15.	Saya mendapat kelegaan/ ketenangan dan pemahaman dari seseorang	(1)	(2)	(3)	(4)	N15 ☐
16.	Saya berputus asa untuk mencuba mengatasi perkara ini.	(1)	(2)	(3)	(4)	N16 ☐
17.	Saya mencari sesuatu yang baik dalam apa yang berlaku	(1)	(2)	(3)	(4)	N17 ☐
18.	Saya menganggapnya sesuatu yang lucu	(1)	(2)	(3)	(4)	N18 ☐
19.	Saya melakukan sesuatu supaya tidak terlalu memikirkan hal ini seperti menonton wayang, menonton tv, membaca, berkhayal, tidur atau membeli belah	(1)	(2)	(3)	(4)	N19 ☐
20.	Saya telah menerima hakikat bahawa ia telah berlaku	(1)	(2)	(3)	(4)	N20 ☐
21.	Saya telah meluahkan perasaan negatif saya	(1)	(2)	(3)	(4)	N21 ☐
22.	Saya cuba mencari ketenangan dalam agama saya atau dalam kepercayaan kerohanian	(1)	(2)	(3)	(4)	N22 ☐
23.	Saya cuba mendapatkan nasihat atau pertolongan dari orang lain tentang apa yang perlu dilakukan.	(1)	(2)	(3)	(4)	N23 ☐
24.	Saya telah belajar untuk menghadapinya dalam hidup ini	(1)	(2)	(3)	(4)	N24 ☐

25.	Saya memikirkan secara mendalam tentang langkah-langkah yang perlu diambil	(1)	(2)	(3)	(4)	N25 ☐
26.	Saya menyalahkan diri sendiri terhadap apa yang telah berlaku	(1)	(2)	(3)	(4)	N26 ☐
27.	Saya bersembahyang atau bertafakur	(1)	(2)	(3)	(4)	N27 ☐
28.	Saya menghadapi situasi ini dengan melakukan perkara-perkara yang boleh mendatangkan keseronokan	(1)	(2)	(3)	(4)	N28 ☐

INDEPTH INTERVIEW – KEY AREA AND PROBING QUESTION

1) Can you tell me how do you get pregnant?
2) Were you planning to conceive?
3) Did you use any method of contraceptive to prevent from pregnant? Why you did not use it?
4) How do you know you're pregnant? What are your feelings?
5) How your feelings towards this pregnancy? How do you accept it?
6) How your family's reaction to this pregnancy? How they accept it?
7) Can you explain to me your experience of pregnant outside marriage? What is the difficulties you're experiencing?
8) How your family, friends and the community treat you during and after pregnancy?
9) Who provide support to you during and after pregnancy? What kind of support?
10) Did you receive antenatal care? Why did you go or why you didn't go?
11) Can you explain to me your experience during the antenatal care at the clinic? How doctors and nurses treat you?
12) How your feelings when you first saw your child? How your feelings now?
13) What happened to your child now? How decision process about the baby goes on?
14) Can you explain to me your reasons for your decision of child?
15) What are your future plans?
16) Can you explain to me the impact of this pregnancy to you?
17) Based on your experience, how do you feel society viewed the problem of pregnant outside marriage and what are your advice to other women outside?

SOALAN TEMUBUAL

1. Boleh anda ceritakan bagaimana anda boleh terlibat dengan mengandung luar nikah?
2. Adakah anda merancang untuk mengandung?
3. Adakah anda menggunakan sebarang pencegah kehamilan? Kenapa tidak menggunakannya
4. Bagaimana anda tahu anda hamil, apa perasaan anda dan apa yang telah anda lakukan?
5. Bagaimana perasaan anda terhadap kehamilan ini? Bagaimana anda menerimanya?
6. Bagaimana reaksi keluarga anda terhadap kehamilan ini? Adakah mereka menerimanya?
7. Boleh anda terangkan kepada saya pengalaman anda mengandung tanpa nikah? Apakah kesusahan yang anda alami?
8. Bagaimana keluarga, kawan-kawan dan masyarakat melayan anda semasa dan selepas hamil?
9. Siapa yang memberi sokongan kepada anda semasa dan selepas hamil? Apakah jenis sokongan yang diberikan?
10. Adakah anda mendapatkan pemeriksaan ibu mengandung? Kenapa anda pergi atau kenapa anda tidak pergi?
11. Boleh anda terangkan pengalaman anda semasa mendapatkan pemeriksaan ibu mengandung di klinik? Bagaimana doctor dan jururawat melayan anda?
12. Bagaimana perasaan anda apabila pertama kali melihat anak anda? Bagaimana perasaan anda sekarang tentang itu?
13. Sekarang bagaimana dengan anak anda? Bagaimana proses membuat keputusan berlangsung?

14. Boleh anda terangkan apa alasan anda untuk menjaganya sendiri/ menyerahkannya kepada keluarga angkat?
15. Apakah perancangan anda untuk diri sendiri sekarang/ selepas ini?
16. Boleh anda terangkan apakah kesan yang anda alami akibat daripada kehamilan ini terhadap diri anda? Dari segi kesihatan, emosi, cara hidup, fizikal?
17. Daripada pengalaman anda, anda rasa bagaimana masyarakat melihat masalah mengandung luar nikah? apakah nasihat yang anda ingin berikan kepada wanita atau remaja di luar sana?

APPENDIX E

(Letter of Permissions)

UNIVERSITI SAINS MALAYSIA

Pejabat Pengarah
Office of the Director

Hospital
Universiti Sains Malaysia

Jalan Raja Perempuan Zainab II
16150 Kubang Kerian, Kelantan
Telefon 609-7673001 / 3002 / 3003
Faks 609-7673007
husm@kb.usm.my
http://www.h.usm@kb.usm.my

Ruj. Kami : HUSM/11/020/ Jld.

Tarikh : 15 Mac 2011

Pn. Norhasmah Binti Mohd Zain
Pelajar Ijazah Kedoktoran Universiti Malaya
Unit Pembangunan Pendidikan & Penyelidikan Perubatan (MERDU)
Fakulti Perubatan Universiti Malaya
Lembah Pantai, 50603 KUALA LUMPUR

Puan,

Per: Permohonan untuk Menjalankan Penyelidikan di Klinik dan Wad Obstetrik & Gynekologi Hospital Universiti Sains Malaysia

Surat puan bertarikh 28 Februari 2011 berkenaan perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan bahawa pihak pengurusan hospital ini telah meluluskan permohonan puan untuk menjalankan projek tersebut di hospital ini tertakluk kepada syarat-syarat sedia ada seperti berikut:

2.1 Identiti pesakit dan keluarga hendaklah dirahsiakan.
2.2 Gambar-gambar langsung (secara jelas) yang melibatkan pesakit tidak boleh diambil.
2.3 Sebarang bentuk laporan mengenai penyelidikan ini tidak boleh diterbitkan tanpa kebenaran bertulis dari Pengarah Hospital ini.
2.4 Data-data yang dikumpulkan hanya dibenarkan untuk perbincangan akademik sahaja.
2.5 Satu salinan penyelidikan ini hendaklah dihantarkan kepada Pengarah HUSM.

3. Sehubungan itu, puan adalah diminta supaya dapat berhubung terus dengan pihak-pihak yang berkenaan untuk urusan selanjutnya.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"
'Memastikan Kelestarian Hari Esok'

(DR. NIK MIN AHMAD)
Timbalan Pengarah Kanan (Klinikal)
b.p. Pengarah

s.k: Pn. Hjh. Nor Himah Mahmood
Penolong Pengarah Kanan (Kejururawatan) HUSM

JABATAN KEBAJIKAN MASYARAKAT MALAYSIA
(DEPARTMENT OF SOCIAL WELFARE MALAYSIA)
Tingkat 19-24, Menara Tun Ismail Mohamed Ali, Jalan Raja Laut, 50562 Kuala Lumpur, Malaysia
+603-2616 5600 +603-2693 4270 / +603-2694 9395
www.jkm.gov.my

Rujukan Tuan :
Rujukan Kami : JKMM: 100/12/5/2 Jld 47 (19)
Tarikh : 27 Julai 2011

Norhasmah Binti Mohd. Zain
(No. Matrik MH090039)
Unit Pembangunan Pendidikan dan Penyelidikan Perubatan
Fakulti Perubatan, Universiti Malaya
50603 KUALA LUMPUR

Tuan,

KELULUSAN MENJALANKAN KAJIAN / PENYELIDIKAN DI JABATAN KEBAJIKAN MASYARAKAT

Tajuk Kajian / Penyelidikan : ***Study On Pregnancy Among Unmarried Mothers In Malaysia : Associated Factors And Outcomes of Pregnancy***

Tempat Kajian / Penyelidikan : **Taman Seri Puteri Cheras, Kajang**
Taman Seri Puteri Batu Gajah, Perak
Pusat Jagaan Sinar Kasih, Batu Gajah, Perak

Dengan hormatnya saya merujuk kepada perkara di atas.

2. Sukacita dimaklumkan permohonan tuan untuk menjalankan kajian / penyelidikan tersebut telah diluluskan. Tempoh kelulusan bagi menjalankan kajian adalah selama **lapan belas (18) bulan** bermula dari tarikh surat ini.

3. Sehubungan dengan itu penyelidik adalah diminta menyerahkan **2 salinan tesis / laporan / penerbitan berjilid** kepada Jabatan ini selewat-selewatnya sebelum **31 Januari 2013** dengan kadar segera jua.

Sekian, terima kasih.

"BERKHIDMAT UNTUK NEGARA"
" BERKAT BERJASA"

Saya yang menurut perintah,

(SHARUDIN SHAH KASHIM)
b.p. Ketua Pengarah Kebajikan Masyarakat Malaysia

sk :

1. Ketua Pengarah Kebajikan Masyarakat Malaysia

2. Timbalan Ketua Pengarah (Perancangan)

3. Pengarah
   Jabatan Kebajikan Masyarakat Selangor
   Tingkat 2, Bangunan Darul Ehsan
   No. 3, Jalan Indah, Seksyen 14
   40000 SHAH ALAM
   SELANGOR

4. Pengarah
   Jabatan Kebajikan Masyarakat Negeri Perak
   Lot 1516, Jalan Panglima Bukit Gantang Wahab
   30000 IPOH
   PERAK

5. Pengetua
   Taman Seri Puteri Cheras
   Batu 11 ¼, Jalan Cheras
   43000 KAJANG
   SELANGOR

6. Pengetua
   Taman Seri Puteri Batu Gajah
   Batu 1, Jalan Pusing
   31000 BATU GAJAH
   PERAK

7. Pengetua
   Pusat Jagaan Sinar Kasih Batu Gajah
   Batu 1, Jalan Pusing
   31000 BATU GAJAH
   PERAK

8. Professor Dr. Sarinah Low Abdullah
   Unit Pembangunan Pendidikan dan Penyelidikan Perubatan (MERDU)
   Fakulti Perubatan, Universiti Malaya
   59100 KUALA LUMPUR

PUSAT PERLINDUNGAN WANITA BAITUL EHSAN
MAJLIS AGAMA ISLAM SELANGOR
JALAN RAJA CHULAN, 45200 SABAK BERNAM, SELANGOR DARUL EHSAN.
TEL : 03-3216 1286 FAX : 03-3216 1488 Laman Web: www.mais.gov.my E-mel: batulehsan@mais.gov.my

Rujukan Tuan :

Rujukan Kami : ( ) dlm.MAIS/S/ BPR/02-1/005/3 Jld 3

Tarikh : Julai 2011
Sya'aban 1432

ألسلا معليكم ورحمة أ لله و بر كاته

Professor Dr. Sarinah Low Abdullah
Pensyarah
Unit Pembangunan Pendidikan
Dan Penyelidikan Perubatan (MERDU)
Fakulti Perubatan Universiti Malaya
Lembah Pantai
50603 KUALA LUMPUR

Puan,

PERMOHONAN UNTUK MENJALANKAN KAJIAN KEHAMILAN DIKALANGAN IBU TANPA NIKAH DI MALAYSIA : FAKTOR YANG BERKAITAN DAN KESAN KEHAMILAN

Dengan segala hormatnya, surat tuan bertarikh 9 Jun 2011 adalah dirujuk.

2. Sukacita dimaklumkan bahawa, permohonan pelajar puan untuk membuat Kajian di Pusat Perlindungan Wanita Baitul Ehsan telah **DILULUSKAN** oleh pihak kami seperti butiran berikut :

Tarikh	**:**	**14 Julai 2011 (Sesi Pertama)**
Masa	**:**	**9.00pg**

3. Sehubungan dengan itu, pelajar tersebut diminta **membawa slip kebenaran** memasuki pusat. Kegagalan membawa slip ini akan menghalang pelajar puan daripada memasuki pusat. ***(Slip kemasukan untuk kajian sesi seterusnya sila ambil di Pos Pengawal Baitul Ehsan).***

Pihak puan juga diminta untuk memastikan satu salinan kajian diberikan kepada pihak Baitul Ehsan untuk simpanan setelah kajian ini selesai dijalankan. Sekiranya terdapat sebarang pertanyaan berkenaan dengan perkara tersebut sila hubungi **Puan Nur Afniza bt Kahpi** di talian **03-32161286.**

Di atas kerjasama pihak puan itu, diucapkan terima kasih.

( ) dlm.MAIS/S/
BPR/02-1/005/3 Jld 3
Julai 2011
Sya'aban 1432

Sekian, والسلام.

"مڠهارڤ كريضأن الله"
"أمانه قريهاتين دان مسرا"

Saya yang menurut perintah,

(MOHD MAKHI B. AD'NAN)
Penguasa
Pusat Perlindungan Wanita
Baitul Ehsan
b.p Setiausaha
Majlis Agama Islam Selangor

ROS/patin/latihan amali 2011

SK : Prof.Dr.Jamuna Vadivelu
Ketua Unit Pembangunan Pendidikan Dan Penyelidikan Perubatan MERDU

Norhasmah bt Mohd Zain – No. Matrik MHA090039

مجلس اگام اسلام ولايه ڤرسكوتوان
MAJLIS AGAMA ISLAM WILAYAH PERSEKUTUAN
DAR ASSAADAH
Kg, Delima, Jalan Jambu Laut,
Kampung Batu 5, Jalan Ipoh, 51200 Kuala Lumpur.
Tel : 03-6257 0960 / 6257 6864 Fax : 03-6258 1254

Rujukan Tuan :
Rujukan kami :MAIWP/DA/100-1/2 Klt.3 (35)
Tarikh :07 Julai 2011

Copy to Prof Law
+ file ui
Student's file
Iv 15/07

KETUA UNIT PEMBANGUNAN
PENDIDIKAN & PENYELIDIKAN PERUBATAN (MERDU)
FAKULTI PERUBATAN ,
UNIVERSITI MALAYA, LEMBAH PANTAI,
50603 KUALA LUMPUR
(u.p. Professor Dr. Jamuna Vadivelu)

Assalamualaikum wr. wbt

Tuan/Puan,

PROGRAM MENJALANKAN KAJIAN LATIHAN ILMIAH

Adalah saya diarah untuk menarik perhatian tuan/puan berhubung perkara diatas.

2. Sukacita dimaklumkan bahawa Dar Assaadah tiada halangan bagi cik Norhasmah binti mohd Zain (No. matrik : MHA090039) untuk menjalankan kajian yang bertajuk 'Kehamilan di Kalangan Ibu Tanpa Nikah di Malaysia : Faktor Yang Berkaitan dan Kesan Kehamilan.

3. Walau bagaimanapun, Dar Assaadah telah menetapkan beberapa syarat yang perlu dipatuhi oleh pihak tuan sepanjang program tersebut diadakan, antaranya ialah;

i) Dilarang berhubung secara langsung dengan penghuni Dar Assaadah secara bersendirian melainkan diawasi oleh kakitangan Dar Assaadah;

ii) Dilarang memberi telefon bimbit kepada penghuni Dar Assaadah;

iii) Dilarang memberi sebarang pemberian barang/hadiah kepada penghuni Dar Assaadah tanpa kebenaran pihak pengurusan Dar Assaadah;

iv) Dilarang mengambil gambar tanpa kebenaran pihak pengurusan Dar Assaadah; dan

v) Membuat rujukan atau mendapatkan kebenaran daripada pentadbiran Dar Assaadah apabila menyentuh perkara-perkara yang berkaitan dengan peraturan dan disiplin Dar Assaadah;

vi) Dilarang mengajukan soalan yang sensitif bersifat peribadi kepada pelatih;

vii) Mengisi borang perakuan membuat kajian di Dar Assaadah seperti di Lampiran 'A'.

4. untuk makluman pihak tuan, penetapan syarat-syarat tersebut adalah untuk menjamin keselamatan dan identiti setiap pelatih Dar Assaadah agar terpelihara.

5. Sehubungan dengan itu, Dar Assaadah ingin mengucapkan ribuan terima kasih kerana telah memilih Dar Assaadah sebagai tempat untuk melaksanakan program tersebut.

Kerjasama dan perhatian daripada pihak tuan /puan amat diharapkan dan diucapkan ribuan terima kasih.

Sekian. Terima kasih.

" BERKHIDMAT UNTUK NEGARA"

"MEMACU KEGEMILANGAN UMMAH"

.....

(ASPALELA BT HASAN)
Pengetua
Dar Assaadah
b.p. Ketua Pegawai Eksekutif
Majlis Agama Islam Wilayah Persekutuan

s.k.: Fail Timbul

haiza/s. jwpn.UM/Kajian

APPENDIX F

(Related documents)

UNIVERSITI MALAYA

UM.TNC2/IPPP/UPGP/GRANT(PPP)/PS216/2010B

1 November 2010

Norhasmah Binti Mohd Zain
MERDU
Fakulti Perubatan

Sir/Madam,

APPROVAL FOR POST GRADUATE RESEARCH FUND (PPP) CYCLE 2/2010

We are pleased to inform that your application has been **approved by the Post Graduate Research Grant (PPP) Committee Cycle 2/2010**. Particulars of the approval are as follows:

Title	:	Study On Pregnancy Among Unmarried Mothers In Malaysia: Associated Factors And Outcomes Of Pregnancy
Account No	:	PS216/2010B
Password	:	gfjy6i7
Duration	:	1st November 2010 – 31st October 2011

ALLOCATION		**RM**
(i)	Equipment & Accessories	7000
(ii)	Consumable/Supplies	500
(iii)	Travelling & Expenses (Fieldwork)	2000
(iv)	Wage/Honorarium	4000
	Total	**13500**

2. This approval is **subject to the Terms and Conditions for Doing Research under Postgraduate Research Fund** (attached). The account will be activated once we receive the document signed by the recipient. If we do not receive any reply within 30 days from the date of the letter, the offer will expire automatically.

3. The expenditures (payment & purchasing) and monitoring of the account **can be made through our research management system: http://www.eFinance.ippp.um.edu.my**. All invoices and claims should be submitted to Bursar Office not later than 31 October 2011.

Thank you.

Your Sincerely,

PROF. DR. SHALIZA IBRAHIM
Head

c.c Prof. Dr. Sarinah Abdullah @ Low Wah Yun (Supervisor)
Jabatan Sains Maklumat, Fakulti Sains Komputer & Teknologi Maklumat

RESEARCH MANAGEMENT GRANT UNIT
Institute of Research Grant Management and Monitoring, A205, IPS Building, University of Malaya, 50603 Kuala Lumpur, MALAYSIA
• **Phone:** (+603) 7967 4522/4647/4652/4653/4654/4675/4521/6952 • **Fax**: (+603) 7967 4648
• **Email**: ketua_upd_ippp@um.edu.my • **Website:** http://www.ippp.um.edu.my

UNIVERSITI
MALAYA

UM.TNC2/IPPP/UPGP(Geran FRGS/KPT)/2010/FP068/2010B

10 Januari 2010

Professor Dr. Low Wah Yun @ Sarinah Low Abdullah
Pejabat Dekan
Fakulti Perubatan
Universiti Malaya.

Y. Bhg. Profesor / Datuk / Dato' / Datin / Dr. / Tuan / Puan ,

PERMOHONAN GERAN PENYELIDIKAN FUNDAMENTAL (FRGS) 2010, UNIVERSITI MALAYA

Dengan segala hormatnya izinkan saya merujuk kepada perkara di atas.

2. Seperti yang sedia maklum permohonan Geran Penyelidikan Fundamental Y. Bhg. Profesor / Datuk / Dato' / Datin / Dr. / Tuan / Puan telah diluluskan oleh Jawatankuasa Induk Penilaian Geran Penyelidikan Fundamental, Kementerian Pengajian Tinggi (KPT) sebanyak **RM18000**

3. Maklumat peruntukan yang telah diluluskan adalah seperti berikut :

No. Akaun : FP068/2010B
Tajuk : Study On Pregnancy Among Unmaried Mothersin Malaysia: Associated Factors And Outcomes Of Pregnancy
Katalaluan : 3pchQG
Tempoh Geran Penyelidikan 10 Januari 2011- 9 Januari 2013 (2 Tahun).

4. Sehubungan dengan itu, Y. Bhg. Profesor / Datuk / Dato' / Datin / Dr. / Tuan / Puan diminta memaklumkan kepada Unit Pengurusan Geran Penyelidikan (UPGP) samada menerima atau menolak tawaran di atas dengan mengisi borang penerimaan tawaran dan pecahan baru peruntukan IPPP/UPGP/Geran(FRGS)2010/15 terlampir dan serahkan kembali kepada UPGP selewat-lewatnya pada **17 Januari 2011**. Jika pihak kami tidak menerima sebarang maklumbalas sehingga tarikh tersebut tawaran ini boleh terbatal dengan sendirinya.

5. Sekiranya menerima tawaran ini, Y. Bhg. Profesor / Datuk / Dato' / Datin / Dr. / Tuan / Puan perlu mengemukakan **laporan kemajuan projek setiap enam (6) bulan bermula dari geran penyelidikan ini ditawarkan dan laporan akhir projek di penghujung tempoh geran peruntukan ini tamat**. Laporan-laporan tersebut harus dihantar terus ke Pejabat Pengarah IPPP ini mengikut tempoh yang ditetapkan. Kesemua laporan ini juga mestilah mengikut format yang telah ditetapkan oleh UPGP yang boleh didapati di laman web http://www.ippp.um.edu.my. Permohonan peruntukan baru / akan datang tidak akan dipertimbangkan tanpa laporan kemajuan dan akhir projek ini.

6. Penggunaan peruntukan ini adalah berdasarkan Garis Panduan FRGS pindaan tahun 2010 dan segala urusan perbelanjaan (Pembelian & Pembayaran) dan semakan akaun **mestilah menggunakan sistem kewangan melalui laman web**:

Unit Pengurusan Geran Penyelidikan
Institut Pengurusan dan Pemantauan Penyelidikan, A205 Bangunan IPS, Universiti Malaya, 50603 Kuala Lumpur, Malaysia
Tel: (603) 7967 4522 / 4647 / 4652 / 4653 / 4654 / 4675 / 4521 / 6952 • **Faks**: (603) 7967 4648
Emel: ketua_upd_ippp@um.edu.my • http://www.ippp.um.edu.my

http://www.efinance.ippp.um.edu.my. Manual penggunaan sistem boleh didapati di dalam laman web tersebut.

7. Kesemua tuntutan perbelanjaan hendaklah dikemukakan kepada Pejabat Bendahari, Universiti Malaya melalui ketua Jabatan / Bahagian masing-masing untuk diproses. **Segala tuntutan mestilah sampai ke Unit ini tidak lewat dari 9 Januari 2013**. Tuntutan selepas tarikh ini tidak akan dilayan. Peruntukan ini mestilah dibelanjakan mengikut Pekeliling Perbendaharaan yang diterima pakai oleh pihak Bendahari Universiti Malaya.

Sekian.

Yang Benar,

PROFESOR DR. SHALIZA IBRAHIM
Ketua

s.k Timbalan Dekan / Pengarah (Penyelidikan)
Fakulti Perubatan
Universiti Malaya.

Ketua / Pengarah
Pejabat Dekan
Fakulti Perubatan
Universiti Malaya.

UNIVERSITI
MALAYA

UM.TNC2/IPPP/UPGP/625/PPP

22 Februari 2012

Prof. Dr. Sarinah Low Binti Abdullah
Jabatan MeRDU
Fakulti Perubatan
Universiti Malaya

Tuan/Puan,

PERUNTUKAN PENYELIDIKAN PASCASISWAZAH (PPP), KITAR KHAS, 2011
Tajuk: Study on Pregnancy Among unmarried Mothers in Malaysia : Associated Factors and outcomes of Pregnancy

Dengan hormatnya saya merujuk kepada perkara di atas.

2. Adalah dimaklumkan bahawa, permohonan tuan/puan seperti di atas telah diluluskan oleh Jawatankuasa Peruntukan Penyelidikan Pascasiswazah Universiti Malaya.

3. Berikut dilampirkan surat tawaran yang ditandatangani oleh Naib Canselor Universiti Malaya. Tuan/Puan diminta menandatangani surat tawaran yang diberikan sebagai bukti penerimaan tawaran dan persetujuan di atas syarat yang telah ditetapkan. Surat tawaran yang lengkap dengan tandatangan semua penyelidik, hendaklah dihantar kepada Unit Pengurusan Geran Penyelidikan (UPGP), Tingkat 4, Bangunan IPPP dalam tempoh 14 hari dari tarikh surat ini.

4. Satu surat makluman nombor akaun dan katalaluan akan dihantar kepada tuan/puan, setelah pihak UPGP menerima surat tawaran tersebut. Sila hubungi En. Azwan/En.Hassan di talian 03-79674647/4654, untuk sebarang pertanyaan berkenaan perkara ini. Pihak UPGP mengucapkan selamat maju jaya dan berharap tuan/puan dapat menggunakan peruntukan ini dengan sebaiknya.

Sekian, terima kasih.

Yang benar,

PROF. MADYA DR. ROSLINDA ITHNIN
Timbalan Pengarah (Pengurusan Geran Penyelidikan)

s.k Pengarah, Institut Pengurusan & Pemantauan Penyelidikan

Norhasmah Binti Mohd Zain
Jabatan MeRDU
Fakulti Perubatan

- *Sila berhubung dengan penyelia untuk tandatangan penerimaan tawaran*

Unit Pengurusan Geran Penyelidikan
Institut Pengurusan dan Pemantauan Penyelidikan, A 205 Bangunan IPS, Universiti Malaya, 50603 Kuala Lumpur, Malaysia
Tel: (603) 7967 4522 / 4647/ 4652 / 4653 / 4654 / 4675 / 4521 / 6952 • Faks: (603) 7967 4648
E-mel: ketua_upgp@um.edu.my • http://www.ippp.um.edu.my

UNIVERSITI
MALAYA

UM.C/241/9
16th February 2012

Ghauth Jasmon
Vice Chancellor
Naib Canselor

Prof. Dr. Sarinah Low Binti Abdullah
Department of MeRDU
Faculty of Medicine
Universiti Malaya

Dear Prof. Sarinah,

Funding Allocation Under *"Penyelidikan Pascasiswazah (PPP)"* – 2011.
Title of Project: Study on Pregnancy Among unmarried Mothers in Malaysia : Associated Factors and outcomes of Pregnancy.
Budget Approved : RM 34,000.00
Number of Tier 1 or 2 ISI/WoS Journal Papers : 2

I am pleased to inform you that the PPP Funding Committee of IPPP has recommended that your project entitled as above be accepted for funding under PPP and is hereby approved.

Please take note that any further request for additional budget or time shall not be entertained and this project shall be monitored strictly in accordance to the proposal that you submitted. We trust that you shall execute this project with full dedication and commitment, including achieving the target hereby set. Failure to do so may cause the undersigned to be denied of any future funding.

With best wishes.

Yours sincerely,

GHAUTH JASMON
Vice Chancellor

cc Director of IPPP
Deputy Vice-Chancellor, Research & Innovation
Dean, Faculty of Medicine

I acknowledge receipt of this letter and fully agree with the terms set:

Prof. Dr. Sarinah Low Binti Abdullah (PI)
Date: 6/3/2012

Norhasmah Binti Mohd Zain (PhD Student)
Date: 12/3/2012

Chancellory Building, University of Malaya, Lembah Pantai, 50603 Kuala Lumpur, MALAYSIA
Tel: (603) 7956 8400 / 7967 3213 • Fax: (603) 7954 7551 • E-mail: vc@um.edu.my • ghauth@gmail.com • http://www.um.edu.my