A MIXED METHOD ANALYSIS OF CHILD SEXUAL ABUSE AND RISKY SEXUAL BEHAVIOURS AMONG UNIVERSITY STUDENTS IN MALAYSIA

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ABSTRACT

Many previous studies have showed that child sexual abuse (CSA) is associated with risky sexual behaviours (RSB). Additionally, there have been many misconceptions in understanding sexual abuse among the public. The lack of awareness and various views on perceiving sexual abuse among people of different ethnic minorities warrants in-depth understanding. The quantitative phase aimed to determine the prevalence of CSA experience and its association with unprotected sex during first sexual intercourse (RSB 1), unprotected sex throughout subsequent sexual intercourse (RSB 2) and multiple sexual partners (RSB 3). The purpose of the qualitative phase was to gain in-depth understanding of multi-ethnic perceptions on sexual abuse among female undergraduate students. The quantitative phase was a cross-sectional study conducted using an anonymous online survey. Respondents were undergraduate students from a public university in Malaysia. The qualitative phase involved focus group discussions among female undergraduate students from different ethnic minorities. In the quantitative study, a total of 1,650 undergraduate students responded. Only 1,383 (83.8%) responses were included in the analysis. The prevalence of CSA experience is 38.3% with rates being higher in females (41%, n=368) than males (33.2%, n=162). CSA experience was significantly associated with unprotected sex during first sexual intercourse (P=0.002) and multiple sexual partners (P=0.015) in the uni-variate analysis. In the multivariate logistic regression analysis, CSA experience was significantly associated with unprotected sex during first sexual intercourse (P=0.010). The likelihood of having unprotected sex during first sexual intercourse was higher in respondents who did not experience CSA (OR=2.56, 95%CI: 1.25-5.26). A total of 14 FGDs with a total of 75 students were conducted. Respondents from different ethnic groups perceived sexual

abuse differently. Respondents perceived females, younger individuals, dress-code, good looks, soft and timid personalities, having lack of sexual knowledge, environmental factors and certain medical condition to be risk factors for sexual abuse victims. Sexual abuse perpetrators were perceived to be males, older individuals and most often a relative of the victim. Respondents also perceived that knowledge on sexual abuse amongst the community was insufficient and improper. CSA experience among university students is common in Malaysia and is associated with unprotected sex during first sexual intercourse (RSB 1). Many complaints on CSA in Malaysia do not lead to successful prosecution. This could largely be due to the weaknesses in the criminal justice system, police, law makers and child welfare groups. Furthermore, the Malaysian government does not publish data on CSA as it is protected under the Malaysia's Official Act. Therefore, this problem needs to be addressed urgently and resources have to be made available for prevention against sexual abuse. Clinicians, who see patients with a history of CSA, should be aware of the relationship between CSA experience and risky sexual behaviours and be prepared to address the issue during their therapy. Additionally, sexual abuse is perceived differently among the ethnic groups in Malaysia. This shows that there is a need to strengthen sexual abuse prevention initiatives, awareness and sexual health promotion among young adults regardless of gender.

Keywords: Child sexual abuse, Risky sexual behaviours, Sexual risk taking behaviours, Socio-demographic characteristics, Adolescents

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ABSTRAK

Terdapat banyak kajian yang menunjukkan bahawa pengalaman penderaan seksual kanak-kanak amat berhubungkait dengan tingkahlaku seksual berisiko. Ini ditambah dengan salahfaham dikalangan khalayak ramai berhubung gejala penderaan seksual kanak-kanak. Tahap kesedaran dan jurang pendapat yang besar di antara pelbagai kaum mengenai penderaan seksual kanak-kanak perlu dikenalpasti dan diselidik dengan lebih mendalam. Fasa kuantitatif bertujuan menentukan prevalens pengalaman penderaan seksual kanak-kanak (CSA) serta mengenalpasti hubungkait dengan melakukan hubungan intim/seks tidak selamat sewaktu menjalin hubungan intim buat kali pertama (RSB 1), mengamalkan hubungan intim/seks tidak selamat pada kali berikutnya (RSB 2) dan seterusnya mengamalkan hubungan seks rambang (RSB 3). Tujuan fasa kualitatif dilaksanakan adalah untuk memahami persepsi pelbagai kaum tentang penderaan seksual di kalangan mahasiswa perempuan peringkat ijazah pertama. Fasa kuantitatif melibatkan kajian rentas menggunakan borang soal-selidik atas talian tanpa nama. Responden terdiri daripada mahasiswa ijazah pertama dari sebuah Institut Pengajian Tinggi Awam di Malaysia. Seramai 1,650 responden menjawab borang soal-selidik dan sebanyak 1,383 (83.8%) jawapan responden digunakan untuk analisa. Prevalens CSA adalah 38.3% dengan kadar lebih tinggi di kalangan perempuan (41%, n=368) daripada lelaki (33.2%, n=162). Dalam analisa univariat, pengalaman CSA adalah dihubungkait secara signifikan dengan menjalinkan hubungan intim tidak selamat sewaktu hubungan intim pertama (p=0.002) dan hubungan intim secara rambang (p=0.015). Dalam analisa multivariat, hanya pengalaman CSA dikaitkan secara signifikan dengan penjalinan hubungan intim tidak selamat kali pertama (p=0.010). Kebarangkalian menjalin hubungan intim tidak selamat pada kali pertama adalah lebih tinggi di kalangan

responden yang tidak mengalami CSA (OR=2.65, 95% CI: 1.25-5.26). Fasa kualitiatif melibatkan sejumlah 14 perbincangan kumpulan berfokus (FGD) dengan 75 orang mahasiswa wanita yang terdiri daripada pelbagai kaum. Hasil perbincangan mendapati terdapat persepsi berbeza diantara kaum terhadap penderaan seksual. Responden berpendapat bahawa jantina perempuan, umur muda, penampilan diri, kecantikan, perwatakan yang lemah lembut serta pemalu, kekurangan pengetahuan tentang hubungan seks, faktor persekitaran dan beberapa penyakit tertentu adalah faktor risiko bagi seseorang itu lebih cenderung menjadi mangsa jenayah penderaan seksual. Pelaku jenayah keganasan seksual pula dianggap lebih cenderung terdiri daripada jantina lelaki, golongan umur lebih tua, dan seringkali seseorang yang ada hubungan kekeluargaan dengan mangsa. Responden juga berpendapat bahawa pengetahuan di kalangan masyarakat tentang jenayah keganasan seksual adalah tidak mencukupi dan tidak tepat . Pengalaman CSA di kalangan mahasiswa universiti tidak boleh dinafikan dan didapati berhubungkait dengan penjalinan hubungan intim kali pertama yang tidak selamat. Terdapat banyak aduan mengenai CSA di Malaysia yang tidak membawa kepada pendakwaan pesalah. Kemungkinan ini disebabkan oleh kelemahan dalam sistem perundangan, penggubal undang-undang dan pertubuhan kebajikan kanak-kanak. Data mengenai CSA tidak diterbitkan oleh kerajaan Malaysia kerana ia dianggap sulit di bawah Akta Rahsia Rasmi. Justeru itu, terdapat keperluan mendesak untuk menangani masalah ini disamping langkah untuk meningkatkan pencegahan CSA. Pakar klinikal yang merawat pesakit yang mempunyai sejarah CSA perlu menyedari hubungkait pengalaman CSA dengan tingkahlaku seksual berisiko dan bersedia untuk menangani isu ini sewaktu memberikan rawatan. Penderaan seksual turut dilihat dengan perspektif berbeza oleh pelbagai kaum di Malaysia. Ini menunjukkan terdapat keperluan untuk meningkatkan inisiatif pencegahan penderaan seksual, meningkatkan kesedaran dan

mempromosikan kesihatan seksual di kalangan remaja dan dewasa lelaki dan perempuan tanpa mengira bangsa.

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LIST OF SYMBOLS AND ABBREVIATION

AGC - Attorney general's chamber

AIDS – Acquired Immune Deficiency Syndrome

CDC – Centre of Disease Control

CRC - Convention on the Rights of a Child

CSA – Child Sexual Abuse

FGD – Focus group discussion

HBM – Health Belief Model

HIV – Human Immunodeficiency Virus

IHS – Indian Health Service

IPS – Institute of Public Health

ISPCAN - International Society for the Prevention of Child Abuse and Neglect

RSB – Risky sexual behaviour

SPSS – Statistical package for the Social Sciences

STD – Sexually Transmitted Diseases

UMMC – University Malaya Medical Centre

UNICEF – United Nations Children's Fund

WHO – World Health Organization

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CHAPTER 1: INTRODUCTION

1.1 Background

1.1.1 Phase I: Quantitative Study

Childhood sexual abuse (CSA) has become an outstanding public health and social-welfare problem faced by children in many parts of the world. This issue has created growing concerns from the public, media and professionals over the last two decades (Laaksonene, Sariola, Johansson, Jern, & Varjonen, 2011). In Malaysia, CSA has presently become a very critical and devastating problem. The number of reported CSA cases has significantly increased in the country. A study conducted in Malaysia documented that CSA was the second highest child abuse among all child abuse cases reported (Othman & Jaafar, 2012). CSA is a form of violation to a child's human rights by introducing threats to a child's well-being and safety. Following the Law of Malaysia, the definition of 'Child' is governed under the relevant legislations in accordance with their respective purposes ((AGC), 2001). The Child Act 2001 [Act 611] defines a child as a person under the age of 18 years ((AGC), 2001). However, any child who having attained the age of ten years who allegedly committed an offence can be arrested and subjected to detention under the custody of the magistrates court ((AGC), 2001).

In Malaysia, CSA is so common that when faced with the issue, many adults are unprepared and unwilling to deal with it. There are also many who fail to interpret a CSA experience as serious because most of them are unaware that it is a wrong doing. Due to the invisible physical evidence, many victims of CSA cases become helpless and find it difficult to identify the abuse (Modelli, Galvao, & Pratesi, 2012). In addition, this would result in more CSA cases to be under-reported. One of the main reasons for CSA cases to be under-reported is because of shame and fear (Mokhtar, 2011). Until today, many societies in Malaysia stigmatize

sexual abuse victims. There are a few factors that may act as a barrier towards delayed and problematic disclosures of CSA. Families with fixed gender roles, patriarchal attitudes, power imbalance, other forms of child abuse or domestic violence and social isolation have been found to suppress disclosures (Collin-Vézina, Sablonni, Palmer, & Milne, 2015; Fontes & Plummer, 2010). When perpetrators are family members or close to the family, is when disclosures are made more difficult (Priebe & Svedin, 2008; Schonbucher, Maier, Mohler-Kuo, & Schnyder, 2012). This is especially a barrier when the perpetrator lives with the victim (Leclerc & Wortley, 2015). Thirdly, community, neighbourhood and schools that do not provide a supportive environment such as following up with troubling victims can hinder disclosures (Alaggia, 2010). Additionally, there are many child victims who feel that they may not be believed by their family or community if they had revealed their CSA experience (Collin-Vézina et al., 2015). According to Fontes et al. (2010), there are many cultures that foster families to silence children from disclosing their abuse experiences (Fontes & Plummer, 2010). Taboos about sexuality, patriarchal attitudes, and devaluation of women are among some of the cultural barriers that inhibit disclosure (Fontes & Plummer, 2010). For instance in China, victims will never volunteer information on their sexual abuse experiences due to cultural reasons and to obtain self-protection (Tang & Lee, 1999).

Many sexual abuse children are also at a greater risk of experiencing other types of abuse (Gilbert, Widom, Browne, & Fergusson, 2009). According to Gilbert et al. (2009), multiple and repeated episodes of any type of child abuse can increase the risk of psychological consequences (Gilbert et al., 2009). In most sexual abuse cases the victim does not realise the importance of reporting the unwanted sexual activities experienced. Due to apathy and societal indifference, it has become a norm in modern society for everyone to mind their own business and ignore what happens

outside their homes. This is wrong. It is crucial that CSA victims be given the rights to see justice. The traumatized victims need to be healed. In the western world, fewer CSA cases were reported in the 1970s (McCann, Rossa, & Boos, 2003) and this was only recognized as a problem a decade later. It was only after the publication of the book entitled "Sexually victimized children" by Finkelhor et al. (1979), that CSA was given more attention by researchers around the world (D Finkelhor, 1979). Nevertheless, the awareness of CSA among the Malaysian community was also recognized much later. Before 1985, CSA did not receive widespread attention in Malaysia. The severity of experiencing CSA was not known by many. It was only after the formation of the Suspected Child Abuse and Neglect (SCAN) team in Hospital Kuala Lumpur, that CSA became a recognizable threat to the Malaysian community (Cheah & Choo, 2011). Prior to this there was no hospital that kept an organized data on CSA (Kassim & Kasim, 1995).

Globally, there are many misconceptions about CSA which could be due to the culturally and ethnically diverse backgrounds of the world's community (Lambert & Andipatin, 2014). Each ethnic group is different in their beliefs and practices. Therefore, although CSA is universal, it is defined, approached and counted differently by these various cultures and societies. Understanding the concept of CSA continues to be a challenge in many different cultures (Shafe & Hutchinson, 2014). For example, a review of sexual practises and offences in India reported that sexual abuse offenders often said that they were not aware that they committed an offence (Bastia, 2006). There are also cultures that believe, girls deserve to be abused because of the way they dress and not adhering to traditional values (Lalor, 2004). Based on evidence cultural and community practices continue to be potent forces in perpetuating sexual abuse. Therefore, planning and prevention against CSA will remain a pronounced challenge.

There are many definitions for CSA in use, each of which may have subtle differences and coverage in terminologies that influence surveillance and reporting efforts. According to Djeddah et al. (2000), CSA was regarded as an act involving sexual intercourse between an adult and a child (Djeddah, Facchin, & Ranzato, 2000). The study also documented that a perpetrator is always a stranger and where rape is discussed, it only happens to an adult woman and not a child (Djeddah et al., 2000). Following another study conducted by Johnson et al. (2004), CSA was defined as any sexual activity with a child before the legal age of consent for the purpose of satisfying the sexual gratification of an adult or an older child (Johnson, 2004). A legal age of majority is required for consent in all sexual acts between an adult and an underage child (Murray, Nguyen, & Cohen, 2014). In Malaysia, the Law states that the age of majority is eighteen years with regards to Under the Age of Majority Act 1971. The World Health Organization (WHO) defines CSA as the involvement of a child in a sexual activity that he or she does not fully comprehend; is unable to give informed consent or for which the child is not mentally prepared and cannot give consent; or that violates the law or social taboos of society (WHO, 1999). The Centre of Disease Control (CDC) has defined CSA with relation to contact. CDC revealed that any completed or attempted (non-complete) sexual act which involves sexual contact or only exploitation (non-contact sexual interaction) of a child by a caregiver was to be identified as CSA (Leeb, PAulozzi, Melanson, Somon, & Arias, 2008). In addition, a child can be sexually abused by an adult or another child depending on their age of development, position of responsibility, trust and power over the victim (WHO, 2006). The United Nations Children's Fund (UNICEF) endorses the Council of Europe's definition of child sex abuse, which includes activities involving a child under the legal age as provided by national law, as well as sexual activities with children that involve coercion, abuse of a position of

trust or influence, or exploitation of a vulnerable or dependent child (UNICEF, 2013). Although many studies have stressed on the victim's degree of responsibility and legal age of giving consent when defining CSA, several others have further defined CSA as an act which is to be committed by an individual who is at least five or more years older to the victim (J. Bailey & Ann McCloskey, 2005; Dilorio, Hartwell, & Hansen, 2002; Dube, Miller, Brown, & Giles, 2006; D Finkelhor, 1979; Finklehor, Ormrod, Turner, & Holt, 2009; Fleming, Mullen, & Bammer, 1997; Hillis et al., 2004; Jirapramukpitak, Prince, & Harpham, 2005; D. Jones, Runyan, Lewis, Litronik, & MM, 2010; Loeb, Gaines, Wyatt, Zhang, & Liu, 2011; Mamun, Alati, & O'Callaghan, 2007; Merill, Guimond, & Thomsen, 2003; Mohler-Kuo, Landolt, Maier, & Meidert, 2014; Schein M et al., 2000; Schraufnagal, Davis, George, & Norris, 2010; Senn, Carey, & Vanable, 2008; Wilson & Sathiyasusuman, 2015). Finkelhor et al. (1994) had mentioned that one of the main elements in defining CSA relies on the large age gap between a CSA victim and the perpetrator (Finkelhor 1994). The reason for considering the abuser's age in the definition of CSA further describes whether the sexual act was performed intentionally or out of curiosity (Drauker & Mazurczyk, 2013). Therefore, a decision on defining the minimum age difference between the victim and the perpetrator is important for the purpose of ruling out sexual activity among peers (Stoltenborgh, van Ijzandoorn, Euser, & Bakermans-Krananburg, 2011). According to Drauker et al. (2013), it is believed that sexual activities performed by peers (perpetrators less than five years older to victim) are done out of curiosity, therefore it is less likely to be identified as a CSA (Drauker & Mazurczyk, 2013). Instead it is known as a peer sexual abuse. This creates an understanding that sexual acts convicted by perpetrators who are five or more years older to the victim are intentional.

Although sexual abuse in children is a unique phenomenon, the dynamics are often different to that of adult sexual abuse. Children are developmentally immature and this contributes to their vulnerability and manipulation of sexual abuse perpetrators on the victims (IHS, 2017). They often obey elders and some do not have the cognitive and psychological capacity to cope with sexual abuse on their own (IHS, 2017). Sexual abuse perpetrators usually start by establishing a relationship with the child so that they can arrange more opportunities to spend time with the victims (WHO, 2003). Once a rapport is built, perpetrators start behaving in a sexual manner with the child (WHO, 2003). The role of secrecy in the continuation of the abuse is crucial. In addition, approaches such as bribe or rewards are often used by the perpetrator to progress in the sexual activity.

CSA encompasses many types of sexually abusive acts toward children, including sexual assault, rape, incest, and the commercial sexual exploitation of children (Murray et al., 2014). CSA can be further classified into contact and non-contact activities (Giardino, 2008). Contact activities include sexualized kissing, fondling, masturbation and digital or object penetration of the vagina and/or anus as well as oral-genital, genital-genital and anal-genital contact. The non-contact activities are for example exhibition, inappropriate observation of a child (while dressing, using the toilet or bathing), producing or viewing pornography or child prostitution. Although CSA has been defined and interpreted to suit country laws and organizations, the International Society for the Prevention of Child Abuse and Neglect (ISPCAN) has found a greater commonality than difference in the definition of CSA among 75 countries studied (ISPCAN, 2008).

According to the National Child Protection Policy, children are important for a country's human capital. This can only be developed by providing a safe and conducive environment to the public (Department of Social Welfare, 2013). Any

form of abuse, violence or neglect to children should be given priority. It has been stated by UNICEF that children are neither property of parents nor are they helpless objects of charity. In fact, children are members of a family and community (UNICEF, 2006). In 2001, Malaysia has enacted the Child Act 2001 to fulfil its obligations under the Convention on the Rights of a Child (CRC). The Act not only defines what a child is, it also advises the government to play a role in protecting and assisting children regardless of their race, colour, gender, sex, language, religion, social origin and physical, mental or emotional disabilities (UNICEF, 2006).

The graph below (Figure 1.1) illustrates the total cases of CSA reported to the Department of Social Welfare, Malaysia from 2000 to 2011.

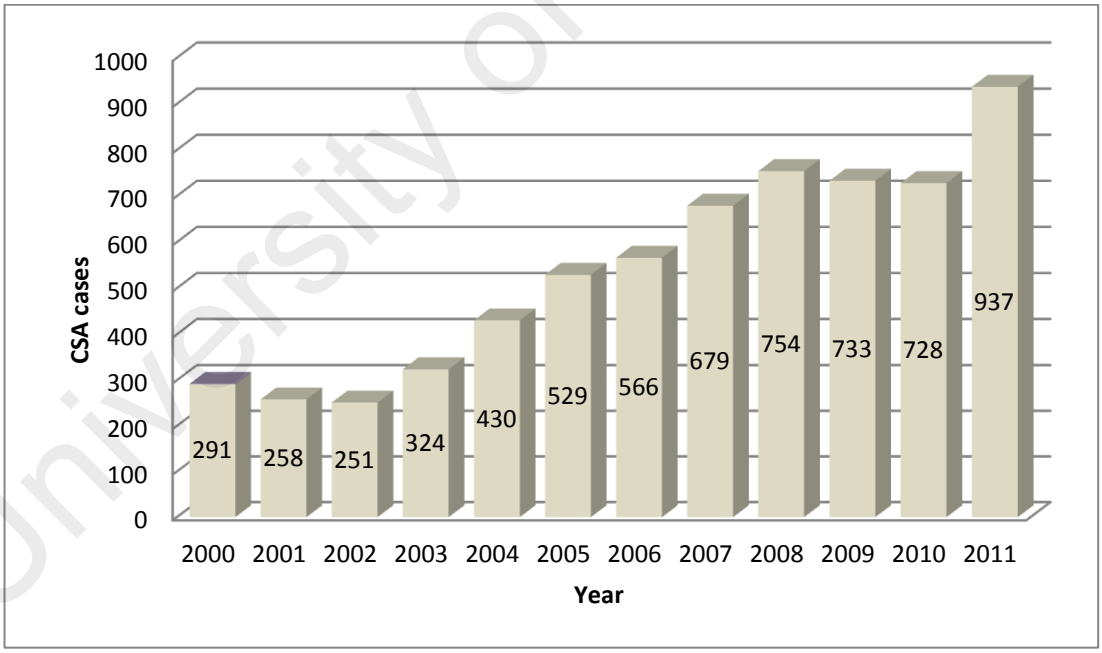


Figure 1.1: Total number of Child sexual abuse cases reported to Department of Social and Welfare, Malaysia from years 2000 to 2011

Although there are many CSA cases that are left un-attended and not reported, the numbers of CSA cases according to the Malaysian Police Statistics, vary tremendously

from what have been reported to the Department of Social Welfare, Malaysia. CSA cases including rape that has been reported to the Malaysian Police showed an increase from 1,710 cases in year 2006 to 2,658 cases in the year 2010 (Cheah & Choo, 2011). There are many CSA cases reported to the Malaysian police but do not proceed to seek help from the Department of Social Welfare. This could be due to the stigmatization faced. Stigma is a negative feeling and thought created against one's self referring to as blameworthy (D Finkelhor & Brown, 1985). Henceforth, it is not rare for a CSA victim to experience shame and self-blame following the experience of sexual abuse. The phenomenological experience of shame is a desire is to hide the damaged and degraded self from further exposure to the censure of others (Feiring, Cleland, & Simon, 2010).

Risky sexual behaviours (RSB) are a significant public health concern across the world. It includes risky acts such as premarital sex, early sexual initiation, unprotected sexual intercourse, sex with multiple sexual partners and unprotected sex with partners who are potential carriers of sexually transmitted infections (STIs) (Bengel, 2002). The negative health consequences of RSB include STIs, teenage or unplanned pregnancies and HIV infection (Ugoji, 2014). Among all age groups, adolescents are the ones who are known to be the adventurous group who often engage in sexual activities (Farid, Che' Rus, Dahlui, Al-Sadat, & Aziz, 2014). The overall development of the adolescents are shaped by many factors; however, sexual development is a normal and seemingly vital part of adolescence as it involves not only the physical changes but also the formation of one's individuality, perspective, attitudes, expression of intimacy and the defining experience within sexual and romantic framework (Adeyemo & Williams, 2009).

RSB could be influenced by inter-social factors such as emotional intelligence, self-esteem, media and religiosity (Ugoji, 2014). Although research has identified a variety of risk and protective factors that affect adolescence health in relation to RSB, it

still remains poorly understood. “Protective” factors are usually referred to as factors that increase the likelihood of positive health behaviours or outcomes such as abstinence, condom use or contraceptive use during sexual intercourse (Mmari, Kaggwa, & Wagman, 2013). On the other hand, factors are labelled “risk” if they increase the likelihood of negative health behaviours and outcomes or discourage positive behaviours that might prevent them (Mmari et al., 2013). Based on previous literature, it has been documented that family closeness (Negeri, 2014), parental monitoring (Mlunde, Poudel, Sunguya, & Mbwambo, 2012), parental support (Elkington, Bauermeister, & Zimmerman, 2011; Lambert & Andipatin, 2014) and religiosity (Edwards, Haglund, Fehring, & Pruszynski, 2011; Negeri, 2014) are protective against the involvement of risky sex. Factors such as substance use (Icard, Jemmott, Teitelman, O'Leary, & Heeren, 2014; Tu, Lou, Gao, Li, & Zabin, 2012; Zelalem, Molalign, Addisu, & Getahun, 2014) and peer related issues (Alvarado, Palos, & Salinas, 2010; Cherie & Berhane, 2012) increase the risk of an individual to engage in RSB. For example, studies have shown individuals who consume alcohol and drugs are more likely to engage in unprotected sex and having multiple sexual partners compared to those who do not (Icard et al., 2014). Additionally, strong friendship bonds and sexual relationships are commonly established by the existence of peer pressure (Alvarado et al., 2010). Therefore, adolescence who perceived that their peers engaged in risky behaviours such as unprotected sex and multiple sexual partners will be more inclined to follow same behaviours (O’Donnell, Stueve, Wilson-Simmons, & Dash, 2006). Nevertheless, several studies have indicated that a history of CSA increase the risk of adolescent to engage in RSB (Brennan, Hellerstedt, Ross, & Welles, 2007; Homma, Wang, Saewyc, & Kishor, 2012; Senn et al., 2008; Slonim-Nevo & Mukuka, 2007; Teixeira & Taquette, 2010). In fact, the psychological trauma experienced from a history of CSA brings about vulnerability consequences in adulthood (T. Roberts, Klein,

& Fisher, 2003). According to Finkelhor et. al (1985), most CSA victims engaged with sexual risk taking behaviours because they wanted to reduce the emotional and psychological distress (D Finkelhor & Brown, 1985).

It is important emphasize on the consequences of the various types of RSB. Health interventions should target adolescents and their parents to delay onset on sexual activities, encourage condom use and prevent having multiple sexual partners (Mmari et al., 2013). Therefore, strategies need to focus on educating adolescents and their parents or guardians about the risk associated with RSB. They should understand the consequences and adopt measures not to engage with RSB. For instance, condom use during sexual intercourse must have a clear focus. Adolescents should be encouraged to delay sexual initiations until marriage as a strategy to avoid from RSB such as having multiple sexual partners (Mutinta, 2014).

1.1.2 Phase II: Qualitative Study

With the escalating rates of sexual abuse cases in Malaysia today, the community still suffers from a distinct lack of understanding on the general concept of sexual abuse (McGregor, Thomas, & Read, 2006). Identifying sexual abuse as an act of violence often goes unrecognized among many in the public. There happens to be some amount of confusion and differences in perceiving sexual abuse and relating issues with regard to sexual abuse victims and perpetrators (Jewkes, 2002). Furthermore, these ideas on the definition of sexual abuse, sexual abuse victims and perpetrators among the public appears to be lagging behind those advocates and experts in the field. Malaysia is a multi-racial country. Therefore, there are different community traditions, culture and customs practised among the different ethnic groups in Malaysia that contribute to the varying perceptions towards sexual abuse besides their inability to accept sexual abuse seriously.

Sexual abuse has been perceived differently by different individuals. Previous literature has reported that CSA victims usually fail to identify the act of sexual abuse committed on them (N. Anderson, Ho-Foster, Matthis, Marokoane, & Mashiane, 2004; Choo & Dunne, 2011). Most of the time sexual abuse is pictured as a crime that involves rape where a victim is violently attacked outside by a stranger at night (I. Anderson, 2007). In many situations an event of sexual abuse is perceived to involve sexual penetration. This belief is more pronounced by the African societies in Southern Africa (Mathoma, Maripe-Perera, Khumalo, Mbayi, & Seloilwe, 2006). It was stated by Mathoma et al. (2006) that the African culture does not accept sexual exhibition and pornography viewing as sexual abuse (Mathoma et al., 2006). Sexual intercourse is perceived as a must in the event of a sexual abuse. However, this finding was not supported by Lira et al. (1999) in another study among Mexican American women (Lira, Koss, & Russo, 1999). It was found that fondling, sexual viewing and getting involved in sexual talk were believed to be forms of sexual abuse. Although these acts were reported to be less severe it was believed to be an act of violation.

Between genders, females have been found to be more vulnerable than males. The vulnerability of a female brings about an increased risk for sexual abuse. This fact is in accordance with a few previous studies (D. Jones et al., 2010; Pasura et al., 2014; Steel & Herlitz, 2005). According to Lambert et al. (2014), the petite physical appearance and weak personality of a female contributes to their vulnerability (Lambert & Andipatin, 2014). These characteristics put females at a greater risk for sexual abuse compared to male individuals. Sexual abuse perpetrators are overwhelmingly males although under a few circumstances females also happen to be sexual abuse perpetrators (Pasura et al., 2014). According to the National Sexual Violence Resource it was documented that men are more likely to commit sexual violence in communities where sexual violence goes unpunished (Lewis, 2004). Various personality profiles in a male result in males

being more likely to perpetrate sexual abuse. For example, the hostile masculinity and the strong body built of a male perpetrator allow them to easily attack a victim. Males usually lack empathy. The macho, dominant and controlling personalities are possible reasons for men to often commit sexual abuse. This association between gender of sexual abuse victims and perpetrator can be described in the context of gender-based violence (Abeid, Muganyizi, Olsson, Darj, & Axemo, 2014). Gender-based violence illustrates the power imbalance between a male and female. Following a study in South Africa, it was found that females have to submit to men's wishes especially when it comes to satisfying sexual needs (Bower, 2014). For example, a practise in the African culture showed that fathers who slept with their daughters were wrong and it was done for the purpose of cleansing (Muwanigwa, 1996). Females in South Africa do not have human rights, are not given opportunities for decision making and freedom. In sexual matters such as negotiating safer sex, higher rates of inconsistent condom use, unwanted pregnancies, HIV and other sexually transmitted diseases, multiple sexual partners and early sexual debut women experience great challenges (Gass, Stein, & Williams, 2010; Lang, Salazar, Wingood, & DiClemente, 2007). Additionally, sexual abuse perpetrators are at a greater advantage to victimize younger individuals. Young individuals are innocent and trust anyone easily (Bower, 2014; Lambert & Andipatin, 2014; Sweet & Welles, 2012). Children for instance are more prone for sexual abuse because they are the most powerless members in any human community (Mathoma et al., 2006). A study conducted in the Caribbean indicated that children are more susceptible to transactional sex (Pasura et al., 2014). Transactional sex refers to situations when a victim is forced to perform a sexual act through bribery. Sexual abuse committed with bribery does not result in the victim disclosing their experience of sexual abuse to anyone. In such cases, the victim is more likely to keep the experience to themselves. Additionally, the fear of being blamed, punished and neglected by family members keeps them from sharing

these experiences (Othman & Jaafar, 2012). Previous literature has reported that the manner of dressing is also associated with getting sexually abused (Mathoma et al., 2006). Many females dress up sexily to seek sexual satisfaction and seduce the opposite sex (Pasura et al., 2014). This finding was supported by a perception study conducted in Botswana and Swaziland (Mathoma et al., 2006).

Adequate sex education can certainly lower the rates of sexual abuse cases (Lambert & Andipatin, 2014). It is extremely important for children and adolescents to identify themselves as sexual abuse victims if they have ever been victimized (Sherill, Renk, Sims, & Culp, 2011). Recognising the event of sexual abuse can certainly speed up the mode of coming forward to seek help. Proper awareness on sexual abuse and its consequences has to be taught to the younger age group. According to a study among Chinese secondary school students in Hong Kong, it was found that by majority of the respondents perceived parents should play an important role in educating their children on sexuality (Ip, Chau, Chang, & Lui, 2001). There are many parents who do not understand the significance of educating their children on the risks of sexual abuse and its possible outcomes (Lira et al., 1999). Sometimes it is assumed that other sources such as school and peers will eventually expose their children to sexual issues. This could be due to the lack of awareness on sexual matters among many parents. Furthermore, in some families, talking and discussing about sexual issues is believed to be a taboo. This is a common issue in many communities in Malaysia where talking freely about sex at home is often prohibited. This finding was reported by Rahman et al. (2011) in a Malaysian study conducted among school students (Rahman et al., 2011). A large percentage (66%) of these school students had reported that their source of information on sex gained was mainly from peers.

Literature has shown that sex education and information on protective measures for prevention from being sexually abused should be tackled right through school. In

many western countries like United States, Australia, New Zealand, Canada and Europe, school children are educated using latest multimedia formats to protect themselves from sexual abuse. School based workshops, external facilitated presentation, video based classroom activities, role plays and discussions are among the methods used to increase awareness in children (Poole & Tomison, 2000; Russel, 2008). However, efforts to prevent sexual abuse in Malaysia still remain inadequate. There are still many who do not understand the seriousness of sexual abuse. A preliminary investigation on awareness on child sexual abuse was carried out by Othman et al. (2012) in Malaysia. It was found that there is lack of educational materials utilizing multimedia and computer technology to teach the Malaysian school children about personal safety and prevention from sexual abuse (Othman & Jaafar, 2012).

1.2 Problem Statement

CSA experience has been found to be associated with many socio-demographic characteristics of a child in previous studies. Socio-demographic characteristics such as family's household income, family structure, residential area and number of siblings have been reported to have a strong association with those who have been sexually abused during childhood (Chen, Dunne, & Han, 2004; D. M. Fergusson, Boden, & Horwood, 2008; Steel & Herlitz, 2005). As a result of CSA many children undergo some amount of psychological disturbances that could disrupt their behavioural development during adolescents and adulthood, very often affecting the sexual component of their behaviour (Dube et al., 2006; Steel & Herlitz, 2005; Usta & Farver, 2010). In addition, victims of CSA experience have a high risk of engaging in risky sexual behaviours during adolescents or adulthood. A few studies have investigated and found a significant association between CSA experience and risky sexual behaviours (Cinq-Mars, Wright, Cyr, & McDuff, 2003;

Dube et al., 2006; Senn et al., 2008; Steel & Herlitz, 2005). However, many of these studies have been carried out among high-risk group populations like drug addicts and patients at STD clinics. At the same time, these researches have not investigated on all the other factors associated with risky sexual behaviours which will be studied in this study.

Variables used to measure risky sexual behaviours in this study include, unprotected sex during first sexual intercourse (RSB 1), unprotected sex throughout subsequent sexual intercourse (RSB 2) and having multiple sexual partners (RSB 3) (Cinq-Mars et al., 2003; Senn et al., 2008; Steel & Herlitz, 2005). In addition to CSA experience, other studies have also revealed that factors such as familial factors, substance use, peer association, religiosity, knowledge of HIV and sexual and reproductive health do have an association with risky sexual behaviour (Archibald, 2007; Brown & Vanable, 2007; Le & Kato, 2006; Talashek, Peragallo, Norr, & Dancy, 2004; Vazsonyi, Trejos-Castillo, & Huang, 2006; Wilcox, Rostosky, & Randal, 2001; Yi et al., 2010).

Extensive research on CSA has been on going in Western countries but very little is known about CSA in Malaysia. This phenomenon of CSA experience and its associations with risky sexual behaviours in Malaysian societies has not been studied so far. Therefore, it is worthwhile looking into the association between CSA experiences and risky sexual behaviours in the Malaysian context. It is extremely crucial to identify and help protect all sexually abused children. In most cases the child is innocent and do not know if the sexual abuse experienced is right or wrong (D. M. Fergusson et al., 2008; Senn et al., 2008; Steel & Herlitz, 2005). A child is also more likely to not resist a perpetrator's act due to various reasons such as lack of knowledge on sexual abuse, coercion or trust that the child has upon the perpetrator (Aboul-Hagag & Hamed, 2012). Sexual abuse victims have to be

identified early. Early identification of these victims can help reduce the chance of them engaging in risky sexual behaviours during adolescents or early adulthood. In addition, prevention against adolescent's sexual risk taking behaviours is important as these behaviours are associated with many health compromises such as early pregnancy, contracting sexually transmitted infections and HIV/AIDS (Crosby, Santelli, & DiClemente, 2009).

The current study is a mixed study with two main phases. The first phase is a quantitative study and the second phase is a qualitative study. The quantitative phase of this study aims to identify factors associated with risky sexual behaviours such as CSA experience, socio-demographic characteristics and other associated factors (substance use, peer association, levels of religiosity, knowledge of HIV, knowledge of sexual and reproductive health and the health belief perspectives) of sexual risk taking. This phase also aims to determine the prevalence of CSA experience and risky sexual behaviours among the study samples. The findings of this study are hoped to inform authorities concerned with program development to address CSA and the risk of engaging in risky sexual behaviours. Considering the lack of awareness and varying misconceptions on sexual abuse among the Malaysian community, the qualitative phase of this study aimed to explore the multi-ethnic perceptions of sexual abuse among a sample of female university students in the same university as where the quantitative phase was conducted. It has been found that many sexual abuse victims are unaware whether the exposed sexual activity is to be considered right or wrong since there are many victims who view only sexual penetration as a form of sexual abuse (N. Anderson et al., 2004; Choo & Dunne, 2011). Since females are at a higher risk of experiencing sexual abuse in contrast to males, only female students were recruited for the focus group discussions in the qualitative phase.

1.3 Research Question

1.3.1 Phase I – Quantitative study

Is CSA experience associated with risky sexual behaviours?

Specific Research Questions

1. What is the prevalence of CSA experience and risky sexual behaviours?
2. What are the socio-demographic characteristics of victims who have experienced CSA and those who have engaged in risky sexual behaviours?
3. Is there an association between CSA experience and risky sexual behaviours after confounded by other factors (such as familial factors, substance use, peer association, level of religiosity, knowledge of HIV, knowledge of sexual and reproductive health and health belief)?

1.3.2 Phase II – Qualitative study

What is the misconception in defining sexual abuse?

Specific Research Questions

1) What are the differences in the perception and interpretation of sexual abuse among the various ethnic groups in Malaysia?

1.4 Study objective

The main aim of this study is to determine the association between CSA experience and risky sexual behaviours. There are two phases:

1.4.1 Phase 1: Quantitative

1) To determine prevalence and socio-demographic characteristics associated with child sexual abuse (CSA) among undergraduate students.
2) To determine prevalence and socio-demographic characteristics associated with risky sexual behaviours among undergraduate students.
3) To determine the association between CSA experience and risky sexual behaviours.

1.4.2 Phase 2: Qualitative

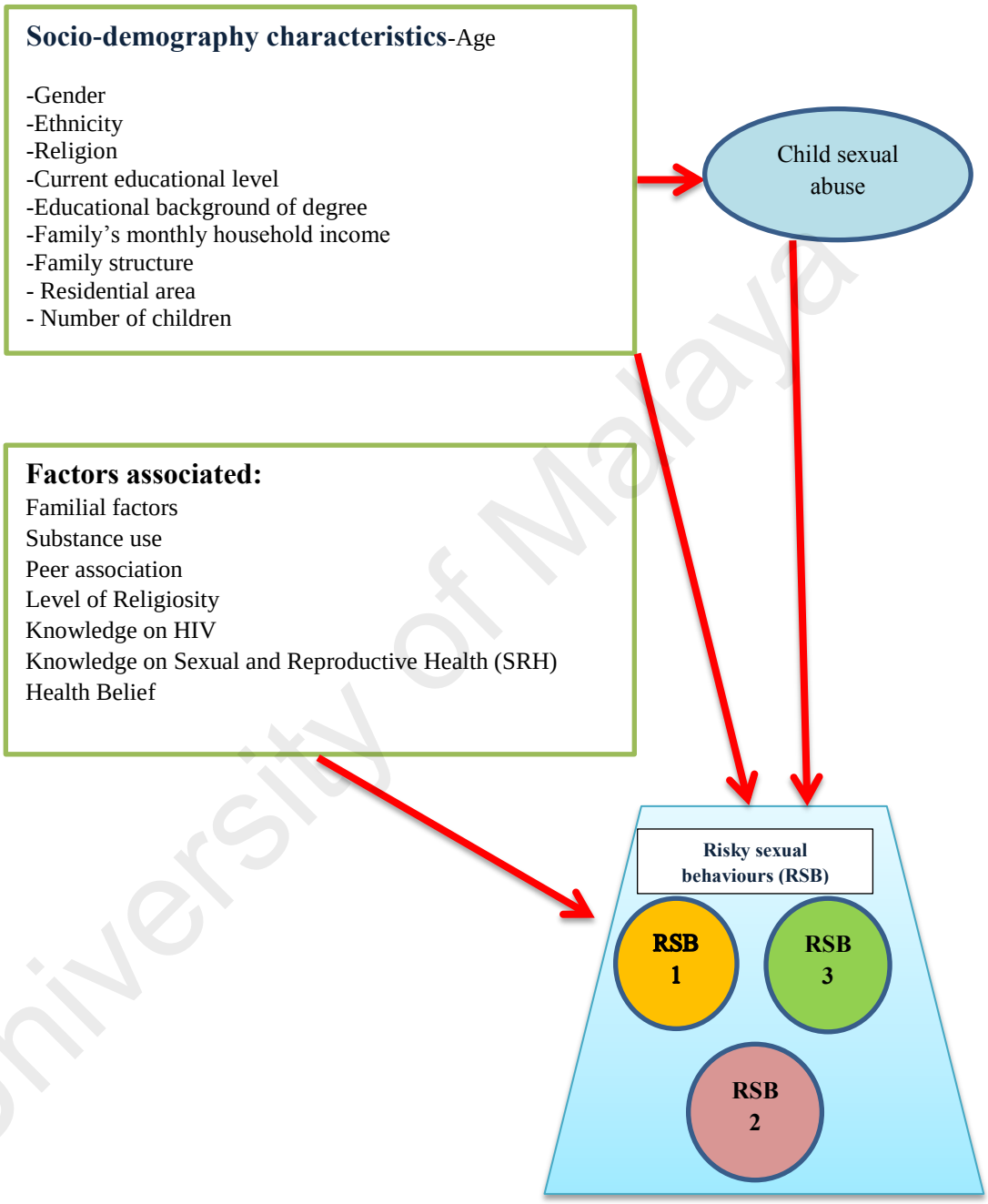
1) To gain in-depth understanding of multi-ethnic perceptions on sexual abuse among female undergraduate students. Specifically this phase aims to explore on the
    a) Definition of sexual abuse
    b) Sexual abuse perpetrators
    c) Sexual abuse victims
    d) Source of information on sexual abuse

1.5 Hypothesis

a) Alternative hypothesis – There is a significant association between CSA experience and risky sexual behaviours
b) Null hypothesis - There is no significant association between CSA experience and risky sexual behaviours

1.6 Conceptual framework

The framework below (Figure 1.2) describes the independent and the dependent variables of this study.



RSB 1 – Unprotected sex during first sexual intercourse
RSB 2 – Unprotected sex throughout subsequent sexual intercourse
RSB 3 – Multiple sexual partners

Figure 1.2: Conceptual framework of the quantitative study

CHAPTER 2: LITERATURE REVIEW

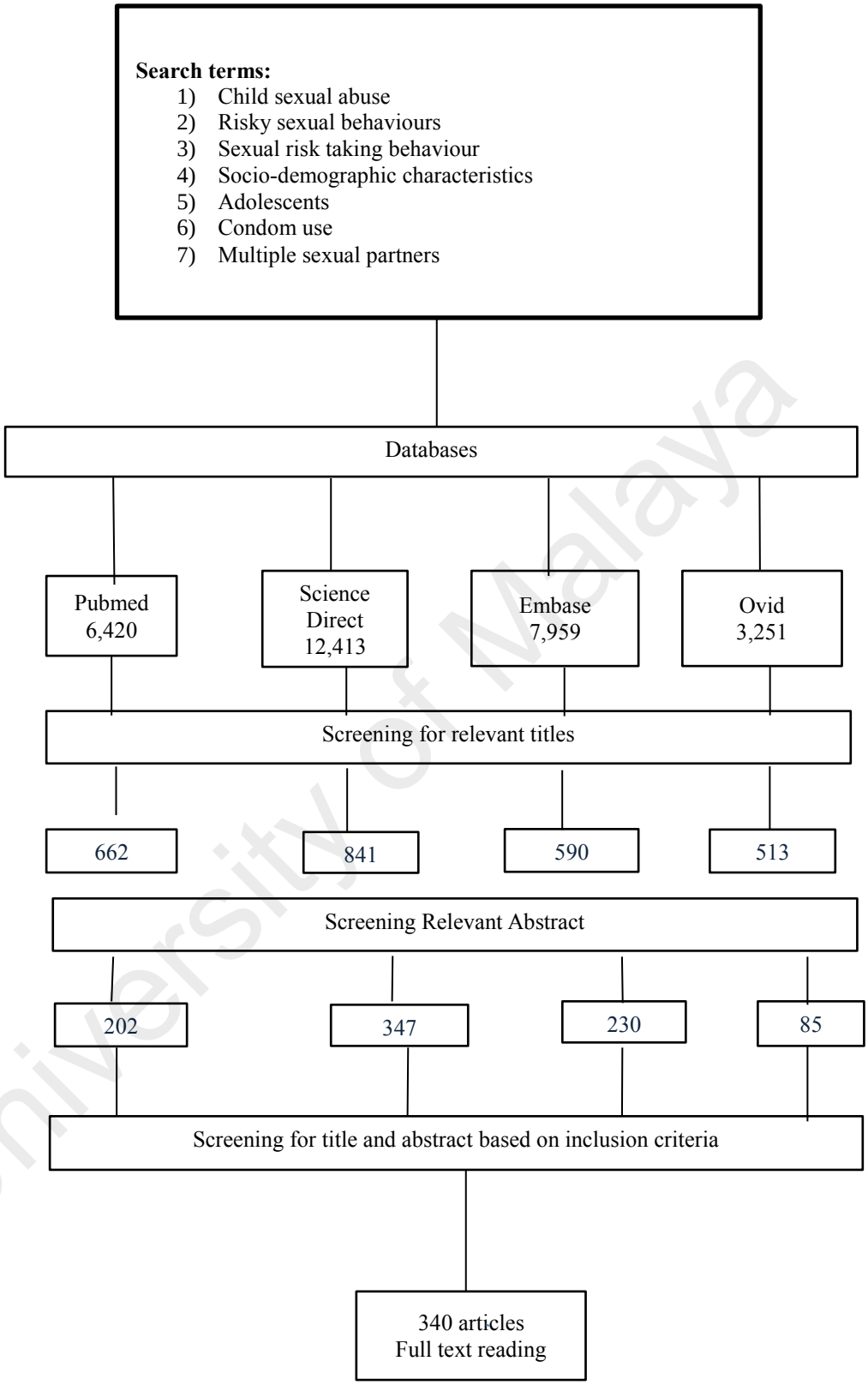
2.1 PECOT element

PECOT is an important tool in Evidence Based Medicine which is used to formulate the research question. The research question of the current study was defined from the PECOT model described below (Table 2.1).

Table 2.1: PECOT element

P (Population)	**University undergraduate students**
E (Exposure)	Child sexual abuse
C (Comparison)	Nil
O (Outcome)	Risky sexual behaviours (Three independent outcomes : unprotected sex during first sexual intercourse, unprotected sex throughout subsequent sexual intercourse, multiple sexual partners)
T (Treatment)	Nil

2.2 Search strategy for relevant articles



2.3 Phase I : Quantitative study

2.3.1 Global statistics and prevalence of child sexual abuse

It has been found that at least two million children worldwide are affected by commercial sexual exploitation (Barnitz, 2001). In 2002, World Health Organization (WHO) had reported that 150 million girls and 73 million boys had experienced some form of sexual violence before reaching the age of 18 (WHO, 2002). WHO also gathered results from many research studies carried out in 19 different countries 12 years ago. In the United States, CSA experience reported by adult women has been estimated to be between 14% and 33% (Bensley & Eenwyk, 2000; Elze, Auslander, McMillan, Edmond, & Thompson, 2001). A review on the international epidemiology of CSA conducted between 1970 and 1994 revealed that CSA was experienced by 3 to 26% male victims and 7 to 34% female victims (David Finkelhor, 1994). Subsequently, another review on the prevalence of CSA between 1994 and 2007 by Finkelhor et al. (2009) found that among 21 countries studied, 19.7% women and 7.9% men had a history of sexual abuse before 18 years of age (Pereda, Guilera, Forns, & Gómez-Benito, 2009). In most situations the prevalence rate reported indicates the lower limit of the true prevalence rate because of the possibility of under-reporting (Gilbert et al., 2009). These numbers have the possibility of creating a serious impact not only to the unfortunate victims but also to the society. Furthermore, in Malaysia the number of CSA cases has drastically increased over the years especially in the past decade. From 1999 to 2007, it was observed that about 30% of abused children in Malaysia were cases of sexual abuse (Department of Social Welfare, 2010). Right up to 2010, CSA has been reported to be the second most common abuse among children in Malaysia. In 2010, 2,426 rapes (vaginal intercourse), 147 incidents of sodomy (anal intercourse) and 1,610 incidents of outraging modesty were reported to the police department nationwide (Mokhtar, 2011). According to the latest statistics released by the Department of Social

Welfare Malaysia, 733 CSA cases were reported in 2009, 728 in 2010 and 937 in 2011 (Department of Social Welfare, 2010).

Even though the prevalence of CSA tends to vary widely around the world, some studies have found CSA to be considerably lower among males than females (Agardh, Pettersson, & Ostergren, 2011).. A systematic review of 28 countries estimated that the global prevalence rate of CSA experience below the age of 18 years in male children was below 10% and between 10-20% in female children (Pereda, Guilera, Forns, & Gómez-Benito, 2009). Recent publications in the systematic review by Pereda et al. (2009) has concluded on the drastic increase in the prevalence rate of CSA experience from that reported by Filkenhor et al. in 1994. However, the prevalence rate of CSA in developed countries has been reported to be higher when compared to the under developed countries (Ross & Keyes, 2005). This finding has also been demonstrated by Teixeira et al. (2010) in Brazil among adolescent population (Teixeira & Taquette, 2010). Developed countries reported a prevalence rate between 6 to 60% for CSA in women and 3 to 30% in men (Teixeira & Taquette, 2010). This literature supports the findings of a Swiss study by Mohler-Kuo et al. (2014). Among a sample of ninth grade students in Switzerland, the prevalence rate for CSA was found to be two to three times higher among girls than boys (Mohler-Kuo et al., 2014). Similarly, the overall rate of childhood sexual victimization reported by young adults in St. Petersburg, Russia was found to be very high (43.9%) compared to other studies (Bogolyubova, Skochilov, & Smykalo, 2015). In Egypt, the overall prevalence rate of CSA reported by undergraduate students in one study was 29.8%, with higher rates among females (36.8%) than in males (21.2%) (Aboul-Hagag & Hamed, 2012). Among random sample of Israeli patients who presented to the health care for routine health checks, it was noted that the prevalence rate of CSA was 31% among the female patients and 16% among the males (Schein M et al., 2000). Rhoode et al. (2009) on the other hand

reported 30.3% women and 9.1% men to have experienced CSA following a study in New Zealand (Roode, Dickson, Herbison, & Paul, 2009). Although several studies have reported females to have a higher prevalence rate of CSA experience compared to males, there are a few other studies in Asia and Saudi that has contradicted these findings. For example, a study in China, among secondary school students showed that the prevalence rate for CSA was 8.0% and 6.4% for boys and girls respectively (K. Chan, Yan, Brownridge, & Ip, 2013). Similarly, based on a baseline survey on violence against children conducted in Philippines in 2015 showed males (28.7%) to be more likely to report CSA compared to females (20.1%) (Madrid, 2016). According to Choo et al. (2011), there was a significant higher prevalence of two types of non-contact sexual abuse among the males compared to females (Choo & Dunne, 2011). In Saudi Arabia, male victims were 2.9 times more likely to report CSA compared to females (Almuneef, Alghamdi, & Saleheen, 2016). Nevertheless, there were a few studies in Israel and Central America that reported a similar prevalence rate for CSA among both genders (Abu- Baker & Dwairy, 2003; Olsson et al., 2000). Lately, some studies have contradicted the finding on prevalence rate of CSA in developed versus under developed countries. Following data from 2010 reports on CSA experience, Wihbey et al. (2011) documented that the prevalence rate of CSA experience was geographical. The prevalence was highest in Africa (34.4%), followed by Asia (23.9%), America (10.1%) and Europe (9.2%) (Wihbey, 2011). A Mexican data on CSA experience, reported a considerably low prevalence rate (6.7%) for CSA compared to the prevalence rate reported by many other countries in the western setting (Frias & Erviti, 2014). On the other hand, an expanded research comparing four countries: Japan, USA, Germany and Greece showed that the prevalence of CSA in Japan was relatively lower by 10% compared to the other countries (Dussich, 2006). Subsequently in Finland, the prevalence rate of CSA experience was quite low (Laaksonene et al., 2011). Finnish

men and women reported a prevalence rate of 0.7 to 4.6% and 1.8 to 7.5% respectively (Laaksonene et al., 2011). These figures seem to be considerably lower compared to the international epidemiology of CSA. Low prevalence rates CSA have been said to be conservative due to the high rates of underreporting traumatic and socially undesirable events experienced (Frias & Erviti, 2014).

There may be variations in the prevalence rates of CSA cases reported in one study as compared to another. To conclude, accurate figures for the number of incidents and prevalence of CSA are difficult to obtain. This can be explained by the variations in the statistical results of a study which is dependent on the questionnaire type, different understanding level of participants while answering the questionnaire, geographical area, different characteristics of people studied and the different definitions of CSA that the author may have proposed. For instance, CSA has been defined differently by many authors in their study. A study which aimed to determine the prevalence of CSA among University students in Egypt defined CSA as any sexual activity of a child before the age of legal consent, for the sexual gratification of an adult or a significantly older child (Aboul-Hagag & Hamed, 2012). Many studies have defined CSA as either a contact or non-contact sexual experience between a person who is below 18 years of age with the other person being an adult or at least 5 years older than the victim (D. Jones et al., 2010; Loeb et al., 2011; Mohler-Kuo et al., 2014; Pereda, Guilera, Forns, & Benito, 2009; Schraufnagal et al., 2010).

2.3.2 Association between child sexual abuse and socio-demographic factors

Although CSA does happen to both sexes, females have a higher chance of being sexually abused in contrast to males (Dussich, 2006). Few studies (D. Jones et al., 2010; MacMillan, Tanaka, Duku, Vaillancourt, & Boyle, 2013) have shown that females experience CSA twice as often when compared to males. This was further supported by

two other Western studies where it was found that girls were three times more likely than boys to experience CSA (D. M. Fergusson et al., 2008; Priebe & Svedin, 2008). Likewise, in Sweden, 70% of females from a random sample of the general population reported having been sexually abused as a child (Steel & Herlitz, 2005). Results from the Ontario Child Health Study showed that female adults (22.1%) reported significantly more CSA than male adults (8.3%) (MacMillan et al., 2013). The female to male ratio for CSA experience among University students in Turkey was found to be 1:3 (Bahali, Akcan, Tahiroglu, & Avci, 2010). Female individuals are more vulnerable than male individuals when it comes to sexual abuse victimization. Females are taken advantage of in many situations by most societies. Many societies relate a male's superiority with aggressiveness, dominant decision making and competitiveness (M. Tanaka, Suzuki, Aoyama, & Takaoka, 2017). Females on the other hand are looked at as the weaker sex, less likely to feel empowered to take any immediate actions (Noell, 2001) because they are valued for their gentleness and sensitiveness towards others (M. Tanaka et al., 2017).

However, this does not mean that CSA in males is uncommon (Schraufnagal et al., 2010). A few researchers (Homma et al., 2012; PWS Leung, Wong, Chen, & Tang, 2008; Pereda, Guilera, Forns, & Gómez-Benito, 2009) have found that many CSA cases among male victims are underreported. On the average, it would take most male CSA victims more than 10 years to disclose their CSA experiences (O'Leary & Barber, 2008). Females on the other hand take a much shorter period. It is believed that when males fail to fulfil socio-cultural expectations, they are likely to receive some sort of stigmatization from the society which could indeed bring about shame and display weaknesses in their identity (PWS Leung et al., 2008). A male sexual abuse victim has long been associated with femininity (Homma et al., 2012) or labelling them as homosexuals (Barth, Bermetz, Heim, & Trelle, 2013). Furthermore, cultural and

religious factors create a barrier towards reporting CSA experiences especially when male victims are blamed or when knowledge about incidence may bring dishonour to their families (Abu- Baker & Dwairy, 2003). Nevertheless, the Arab culture showed much of a disparity in both genders reporting their sexual abuse victimization. It was more common for Arabian males to report their CSA experience when compared to females. The Arabic culture allows boys to have more freedom to express and dominate their feelings, whereas girls are expected to be submissive and accept situations without any change (Abu- Baker & Dwairy, 2003).

Although many Western studies have found CSA experience to be more prevalent in females than males, a study in China contradicted this finding. Males predominantly reported higher prevalence rate for CSA experience compared to females. According to Chan et al. (2013), among a sample of students from several schools in China showed that almost 1 in 10 boys and 1 in 15 girls had reported CSA experience (K. Chan et al., 2013). One reason for this is because Chinese societies place high values on female virginity and sexual events are too sensitive to the Chinese culture resulting in more females to underreport their experience of CSA (K. Chan et al., 2013).

With relation to (contact and non-contact sexual abuse), a study among adolescents from four different provinces in China found that 12.9% females and 8.8% males experienced non-contact sexual abuse whereas, 8.9% females and 5.0% males experienced contact sexual abuse (Chen et al., 2004). The prevalence rate of contact CSA reported by a systematic review in Japan was 10.4% to 60.7% in females and 4.1% in males (M. Tanaka et al., 2017). Besides that, the prevalence of penetrative sex was also higher among females (1.3% - 8.3%) compared to males (0.5% - 1.3%) (M. Tanaka et al., 2017). Additionally, penetrative sex among genders was addressed by Maikovich et al. (2010) following a study in United States describing female youths to be more likely to experience penetrative sex as compared to the male youths (Maikovich-Fong &

Jaffee, 2010). Among all types of CSA reported, some types of sexual abuse occurred more frequently in a particular sample. For example, fondling was found to be an equally common type of CSA experienced by males and females in Israel (Schein M et al., 2000). In Zambia, most female adolescents reported being fondled sexually whereas male adolescents reported experiencing anal intercourse and oral sex (Slonim-Nevo & Mukuka, 2007). This differed solely from a Japanese study by Dussich et al. (2006) that reported 47.9% of the female college students reported to have viewed an exhibitionist and 33.4% of male students reported to have offered or sold pornographic materials (Dussich, 2006).

Over the years the reported ages of CSA experience have been reducing. Previous studies (Bassani, Palazzo, Beria, Gigante, & Figueiredo, 2009; Chen et al., 2004; Steel & Herlitz, 2005) in different parts of the world have found wide discrepancies in age of experiencing CSA. In China, Chen et al. (2004) stated that 96% of adolescents had reported being sexually abused between ages 16 and 19 years (Chen et al., 2004). In the following year, a Swedish researcher found that the mean age for CSA experience among adolescents was 12.5 years in females and 11.5 years in males (Steel & Herlitz, 2005). Subsequently, another study in Turkey by Bahali et al. (2010) reported a much lower mean age (9.6 years ±3.5) for CSA experience among a sample of university students (Bahali et al., 2010). These literatures confirms that younger children are at a higher risk of CSA in comparison to adolescents (Bassani et al., 2009).

Few studies (Choo & Dunne, 2011; Fanslow, Robinson, Crengle, & Perese, 2007; Okur & Leontien, 2015) have shown a significant association between CSA and ethnic groups of people. One study in Malaysia had found the majority of CSA cases reported by the Malay ethnic group made up 62.4% of the total CSA victims reported (Choo & Dunne, 2011). Poverty was the main factor that explained the association between CSA experience and ethnicity. In Malaysia, it is well known that the Malay ethnic group

experienced more poverty than all other ethnic groups (Chinese and Indians). Therefore, the significant finding with regard to the association between the lower socio-economic status group and CSA experience among the sample of adolescents in Malaysia brought more reasoning (Choo & Dunne, 2011). Additionally, a low household income that represented poverty was found to be a significant predictor of CSA in other studies (MacMillan et al., 2013). A study conducted among all ethnic groups in North America showed that CSA cases was highest among the Blacks followed by the Hispanics, Whites and Asians (Ullman & FIlipas, 2005). Likewise, in New Zealand Fanslow et al. (2007) determined the significant association between Maori women and CSA versus all other ethnic groups of that country (Fanslow et al., 2007). A large majority of Maori women significantly ($OR_{adjusted}$: 2.4, 95% CI: 1.5-3.8, $P<0.05$) represented as CSA victims compared to all other ethnic groups (Fanslow et al., 2007). Consistently, a study comparing four non-Western (Surinamese, Turkish, Dutch Antillean and Moroccan) ethnic groups with the native Dutch group in Netherlands reported a significant association between prevalence of CSA and ethnic minority groups (Okur & Leontien, 2015). Although the prevalence of CSA among Surinamese and Turkish respondents did not differ from native Dutch respondents, Dutch Antilleans reported significantly higher rates of CSA in contrast to native Dutch respondents. Ethnicity of people could also reflect the culture from which they come from and practise. Disclosures and underreporting of CSA due to stigma is not only associated with genders but also with the culture practised (Fontes & Plummer, 2010). For example, a study in United States among American youths found that CSA cases reported by Asian-American youth were lesser compared to American youth on the whole. It was concluded that although being Americans, if the Asian culture did exist within them, it did portray a strong impact on disclosing or reporting the incident (Zhai & Gao, 2009). According to the US department of Health and Human Services (2013), rates of CSA in 2012 was highest

among the Hispanic (21.8%) followed by African American (21%), Whites (8.2%), Pacific Islanders (4.7%), Indian/ Alaskan Native (1.2%) and Asians (0.8%) (Department of Health and Human Services, 2013). Another study in by Thompson et al. (2012) documented that the likelihood of CSA among adolescent girls was higher in African American compared to Asians (Thompson, McGee, & Mays, 2012). Although researches in some countries have stated CSA to be significantly associated with ethnicity, alternatively a National Survey by the Centre for Disease Control and Prevention and a study by Bakker et al. (2009) showed no significant differences between ethnic groups and a history of CSA experience (Bakker et al., 2009; Centre for Disease Control and Prevention, 2010).

Several studies have found CSA experience to be significantly associated with family structure (Frias & Erviti, 2014; Laaksonene et al., 2011; P Leung, Curtis Jr, & Mapp, 2010). Problematic family environments can be related to an increased risk of child sexual abuse (L. Chan, Maniam, Saini, & Shah, 2013). According to Leung et al. (2010), children who are not biologically related to their parents (either one of both parents) are at higher risk of experiencing CSA (P Leung et al., 2010). For instance, not growing up with both biological parents are positively associated with the likelihood of CSA experience among Finnish participants (Laaksonene et al., 2011). Likewise, Mexican children of nuclear families in Mexico have been found to report lower levels of sexual abuse than extended families (Frias & Erviti, 2014). Nuclear families in the above context describes immediate family members consisting of a pair of adults (father and mother) and their children only. Contrastingly, the association between a history of CSA and family structure was not found to be significantly associated or related in two other studies conducted in Israel and China (Schein M et al., 2000; Y. Song, Ji, & Agardh, 2014).

Some authors have reported having lived in a particular residential area whether urban or rural to have a significant association with a history of CSA experience. According to Niu et al. (2010) in Shanghai, female students living in cities (21.9%) reported more CSA experiences than those living in townships (10.1%) and rural areas (8.2%) (Niu, Lou, Gao, Zuo, & Shah, 2010). However, this association was only significant for students who stayed in the city and township (Niu et al., 2010). Likewise, young adults who lived in urban residential areas of Ontario had reported higher odds of experiencing CSA in comparison to young adults of rural residential areas (MacMillan et al., 2013). This study (MacMillan et al., 2013) showed that the odds of CSA experience was 1.6 times higher in respondents who reported to have lived in an urban residential area compared to their counterparts. Contrastingly, two other studies conducted in the African continent (in Zambia and Egypt) reported a significant association between CSA cases and respondents living in rural residential areas compared to those living in urban residential areas (Aboul-Hagag & Hamed, 2012; Slonim-Nevo & Mukuka, 2007). In Egypt, 47.6% of university students living in rural residential areas and 23.3% students living in urban residential areas reported CSA experience (Aboul-Hagag & Hamed, 2012). This finding was consistent with a study by Fanslow et al. (2007) in New Zealand among a random sample of New Zealand women where those living in rural areas reported a significantly higher rate of CSA experience when compared to women living in urban areas (Fanslow et al., 2007). Nonetheless, the association between CSA experience and residential area was also tested in a group of adolescents in China and was found not to have a significant association (Chen et al., 2004).

Chan et al. (2013) had reported an increased risk of child sexual abuse among those with siblings (K. Chan et al., 2013). Children were more vulnerable to CSA when they had many siblings in the family. This can be explained by the resources (care and

support) that parents had to provide to each of their child and so they found it difficult when there were too many children (K. Chan et al., 2013).

2.3.3 Global statistics and prevalence of risky sexual behaviours

Risky sex among youth have been reported to be on the increase worldwide (Fentahun & Mamo, 2014). Risky sexual behaviours is defined as any behaviour that increases a person's risks of unintended pregnancy or contracting sexually transmitted infections (STIs) and HIV (Kirby, Coyle, Alton, & Rolleri, 2011). According to the United States' Centres for Disease Control and Prevention, risky sexual behaviours include having sex at an early age (16 years and below), having multiple or non-regular sexual partners, having unprotected sex (without condom or contraceptives) and having sex while under the influence of alcohol or drugs (Centre for Disease Control and Prevention, 2010). Malaysia is a multi-cultured country that emphasizes on the various religious practices and yet it has been experiencing the problem of risky sexual behaviours among the adolescent age group. Sexual activity among Malaysian adolescents has initiated to get higher over the past two decades in view of the significant societal changes (Ahmadian, Hamsan, Abdullah, Samah, & Noor, 2014). Risky sexual behaviours predispose adolescents to a variety of sexual activities that can be associated with HIV which is one of the deadliest infectious diseases globally (Inyang, 2013). Adolescents today are easily influenced by sexual debut at an early age, having multiple sexual partners and practising unprotected sex which could increase their risk of contracting diseases like HIV/AIDS, STDs and unwanted pregnancies (Exavery et al., 2011).

During the 1990s, Santelli et al. (1998) had conducted a study in United States on the prevalence of adolescents engaging in sexual intercourse (Santelli, Brener, Lowry, Bhatt, & Zabin, 1998). The study used the National Youth Risk Behaviour Survey and

reported that 49% of adolescents had ever engaged in sexual intercourse (Santelli et al., 1998). Subsequently, another study by Santelli et al. (2004) reported that sexual activity among adolescents in the United States had declined and the use of condoms had increased (Santelli, Abma, & Ventura, 2004). Another longitudinal study in South Africa carried out twice, once in 2002 and 2005 demonstrated a significant increase in condom use and decrease in the number of sexual partners among young adults (Dinkelman, Lam, & Laeibbrandt, 2007). According to the Ministry of Health of Malaysia, sex related risky behaviours are rapidly increasing over the years (IPH, 2008). Lack of sexual and reproductive health information and skills in negotiating sexual relationships is one of the main factors that lead to risky sexual behaviours among adolescents in Malaysia (Low, 2009). According to Wong et al. (2012), low levels of awareness on reproductive health specifically related to pregnancy is linked to religious and cultural norms of many conservative countries like Malaysia; where Muslim are predominant (L. Wong, 2012).

A cross sectional study in Malaysia conducted among 4500 secondary school students showed that 5.4% of them admitted to being sexually active (Lee, Chen, Lee, & Jagmohni, 2006). Subsequently, a nationwide survey conducted among 1901 unmarried Malaysian students aged 15 to 24 years, showed only 1.3% of them had ever had sexual intercourse before (Mohd Jan, Low, Awang, Jani, & Wong, 2006). Although the prevalence rates of risky sexual behaviours in Malaysia are said to be on the rise, it may not be as high as the rates reported in some Western countries (Low, 2009). The reason being, Malaysia is a multi-ethnic and socially conservative Muslim country where addressing issues related to sexual and reproductive health is a challenge (L. Wong, 2012). Contraceptive use, at least in terms of the availability of condoms, has become widely accessible in all parts of the world. Several studies have reported that condom use while having sexual intercourse reduces sexual pleasure and this belief is

more likely to be perceived by males than females in several studies (Newton, Newton, Windisch, & Ewing, 2014; Randolph, Pinkerton, Bogart, Cecil, & Ambrason, 2007). For instance, one study among street youth in Ethiopia noted that almost 35% of the respondents perceived that the use of condom during sexual intercourse reduced sexual pleasure (Tadesse, Ayele, Mengesha, & Alene, 2013). Following a study by Zulkifli et al. (2000), reported that almost half of the sexually active teenagers in Kuala Lumpur perceived that condom use was difficult and believed that, sexual intercourse was more fun and pleasurable without condom use (Zulkifli & Low, 2000). Similar perceptions were reported in a study conducted among a sample of school students in Ethiopia (Cherie & Berhane, 2012) and university students in California (Randolph et al., 2007). In Australia, not only did university students report that condom use made sex less pleasurable but they also felt that condom use made sex less romantic and delayed time in ejaculation (Newton et al., 2014). According to Newton et al. (2014) many of these students had also related the use of condom with sexual promiscuity (Newton et al., 2014). Although condom use is believed to be protective against STIs and AIDS many university students stated that individuals who used condom gave them an impression that they had frequent sex with different people (Newton et al., 2014). In that study, it was found that male students valued unprotected sex more than female students because it was believed that the use of condom interrupted in their foreplay as well as made it uncomfortable for both partners (Newton et al., 2014). The belief in condom as a pleasure interceptor was not only found among physically normal individuals, but it was also perceived as a dislike among the disabled who were sexually active (Zelalem et al., 2014). The study by Zalalem et al. (2014) revealed that the proportion of inconsistent condom use was found to be very high among disabled individuals where 90.2% reported not using a condom during the last 12 months versus 8.8% who used condom consistently (Zelalem et al., 2014). This finding was supported by another study by

Toyin et al. (2013) where more than 95% of disabled individuals reported inconsistent condom use with a casual or constant sexual partner in contrast to individual without disabilities (Toyin, JP, & Tonya, 2013). In Malaysia, Zulkifli et al (2000), had reported that only 37% of sexually active teenagers used some form of contraception during sexual intercourse (Zulkifli & Low, 2000). Following another study in Malaysia among form 2 and form 5 secondary students reported that 57.8% of students did not use a condom during their last sexual encounters (Mohammadi, Rampal L, Abdullah, & Abdul Rahman, 2009). The low prevalence rate of condom use has been found to be directly linked with poor HIV knowledge (L. Wong, 2012). According to Soleymani et al. (2015), students in Malaysian public universities had a low knowledge on contraceptive method usage (Soleymani, Abdul Rahman, Lekhraj, Mohd Zulkefli, & Matinnia, 2015). Few studies have showed that engaging in risky sexual behaviours which involves having multiple sexual partners is common among the African population (Ayebale, Atuyambe, Bazeyo, & Tanga, 2014; Exavery et al., 2011). With regard to having more than one sexual partner and using a condom (protected sex), a study in Uganda found almost 50% of their sample admitted to have more than one sexual partner and only 24% of them acknowledged using a condom during their last sexual encounter (Ayebale et al., 2014). The findings reported by Ayebale et al. (2014) on having multiple sexual partners in Uganda did not differ much from another study conducted among a sample of adolescents in Tanzania (Ayebale et al., 2014). A considerable large percentage (42%) of Tanzanian adolescents (10-19 years) have been found to have more than one sexual partner (Exavery et al., 2011). Following another study in Tanzania it was reported that about 40% of school students aged 15 to 24 years reported to have multiple sexual partners (Mlunde et al., 2012). In South Africa, women aged between 16 and 24 years reported to have an average of seven male sexual partners in the last 3 months (Zembe, Townsend, Thorson, & Ekstrom, 2012). With regard to

having sexual intercourse with more than one single faithful partner, a study in Ethiopia indicated that among a sample of school students, 45.6% of students reported to have more than one sexual partner (Cherie & Berhane, 2012). Similarly, in Denmark, 43% of Danish men were at a high risk of having sexual intercourse with up to 10 or more female partners while only 8.9% of them reported having sexual intercourse with only one female partner (Buttman, Nielsen, Munk, Liaw, & Kjaer, 2011). This risk of having more than one sexual partner was also found among 50% of disabled who were sexually active following a study in South Africa (Rohleder, Eide, & Swartz, 2012). Findings in another study in Ethiopia declared that among all sexually experienced disabled people 43.9% reported to have two to five sexual partners and 11.2% reported to have more than five sexual partners (Zelalem et al., 2014).

2.3.4 Association between risky sexual behaviours and socio-demographic factors

Males and females perceive sex differently. These differences between both genders could be attributed by sexual exposures and socio-cultural factors. Gender has been found to be a significant predictor of risky sexual behaviours in South Africa (Frank, Esterhuizen, Jinabhai, Sullivan, & Taylor, 2008). This can be explained by the cultural beliefs in Africa as there are many African cultures that place a high value for preserving virginity and there are some that do not (Frank et al., 2008). For that reason, especially with regards to risky sexual behaviours (unprotected sex and/or having multiple sexual partners), many studies have shown that males have a higher risk towards risky sex compared to females (Amaron & Ladi-Akinyemi, 2012). These findings are consistent with reports in previous literature that shows being a female is significantly associated with lesser sexual risk taking behaviours (V. Foster, Clark, Holstad, & Burgess, 2012). It has been found that males tend to liberalize their attitudes towards sex (Low, 2009). Males do not use a condom in most of their sexual encounters

(Abdullah, Fielding, & Hedley, 2003) as most of them do not believe in condom use (Manlove, Terry-Humen, Ikramullah, & Moore, 2006). A study in Turkey among first year medical students showed that unprotected sex practise was habitual among male students in contrast to female students (Yilgor, Arslankoylu, Kanik, & Erdogan, 2010). This was because none of the female students reported to have had sexual intercourse (Yilgor et al., 2010). Nevertheless, a study by Alvarado et al. (2010) highlighted that condom rejection among female high school students in Mexico was high because they were influenced by their male sexual partners in the relationship (Alvarado et al., 2010).

With relation to multiple sexual partners and genders, few studies have demonstrated males to frequently report their engagement with multiple sexual partners compared to females (Amaron & Ladi-Akinyemi, 2012; Anwar, Sulaiman, Ahmadi, & Khan, 2010; Doku, 2012; Downing et al., 2010; Exavery et al., 2011; Hu et al., 2011; Kouta, Phellas, & Charis, 2013; Morris, Goodreau, & Moody, 2007). With regard to gender disparities and gender power, the term 'masculinity' among males has been defined as a choice to have more than one sexual partner (Wood & Jewkes, 1997). One study in Malaysia among a sample of secondary school students showed that gender had a significant ($P = 0.010$) association with having multiple sexual partners where male students reported to have had more sexual partners than female students (Anwar et al., 2010). Following another study by Kabiru, et al. (2009) in Kenya, it was found that high school boys were three times more likely to have five lifetime partners than girls (C. W. Kabiru & Orpinas, 2009). The conservative nature among females to share their sexual experiences (Anwar et al., 2010), made female students less likely to report having multiple sexual partners in comparison to male students (C. W. Kabiru & Orpinas, 2009). The societal expectation of females to remain as virgins before marriage is still vastly practised in many societies today and could be one of the main reasons why females underreport their sexual experiences (Akwara, Mandise, & Hinde, 2003). On

the other hand, the higher odds of reporting multiple sexual partners among boys could be due to over reporting of having more than one sexual partner because the issue of sexual mobility before and during marriage is a norm for them in most societies (Akwara et al., 2003). In addition, social norms also influenced power difference between genders making a woman to have lesser self-determination over her sexual relationship (Peterson, Catania, Dolcini, & Faigeles, 1993). From this study (Peterson et al., 1993), it was noted that from a sample of black adults, more men (30%) reported to have multiple sexual partners than women (10%) (Peterson et al., 1993). This finding was also consistent with Ugandan male teachers where 45% of them reported to have sex with other persons besides their regular sexual partners (Ayebale et al., 2014). However, evidence from two other studies in Tanzania (Mhalu, Leyna, & Mmbaga, 2013; Y. Tanaka, Kunii, Hatano, & Wakai, 2008) has concluded that females are reported to have more than one sexual partner compared to males. Following the study by Mhalu et al. (2013), Tanzanian women significantly ($P<0.001$) showed a higher proportion of having multiple sexual partners when compared to their male counterparts (Mhalu et al., 2013).

Age is one of the strongest predictor of risky sexual behaviours among youths and adolescents (Lee et al., 2006). A study conducted by Okwonkwo et al. (2005) in Nigeria reported that risky sexual behaviour was highly prevalent among female undergraduate students between ages 18 to 25 years (Okwonkwo, Fatusi, & Ilika, 2005). Majority of the female students had reported to have engaged in premarital sex (Okwonkwo et al., 2005). Adolescents and youth fall in an experimental age group where they get curious on knowing and trying new activities (Crosby et al., 2009). It is during this phase that their individual identity is formed subsequently through a drastic physical, psychological, social and cognitive transformation (Scherf, Behrmannc, & Dahl, 2011). These developments experienced by an adolescent prepares them for adult roles and

more responsibilities (WHO, 2014). The identity developed in an adolescent may result in them wanting to participate in new social behaviours (Crosby et al., 2009). The experience of intense sexual desires, wanting to experiment and feel independent towards risk taking behaviours are part and parcel of the adolescent life (Crosby et al., 2009). Unfortunately, such experimentation drives adolescents to engage in risky sexual behaviours. The period during an adolescent is an important time where they have to learn to adapt and embrace their future (Zaw, Liabsuetrakul, McNeil, & Htay, 2013). Furthermore, as adolescents mature, the chance of them hiding personal experiences is also higher (Anwar et al., 2010).

Some studies have found unprotected sex (without condom use) to be more prevalent among older individuals (Elkington et al., 2011; Regushevskaya, Dubikaytis, Nikula, Kuznetsova, & Hemminki, 2008). It was also reported by Elkington et al. (2011) that the use of condoms among sexually active high school adolescents in Michigan decreased as they aged (Elkington et al., 2011). According to Elkington et al (2011), youths reported lesser condom use for every additional sexual partner they had over time (Elkington et al., 2011). This finding was in concordance with a Russian study conducted by Regushevskaya et al. (2008). Among a sample of Russian women who were in their reproductive age, it was found that a higher proportion (45%) of younger women (18 and 24 years) reported condom use during first sexual intercourse compared to (12%) older women (35 to 44 years) (Regushevskaya et al., 2008). Two years later Regushevskaya et al. (2010) documented a homogenous results in a population based study among women in Finland, Estonia and St. Petersburg (Regushevskaya et al., 2010). Younger women were more cautioned about using condom during their sexual encounters in contrast to the older women (Regushevskaya et al., 2010). The age difference between individuals and practising unprotected sex can be linked to their situation of being married or single. Older individuals are usually less likely to have

patterns of multiple sexual partnering which can be linked with increased risk of STIs because they were married and had a steady sexual partner (Visser, Richters, Rissel, & Grulich, 2014). With regard unprotected sex, a study conducted among a sample of American Indians who attended a healthcare clinic in California, revealed that older and married respondents were more likely to report practising unprotected sex as compared to the younger and single respondents (Hodge & Sinha, 2010). Older respondents were more inclined to not using a condom during sex because most of them were married and were in a monogamous relationship (Hodge & Sinha, 2010). Similar results were also reported India among a sample of female sex workers (Mahapatra et al., 2013). The study (Mahapatra et al., 2013) indicated that older female sex workers (35 years and older) were two times more likely (AOR: 2.0, 95% CI: 1.2-3.4) to practise unprotected sex as compared to the younger female sex workers (25 years and younger). However, middle aged (25-34 years) female sex workers were more prone for inconsistent condom use (Mahapatra et al., 2013). Although many researchers have shown condom use to be significantly associated with younger people there is also literature (Exavery et al., 2011; Visser et al., 2014) that describes the increased likelihood of not using condom among younger individuals. An Australian study conducted by Visser et al. (2014) documented that no condom use was significantly ($P<0.001$) associated with a younger age (Visser et al., 2014). Younger participants were more likely to engage in unprotected sexual intercourse compared to older participants (Visser et al., 2014). Subsequently, another study in Tanzania reported that older adolescents (15 -19 years) had an increased likelihood (OR = 3.69, 95% CI = 1.21 - 11.25, P = 0.022) of practising safe sex compared to the younger adolescents (10-14 years) (Exavery et al., 2011). Although Exavery et al. (2011) conducted the study among a sample of low risk adolescents, the findings did not differ from another study conducted among a group of HIV patients in Tanzania. Based on a cross-sectional study, HIV patients aged 15 to 24

years were recruited to study the determinants of risky sexual behaviours among young people living with HIV (Mhalu et al., 2013). Younger (15 to 19 years) HIV patients was 2.76 times more likely (AOR, 2.76, 95% CI: 1.05-7.27) to practise unprotected sex compared to the older (20 to 24 years) HIV patients (Mhalu et al., 2013). In 2007, Lalou et al. (2007) conducted a study in Senegal and found that older respondents were three times more likely to use a condom during their sexual encounters in comparison to their younger respondents (Lalou, 2007). According to Potdar et al. (2011) the odds of using a condom during first sexual intercourse was 8.28 times higher among older youths (18 years and above) as compared to younger youths (15-17 years) (Potdar & Mmari, 2011). This shows that older individuals possibly had a better knowledge on how condom use reduced the chances of contracting diseases like HIV and STIs compared to younger individuals. Therefore, it is important to educate the younger individuals towards safer sex practises. This way the increasing number of HIV and STIs can be controlled.

With regard to having multiple sexual partners, previous studies (Ayebale et al., 2014) have shown that younger individuals had a higher likelihood of reporting multiple sexual partners compared to older individuals. This again can be determined by the marital status of an individual. Older individuals are usually married and wanted to remain faithful to their partner. In Uganda, primary and secondary school teachers below 30 years reported to be 2.6 times more likely (OR 2.6, CI 1.31-5.34) to have two or more sexual partners compared to teachers who were 31 years and above (Ayebale et al., 2014). Similarly, younger Russian women of reproductive age group were 9.5 times more likely to report having two or more sexual partners compared to the older women (Regushevskaya et al., 2010; Regushevskaya et al., 2008). However, this finding was contradicted by a study in Ghana. It was found that older youth in Ghana had an increased likelihood of having multiple sexual partners (OR=2.4, 95% CI = 1.7-3.4) in

contrast to the younger youths (Doku, 2012). Following another study in India, it was revealed that older respondents (aged 21-22 years) reported more sexual partners compared to respondents less than 18 years of age (Potdar & Mmari, 2011). Similarly, out of 22,000 Danish men who participated in a population based study in Denmark, it was reported that older Danish men were more prevalent for having more than one female sexual partner compared to younger Danish men (Buttman et al., 2011). Overall, 50.4% of them were aged 41-45 years, 40.6% aged 26 to 30 years and 15.5% aged 18 to 20 years reported having 10 or more female partners during their lifetime (Buttman et al., 2011).

Ethnicity is a socio-cultural determinant that mediates sexual behaviour and some studies have shown that ethnicity may be more important than socio-economic status of a particular sample when determining the risk of sexual behaviours (Sambisa W, Curtis SL, & CS, 2010). In Atlanta, Georgia, a significantly ($P<0.001$) higher proportion of Caucasians (74.4%) reported to have practised unprotected sex in contrast to Non-Caucasians (55.9%) (Elifson, Klein, & Sterk, 2010). A study by Elkington et al. (2011) revealed that African American youths in Michigan were more prevalent to using a condom during sex as compared to White and Hispanic youths (Elkington et al., 2011).

There is a link between household income and risky sexual behaviours mainly on unprotected sex and having multiple sexual partners. It is said that income stress brings about a significant transition to an individual's risk of seeking sexual behaviours (Dinkelman, Lam, & Leibbrandt, 2008). It has been documented that lower household income groups in Malaysia, have a higher risk of practising unprotected sex (L. Wong, 2012). According to Dinkelman et al. (2008) African youths in Cape Town from a poorer household were less likely use a condom during sexual intercourse as compared to those from a higher household (Dinkelman et al., 2008). However, this finding was contradicted by an Australian study. Visser et al. (2014) noted that Australians from a

higher household income group were more likely to practise unprotected sex in contrast to their counter parts (Visser et al., 2014). With relation to having more than one sexual partner, most of the recent studies have shown that a high household income to be significantly associated with having multiple sexual partners (Assari, 2014; Hu et al., 2011; Regushevskaya et al., 2008).The association between household income and having multiple sexual partners was found to be similar among the low risk and high risk group in two different studies. For instance, among a sample of adolescents (low risk group) in Belgrade, it was found that the higher the household income of an individual, the stronger was the sexual risk taking behaviour towards having multiple sexual partners (Vukovic & Bjegovic, 2007). Likewise in Iran, the odds of having multiple sexual partners among a sample of intravenous drug users (high risk group) was significantly (P=0.003) higher among those who reported a higher family household income compared to those who reported a lower household income (Assari, 2014). This finding was supported by Regushevskaya et al. (2008) in Russia. Household income was a significant predictor of having multiple sexual partners for Russian women (Regushevskaya et al., 2008). Based on previous literature, it has been revealed that individuals from a higher income group have an ability to spend on commercial sex or paid sex services (Hu et al., 2011). Although many studies have shown the significant association between family household income and risky sexual behaviours, one study in Nigeria among undergraduate students reported that family household income did not determine the student engagement in risky sexual behaviours (Odimegwu & Adedini, 2013). Another study in Florida, revealed that respondents with a lower income (earned less than 10,000 dollars) were more likely to have multiple sexual partners compared to those from higher income group (earned more than 10,000 dollars) (Rosenberg, Bayona, Brown, & Specter, 1994). Although findings by Rosenberg (1994) et al. is based on a much earlier literature, it has been stated by Dinkelman et al. (2007) that there is little

evidence of household income being a main factor influencing risky sexual behaviours (Dinkelman et al., 2007).

An intact family can help establish individual's values towards making healthy decisions. In most literature, family structure can be referred to as having two biological parents, a single parent or both deceased parents. Young people who are not connected to their family may become involved in activities that put their health at risk. This is why family structure plays an important role in delaying the onset of sexual intercourse among adolescents thus protecting them against risky sexual behaviours. According to Vukovic et al. (2007) the odds of practising unprotected sex among 15 year old Belgrade school children is almost five times higher among children who live with a single parent in contrast to children who live with both parents (Vukovic & Bjegovic, 2007). Nonetheless, family structure of Nigerian undergraduates did not show a significant effect on them encountering any risky sexual behaviour. In other words, Nigerian students who stayed with single parents had a lower likelihood of engaging in multiple sexual partners than those who stayed with both parents (Odimegwu & Adedini, 2013).

It has been observed that living in rural residential areas are often correlated with lower proportions of condom use and inequality in condom accessibility (Adair, 2008). This observation is consistent with a study in Tanzania that revealed adolescents who lived in the rural districts of Tanzania were more likely to not use a condom during sexual intercourse compared to those who lived in urban districts (Exavery et al., 2011). Similar results were also reported by Visser et al. (2014). According to the study (Visser et al., 2014), condom use was significantly ($P<0.001$) more likely to be used by men and women from major cities compared to those from remote areas. Apart from poorly available health services, it has been reported that poor education and living in rural residential areas can result in easy engagement in risky sexual behaviours such as

having unprotected sexual intercourse (Doku, 2012). The significant association between living in rural areas and having multiple sexual partners has been documented in previous literature (Doku, 2012; Folayan, Adebajo, Adeyemi, & Ogungbemi, 2015). According to Doku et al. (2012), youths (12 to 18 years) from rural residential areas in Ghana reported to have more than one sexual partner as compared to youths from the urban residential areas (Doku, 2012). Following another study in Nigeria by Folayan et al. (2015) it was reported that a significantly higher proportion of respondents living in rural areas (29.5%) reported to have multiple sexual partners compared to those living in urban areas (20.4%) (p=0.04) (Folayan et al., 2015).

2.3.5 Association between child sexual abuse and risky sexual behaviours

Many studies have demonstrated a strong connection between CSA and risky sexual behaviours (Schraufnagal et al., 2010; Steel & Herlitz, 2005). Research in United States has indicated that those who experienced sexual abuse during childhood were more likely to engage in risky sex compared to those who never reported childhood sexual abuse (Hillis et al., 2004; Stoner, Norris, George, & Morisson, 2008). Several studies have also indicated that an experience of CSA predicted the risk of engaging in risky sexual behaviours among adolescent after controlling for all socio-demographic characteristics (Brennan et al., 2007; Slonim-Nevo & Mukuka, 2007). Similar results were also reported in an integrative systematic review where 19 out of 25 studies provided evidence for a significant association between CSA and risky sexual behaviours (Drauker & Mazurczyk, 2013). Although the effects of CSA on unprotected sex has been found to be mediated by alcohol consumption during sex, it is related to an increased likelihood of having unprotected sex with a new partner and not a steady partner (Parkhill, Norris, & Davi, 2014). The exposure of CSA at a particular age especially during the phase when an individual's personality is developed, can result in

psychological traumas which tends to increase their vulnerability towards risky sex (T. Roberts et al., 2003). In one study, majority of women who had reported a history of CSA had practised unprotected sex with their lifetime partners compared to the non-abused women (Senn et al., 2008). Similarly, there are other studies that have indicated an increased likelihood of not using a condom during sex for a sample of young males and females who reported CSA experience (Homma et al., 2012; Littleton, Breitkopf, & Berenson, 2007; Teixeira & Taquette, 2010). Another study by Mosack et al. (2009) not only indicated that a history of CSA was significantly associated with unprotected sexual intercourse but also reported that the involvement of other risks such as multiple sex work and sex under the influence of alcohol or drugs did interfere with the association between CSA and unprotected sexual intercourse (Mosack, Randolph, Gomez, & Abbott, 2009). Contrastingly, the result reported by Mosack et al. (2009) was not supported by Hodge et al. (2010) in California. The study in California was conducted among a sample of American Indians and it showed no significant association between CSA and condom use during sexual intercourse (Hodge & Sinha, 2010). Another study by Brennan et al. (2007) among a sample of gay and bisexual men also showed similar results (Brennan et al., 2007). Although many gay and bisexual men who reported a history of CSA were at a higher risk of not using condom during sex, the association between CSA experience and unprotected sex was found to be not significant (Brennan et al., 2007). A study by Parillo et al. (2001) had determined the type of CSA and its association with having unprotected sex among female adolescents (Parillo, Freeman, Collier, & Young, 2001). According to Parillo et al. (2001), adolescents who reported having experienced CSA in the form of penetration had a higher likelihood to have unprotected sex compared to those who experience non penetrative type of CSA (Parillo et al., 2001). Nevertheless, a meta-analysis from nine countries between 1990 to 2011, demonstrated that the odds of adolescent boys to

practise unprotected sex (OR = 1.91) and having multiple sexual partners (OR = 2.91) was higher among those who reported CSA experience compared to those who did not report CSA experience (Homma et al., 2012).

Based on previous literature, the odds of engaging in multiple sexual partners has been reported to be about three times higher among individuals who have had a history of CSA compared to those without history of CSA (Homma et al., 2012). A study done in the United States among women respondents found that among all types of CSA experience reported, vaginal penetration was the only form of sexual abuse that was associated with having multiple sexual partners (Parillo et al., 2001). The finding reported by Parillo et al. (2001) is not in concordance with another study in Uganda. Sexual coercion which involves all non-contact types of sexual abuse has been noted to be statistically significant with having greater number of sexual partners among university students in Uganda (Agardh et al., 2011). The likelihood of having more than one sexual partner is 1.91 times higher among those who experienced non-contact type of sexual abuse with a 95% CI; 1.2 to 3.0 versus those who experienced contact type of sexual (Agardh et al., 2011). Although many studies have indicated that the sexually abused are more likely to have multiple sexual partners than than non-abused, there are studies that have failed to show this positive relationship (Noell, 2001). A study among African American women showed that women who had multiple sexual partners did report a history of CSA (Wyatt et al., 2002). There is a small percentage of CSA victims who do practise sexual avoidance in the future as a reaction to a past incident of CSA experience (Briere, 1992). It can be very difficult for young individuals to re-enact a traumatic event like CSA. Therefore, instead of an increased sexual activity following CSA experience, a CSA victim is more prone to run away from sex due to the impaired sense of self and interpersonal difficulties faced since the trauma (Briere, 1992).

2.3.6 Factors associated with risky sexual behaviours

With regard to familial closeness, a high level of family closeness has been found to be associated with lesser sexual activity and lesser likelihood of having multiple sexual partners (Negeri, 2014). Parents are viewed to have primary influence on young people's sexual behaviours where they play a significant role in advising, leading and communicating with youths (Negeri, 2014). A study in Slovenia and Switzerland indicated that parental monitoring predicted adolescents engagement in risky sexual behaviours (Marchand & Smolkowski, 2013). Similar results were also reported by Cherie et al. (2012). Based on her study it was noted that the odds of engaging in risky sexual behaviours was 1.4 times higher among adolescents who reported poor parental monitoring compared to those who reported good parental monitoring (Cherie & Berhane, 2012). According to Cherie et al. (2012) a high level of parental monitoring was found to be protective towards adolescent's sexual habits and their engagement in risky sexual behaviours. With relation to condom use during sexual intercourse, a study in Tanzania revealed that a high level of parental monitoring was found to be significantly associated with condom use among school students (Mlunde et al., 2012). However this association was only found to be significant (AOR: 1.56, 95% CI: 1.05 - 2.32. p=0.03) among male students and not female students (Mlunde et al., 2012). Gender inequality issues do not allow a female to negotiate the use of condom during sex as they are supposed to have limited influence on their sexual relationship (Jewkes, Sikweyiya, Morrell, & Dunkle, 2011). Children are monitored and supervised by parents as they grow up so that they are given sufficient care, love and guidance (Oluwatosin & Adediwura, 2010). Therefore, good parental monitoring not only enhances the child's self-esteem but also helps in creating a more responsible individual against engaging in risky sexual behaviours (Dessie, Berhane, & Worku, 2014; Mlunde et al., 2012). On the other hand, a lack of parental monitoring would give adolescents

the freedom of doing whatever they wanted especially with regard to sexual initiation (Tura, Alemseged, & Dejene, 2012). Elkington et al, (2011) reported that good parental support was significantly (P<0.001) associated with condom use during their sexual encounters among youths in Michigan (Elkington et al., 2011). With regards to family support and multiple sexual partners, a sub-Saharan study conducted among HIV positive adolescents revealed that adolescents who came from families with good family support, only reported to have one sexual partner as compared to those who did not report good family support (Mhalu et al., 2013). Therefore, a consistently good parental monitoring and parental support practised at home is crucial to allow children and parents to discuss anything that is of concern freely (Lambert & Andipatin, 2014).

Previous literature has revealed family violence to have a significant association with the practise of unprotected sex during first sexual intercourse (Elliot, Avery, Fishman, & Hoshiko, 2002; Teixeira & Taquette, 2010). Violence experienced within a family is proven to lower the self-esteem of a child resulting in them to feel unworthy. The inability to seek sufficient love from their parents and live with a family could make them want to experience a better life outside their homes (Elliot et al., 2002). Therefore, witnessing family violence at home can result in many youths and adolescents to engage with risky sexual behaviours.

Several studies (Cherie & Berhane, 2012; Jaccard, Blanton, & Dodge, 2005; O'Donnell et al., 2006) have proven that sexual risk behaviour among adolescents are affected by peer related issues. Adolescents who perceived their peers engaged in risky sexual behaviours such as having multiple sexual partners and practising unprotected sex are more inclined to adopting similar behaviours (Jaccard et al., 2005; O'Donnell et al., 2006). A finding among school students in Ethiopia (Cherie & Berhane, 2012) supported this fact. School students who perceived that their peers were involved in a sexual relationship were more likely (AOR = 11.68, 95% CI, 8.76 – 15.58) to report

risky sexual behaviours compared to those did not perceive their peers to be involved in a sexual relationship (Cherie & Berhane, 2012). According to Alvarado et al. (2010) it has been revealed that many affectionate bonds and sexual relationships of adolescents are established by peers (Alvarado et al., 2010). For example, the likelihood of not using a condom during sexual intercourse among adolescents and youths is high if they were influenced by their peers on such practises (Alvarado et al., 2010).

The association between substance use (either cigarette smoking, alcohol consumption and drugs) and risky sexual behaviours has been well documented in a few studies (Brakefield, Wilson, & Donenberg, 2012; Doku, 2012; Seth, Wingwood, & DiClemente, 2011; Zelalem et al., 2014). Substance use such as alcohol and drugs has been found to have a link with health damaging behaviours and mediate sexual risk taking behaviours (Icard et al., 2014). A study conducted by Tu et al. (2012) in Hanoi, Shanghai and Taipei documented that substances such as cigarette smoking, drinking alcohol and drug were significantly associated with sexual risk taking behaviours among unmarried youths (Tu et al., 2012). Similar findings were reported by Adams et al. (2013) among a sample of young adults, where the correlation between alcohol consumption and risky sexual behaviours was found to be significant ($r = 0.48$; $p \leq 0.01$) (Adams et al., 2013). Another study by Asante et al. (2014) showed that cigarette smoking, alcohol consumption and marijuana were independently associated with having unprotected sex (Asante, Meyer-Weitz, & Peterson, 2014). Although they might be assumptions towards disabled people and them being sexually inactive, studies have found that they are also at a high risk of engaging in risky sexual behaviours (Zelalem et al., 2014). Zelalem et al. (2014) for instance noted that alcohol consumption in the disabled significantly predicted their engagement in risky sexual behaviours (Zelalem et al., 2014). The odds of engaging in risky sexual behaviours among the disabled who consumed alcohol was 1.72 times higher compared to the disabled who did not consume

alcohol (Zelalem et al., 2014). With regard to a specific type of risky sexual behaviours which is unprotected sex, a Finnish study revealed that cigarette smokers had a stronger self-control in using condoms and practising protected sex as compared to non-cigarette smokers (Kuortti & Kosunen, 2009). There are also a few studies which have found alcohol use to be significantly associated with inconsistent condom use during sexual intercourse (Choudhry, Agardh, Stafstrom, & Ostergren, 2013; Hingson, Heeren, Winter, & Wechsler, 2003). Choudhry et al. (2013) revealed that among a sample of university students the likelihood of inconsistent condom use during sexual intercourse was 1.7 folds higher among those who consumed alcohol in contrast to those who did not consume alcohol (Choudhry et al., 2013). Drug users in Australia were also more likely to have sexual contact without using a condom although they had sufficient knowledge on the health hazards of sharing needles and syringes (Izdebski & Malyszko, 2012).

The association between cigarette smoking, alcohol or drugs consumption, has been found to be significantly associated with having more than one sexual partner (Buttman et al., 2011; Vasilenko & Lanza, 2012). From an observation of a study in Denmark, it was found that Danish men who smoked cigarettes had an increased likelihood of having multiple sexual partners (OR=2.00; 95% CI = 1.87-2.14) as compared to those who did not smoke cigarettes (Buttman et al., 2011). However, there was no supporting evidence described by the researcher with regard to cigarette smoking and multiple sexual partners. A study among sexually active youths in Cameroon showed that alcohol use increased the likelihood of respondents to have multiple sexual partners (Kongnyuy & Wiysonge, 2007). Similarly, groups of migrants in Beijing, who experienced alcohol intoxication reported to have had a significant association with having more than one sexual partner (D. Lin et al., 2005). Among a sample of patients who came to the emergency department in a large teaching hospital

in Los Angeles, it was noted that patients who reported taking alcohol before sex were three times more likely to report having a higher number of sexual partners compared to those who did not consume alcohol (Bazargan-Hejazi, Gaines, Bazargan, & Seddigghzadeh, 2012). This similar association between alcohol intake and multiple sexual partners was documented by Choudhry et al. (2014) in Uganda among university students (Choudhry, Agardh, Stafstrom, & Ostergren, 2014). Alcohol intake (heavy episodic drinking) has shown to have a significant and positive association with having multiple sexual partners among adolescents in United States (Vasilenko & Lanza, 2012). The study revealed (Vasilenko & Lanza, 2012), younger adolescents (14 years) who consumed alcohol to be 5 times (males) and 7 times (female) more likely to have multiple sexual partners compared to older adolescents (24 years) (Vasilenko & Lanza, 2012). With relation to drug intake, several studies have documented a significant association between drugs and multiple sexual partners. In Finland, Kuortti et al. (2009) reported that teenagers who used drugs were four times (OR = 4.1) more likely to have multiple sexual partners than teenagers who did not use drugs (Kuortti & Kosunen, 2009). Similar results were also documented by a study in Ghana (Doku, 2012). This study (Doku, 2012) showed that Tawa (a type of drug) users (OR = 10.4, 95% CI = 4.4-24.6), tobacco users (OR = 10.4, 95% CI = 4.4-24.6) and marijuana users (OR = 17.1, 95% CI = 6.7-43.3) were more likely to report having multiple sexual partners compared to those who did not consume any of these substances. Another study in Ghana by Asante et al. (2014) reported that youths who reported marijuana use were 16 times more likely to engage in multiple sexual partnership as compared to those who did not use marijuana (Asante et al., 2014). Additionally, Khat chewing which is a common drug used in communities of Africa and Arabia was found to be a predictor of multiple sexual partners by a researcher in Ethiopia (Tadesse et al., 2013). Consumption of these

substances has been classified as drug abuse in 1980 by WHO (Al-Mugahed, 2008). However, it was not considered as seriously addictive.

Substance use is a form of coping with stigma that can result in risky sexual behaviours (Homma et al., 2012). Many people who consume alcohol tend to use drinking as an excuse for engaging in any risky behaviours (Hingson et al., 2003). Alcohol and drugs are known to cause impaired judgement and interfere with the decision making of an individual (Norris, Masters, & Zawacki, 2004). This in turn leads to higher risks of adolescent's participation in risky sexual behaviours (Brakefield et al., 2012; Seth et al., 2011).

Religion is a protective factor in its association with risky sexual behaviours. Few studies showed the higher the religious status the lesser was the practise of unprotected sex (Manlove et al., 2006; D. Miller, 2002) and the number of sexual partners (Agardh et al., 2011; Haglund & Fehring, 2009; McCree, Wingood, DiClemente, Davies, & Harrington, 2003; Zaleski & Schiaffino, 2000). A study in North Carolina that determined the various dimensions of religiousness and sexual behaviour showed that adolescents who did not attend religious events were significantly associated with practising unprotected sex in contrast to those who attended religious events frequently (L. Miller & Gur, 2002). Manlove et al. (2006) documented that strong religious beliefs among adolescents were significantly associated with reduced condom use during first experience of sexual intercourse (Manlove et al., 2006). According to McCree et al. (2003), the odds of using a condom and practising safer sex among a sample of adolescents was 1.7 times more among those who had a higher religiosity level compared to those with a lower religiosity level (McCree et al., 2003).

People who frequently attended religious institutions are more likely to reject sexual activity compared to those who occasionally attended religious institutions (Negeri, 2014). With regards to having multiple sexual partners, the influence of

religiosity among Latina adolescents in United States was found to reduce their likelihood of having multiple sexual partners (Edwards et al., 2011). McCree et al. (2003) had also reported the odds of having a steady male sexual partner to be 1.9 times higher among African American adolescents who reported greater religiosity level in contrast to those who reported a lower religiosity level (McCree et al., 2003). In Pennsylvania, the likelihood of sexually active adolescents (13 to 21 years) to report having multiple sexual partners was lower (OR = 0.38, 95% CI = 0.21, 0.68) among those with a higher religiosity status compared to adolescents with a low religiosity level (Gold, Sheftel, Chiappetta, & Young, 2010). Based on evidence it has been reported that coming from a family where religion played an important role helps protect individuals from having multiple sexual partners (Agardh et al., 2011). Remarkably, it was noted from a church-based population that although respondents were highly religious, a large proportion of them reported to have at least seven sexual partners in their lifetime whilst 40% of them did not use a condom during sexual intercourse (Hawes & Berkley-Patton, 2014). A church-based study in Western Cape also reported that 66% of the respondents were sexually active and had multiple sexual partners (Mash, Kareithi, & Mash, 2006). In 2005, Jones et al. had conducted a study to examine the religious involvement of early adolescents and its association with sexual risk taking behaviours. Data analysed found no significant association between adolescent's frequent attendance at religious events with condom use or multiple sexual partners (R. K. Jones, Darroch, & Singh, 2005).

The United Nations Millennium Project has reported that Malaysia has shown good progress in achieving all Millennium Development Goals (MDGs) that has to be targeted by 2015 except for the spread of HIV/AIDS which is the MDG 6 (Malaysia, 2005). Few studies have found that HIV/AIDS knowledge is not directly related to risky sexual behaviours in adolescents (Bachanas et al., 2002; S. Kalichman & Cain, 2004).

Furthermore, having a high or low level of HIV awareness did not show any significant association with engaging in risky sexual behaviours (Izdebski & Malyszko, 2012; Lalou, 2007). In Nigeria, Odimegwu et al. (2013) reported that although Nigerian undergraduates had high levels of HIV/AIDS awareness, 46% of them reported inconsistent condom use and 65% reported to have more than one sexual partner (Odimegwu & Adedini, 2013). However, one study conducted by Cherie et al. (2012) revealed that the odds of being involved in risky sexual behaviour was higher (AOR = 1.50, 95% CI, 1.15 – 1.96) among those with lower level of HIV knowledge compared to those with a higher level of HIV knowledge (Cherie & Berhane, 2012). Following a study in Malaysia it was found that more than 50% of sexually active University students used a condom during sexual intercourse and a significant correlation (p=0.01) was reported between HIV knowledge and having protective sex (Shah, Sann Lye, & Rampal, 2010). Consistently, a statistically significant (p=0.000) association was shown between the level of HIV knowledge and the practise of unprotected sex among immigrants, foreign students and foreign workers in Cyprus (Kouta et al., 2013). Low levels of HIV knowledge have also been associated with multiple sexual partners (Amaron & Ladi-Akinyemi, 2012). This was particularly seen in a study by Song et al. (2005) that compared the HIV and sexual health knowledge between Australian born and overseas born students in Sydney (A. Song, Richters, Crawford, & Kippax, 2005). Asian students had lower levels of HIV knowledge and fewer sexual partners as compared to the Australian students (A. Song et al., 2005).

Researchers have shown that adolescent's sexual risk taking behaviours are due to improper sexual education that has not been conveyed adequately at a younger age (Lou & Chen, 2009). Adequate knowledge on sexuality is important to enable adolescents to make right choices about their sexuality (Muhanguzi & Ninsiima, 2011). An earlier study in Malaysia revealed that adolescents generally had very poor knowledge on

sexual and reproductive health (Low, Zulkifli, & Yusof, 1994). Drawing upon literature from subsequent studies (Yilgor et al., 2010; Zaw et al., 2013) it has been documented that females have a better knowledge on sexual and reproductive health compared to males. According to Yilgor et al. (2010) among a sample of first year medical students in Turkey, it was found that male students (55.4%) had a significantly (P=0.039) lesser knowledge on sexual and reproductive health compared to female students (74.2%) (Yilgor et al., 2010). This finding was also supported by another study conducted by Zaw et al. (2013) in Myanmar (Zaw et al., 2013). Although females have shown to have a better sexual knowledge compared to males in several studies, this finding was not similar in studies that recruited participants from the high risk group. For instance, female sex workers in Hubei, China viewed condom use during sexual intercourse to only prevented them from pregnancy and did not help in preventing the transmission of STDs (Zhao et al., 2012). Besides gender, age is another factor that predicts the knowledge on sexual health. A cross-sectional study in Kelantan, Malaysia indicated that older students reported a higher knowledge on sexual and reproductive health and were less likely to engage in risky sexual activities such as early age of first sexual initiation, increased frequency of sexual activity, pregnancy, abortion, unwanted birth rates and the rate of HIV/AIDS (Rahman et al., 2011). Good knowledge on sexual health or family planning does not necessarily determine the practice of protected sex. For example, junior college students in Taiwan reported a significant negative effect between sexual knowledge and their sexual behaviours (Lou & Chen, 2009). From this study (Lou & Chen, 2009) it was noted that although students with higher level of sexual knowledge reported reduced involvement in risky sexual activities, there was no increased practise of safe sex behaviours. This is due to the poor availability of sexual health services in Taiwan. Malaysia faces the similar scenario. For instance, in the Malaysian health policy, offering condoms or any other forms of contraceptives to

unmarried individuals is yet to become a practice in the Malaysian health services (Low, 2009). Until today premarital sex in Malaysia is considered a taboo and socially unacceptable amongst most communities as it conflicts with most local cultures (Abdul Manaf, Mohd Tahir, Sidi, & Midinb, 2014). With regard to having more than one sexual partner, a study by Lin et al. (2005) showed that participants having higher levels of sexual and reproductive knowledge revealed more number of sexual partners compared to those with lower levels of sexual and reproductive health (Lin, Simoni, & Zemon, 2005).

The health belief model (HBM) was first developed in the 1950s to explain the lack of public participation in health screening and prevention programmes (Rosentock, 1974). It is a value expectancy model that predicts and changes the health behaviour of an individual (Rosentock, 1974). The HBM proposes a belief that an individual has so that he or she can protect his or herself from a particular disease or illness. The components are (a) perceived susceptibility - the susceptibility of an individual to a disease, (b) perceived severity – the disease could at least cause a moderately severe impact on their life, (c) perceived self-efficacy – individuals perceptions of his or her competence to successfully perform a behaviour and (d) perceived barriers – behaviours that would not be impeded by factors such as cost, pain or embarrassment (Strecher, Champion, & Rosenstock, 1997).

Perceived susceptibility to contracting HIV has been shown to be positively associated with risky sexual behaviours (Gromet, Ramchand, Griffin, & Morral, 2010). Participants from this study (Gromet et al., 2010) were aware that engaging in risky sexual behaviours could increase their vulnerability in getting HIV but they did not believe that they had the self-efficacy to stop this negative outcome from happening (Gromet et al., 2010). According to Boone et al. (2004), perceived susceptibility of contracting AIDS/STDs and the self-efficacy of using a condom during sexual

intercourse did not significantly predict the practice of safe sex among college students (Boone & Lefkowitz, 2004). However, these measures were found to be significantly related with safer sex practises among a group of Taiwanese immigrants in United States (P. Lin et al., 2005). Following a study conducted among sex workers in China, it was reported by Zhoa et al. (2012) that the perceived barriers of using a condom during commercial sex was a significant determinant of safe sex practise (Zhao et al., 2012). Many of these sex workers perceived that a condom was not easily available and believed in following their client's demands to not use a condom so that they got paid more (Zhao et al., 2012). In Tanzania, a recent study documented that, school students who had low perceived barrier score towards condom use had a 24-fold (95% CI, 10.46 - 58.2; $p < 0.001$) odds of reporting condom use during sex as compared with those who had high perceived barrier score for condom use (Njau, Mwakalo, & Mushi, 2013). Similarly, self-efficacy to condom use was strongly associated with reported condom use. School students in Tanzania who had a low mean self-efficacy score had a 4-fold (95% CI, 2.05 - 8.62; $p<0.05$) odds of reporting condom use during sex compared to those with a high mean self-efficacy score (Njau et al., 2013). This finding was also supported by Cherie et al. (2012) in Ethiopia. The likelihood of engaging in risky sexual behaviours was two times higher among school students who reported a low perceived self-efficacy towards condom use compared to those who reported a high perceived self-efficacy towards condom use (Cherie & Berhane, 2012). In comparison, adult ecstasy users reported that if the perceived self- efficacy of using a condom happened to be high, it should result in a direct effect of condom use during sexual intercourse (Elifson et al., 2010). Additionally, evidence has showed that self-efficacy of using a condom during sex may be affected by certain health behaviours in different groups of people (Zhao et al., 2012).

Previous studies revealed ethnic disparities in perception of sexual abuse, and these beliefs are shaped by religion as well as culture (Arousell & Carlbom, 2016; Okur & Leontien, 2015). Since Malaysia is a multi-racial country with different religious and cultural beliefs, investigation how culture and religion differences in Malaysia shape and influence perception of sexual abuse would be beneficial. This sort of a study will help inform future intervention to educate the Malaysian public of the various ethnic backgrounds about sexual abuses.

Previous literature (Low et al., 1994; A. Song et al., 2005) has shown that low HIV knowledge and sexual and reproductive health knowledge to be associated with increased risk of risky sexual behaviour. Secondly, there are also some studies that have projected the misconception on sexual abuse (Lira et al., 1999; Spohn & Horney, 1992). This has resulted in many adolescents and young adults to perceive sexual abuse differently. Many view sexual abuse as an act that necessarily involve sexual penetration (N. Anderson et al., 2004; Choo & Dunne, 2011). Some of them do not know if a sexual abuse act is right or wrong. Therefore, it will be worth looking at how different sexual abuse is perceived among the different ethnic groups in Malaysia.

2.4 Phase II: Qualitative study

2.4.1 Differences in defining sexual abuse

Early studies had shown that the social perception on sexual abuse resulted in its narrow definition (Spohn & Horney, 1992). At that time, only three essential elements were believed to describe sexual abuse: vaginal penetration, use of force and absence of consent (Spohn & Horney, 1992). Subsequently, a study by Lira et al. (1999) revealed that the act of sexual abuse did not necessarily have to involve sexual penetration; but fondling or passing sexual remarks can also be classified as less severe forms of sexual abuse (Lira et al., 1999). In a later study by O'Neil et al. (2010), although most respondents understood sexual abuse as non-consensual and forced act, many perceived sexual abuse to result in some form of physical harm (O'Niel & Morgan, 2010). Mathoma et al. (2006) had carried out a perception study among groups of parents in Bostwana and Swaziland on how they perceived child sexual abuse (CSA) (Mathoma et al., 2006). From the study (Mathoma et al., 2006) it was indicated that any sexual intercourse convicted on a child was believed to be a CSA, regardless of whether consent was obtained or otherwise (Mathoma et al., 2006). This is because children are not within a legal age to give consent. Unfortunately, in that study (Mathoma et al., 2006) most parents failed to relate CSA with non-penetrative sexual act and it was strongly perceived that sexual intercourse had to happen in an event of sexual abuse.

The perception of people on sexual abuse is very subjective and this may differ between different ethnic groups. The culture practised by different ethnicities may result in sexual restraint and can create a barrier in sharing of sexual experiences (Meston, Trapnell, & Gorzalka, 1998). An earlier study on Asian refugees reported that most participants preferred to keep their sexual abuse experience a secret within their family so that they will not be blamed and rejected by their community (D. Wong, 1987). However, based on African culture sexual exhibition and viewing pornography are not viewed as sexual abuse (Mathoma et al., 2006). On the other hand, gender of a victim

and perpetrator does play a role when it comes to defining the term sexual abuse. It has been reported that females are at a higher risk of becoming a victim and males are more likely to be perpetrators of sexual abuse (Pasura et al., 2014). This can be further explained by the nature of patriarchy which is commonly practised among the African society and also in some Asian communities. In Africa, men are looked at as heads, breadwinners or disciplinarians of a family (Fakunmajo, Bammeke, Bosiakoh, & Asante, 2013). Therefore, it is normal for a male to get sexual satisfaction from any female individual whether wife or daughter simply because he predominates in many aspects and holds authority over women and children (Fakunmajo et al., 2013). Early laws in the United States had stated that married women could not be raped because the issue of consent did not exist in a marriage (Ferro, Cermele, & Saltzman, 2008). While today in a legal marital relationship, a husband cannot force his wife to have sexual intercourse with him (Ferro et al., 2008). Such an act can be declared criminal if it is done against the wife's will (Ferro et al., 2008). Although a woman may feel obliged to do what her husband wants but certain practises such as oral sex, anal sex or sex during menstruation that are disliked by the woman and forced by her husband is recognized as abuse in a sexual manner (Lira et al., 1999). Whereas, the Penal Code section of the Malaysian Law states that sexual intercourse by a man with his own wife by a marriage which is valid under any written law for the time being in force, or is recognized in Malaysia as valid, is not rape ((AGC), 2018).

The definition of sexual abuse has varied markedly from one study to another. In defining CSA especially, most researchers have used age of a victim as a criterion. Sexual activity experienced before the age of 18 years has often been the classical definition for CSA (Dube et al., 2006; Hillis et al., 2004). However, many studies have chosen different cut-offs for age of victim to report CSA. The different cut-offs for age in an event of CSA includes age 17 (Paul JP, Catania J, Pollack L, & R., 2001), age 16

(Chen et al., 2004; Jirapramukpitak et al., 2005; S. Kalichman & Cain, 2004), age 14 (Merill et al., 2003) and age 13 (Dilorio et al., 2002). Following a study in Caribbean, it was perceived that childhood represented children who were 12 years and below giving reasons that puberty marked the end of childhood (Pasura et al., 2014). This is because it was common for children above 12 years to experience sexual abuse in the Caribbean (Pasura et al., 2014). In the Caribbean, if a 17-year-old boy abused a 15-year-old girl, the act is perceived to be a teenage relationship because sex among teenagers is believed to be an experiment and not an abuse (Pasura et al., 2014). In addition, some researchers have used the age discrepancy definition where in a perpetrator has to be certain number of years older than the victim for the act to be considered as CSA (D. Jones et al., 2010; Mohler-Kuo et al., 2014; Schraufnagal et al., 2010; Senn et al., 2008).

2.4.2 Perpetrators of sexual abuse

Although sexual abuse perpetrators can be a male or a female, males are commonly perceived to perpetrate sexual violence (Cauce et al., 2000). Following a study in United States, Tyler et al. (2002) had reported that majority (82%) of sexual perpetrators were males (Tyler & Cauce, 2002).

Some studies have documented family members (Csorba et al., 2005; Niu et al., 2010) to commonly convict sexual abuse acts whereas others have noted that non family members (Tyler & Cauce, 2002) often perpetrated sexual abuse. According to O'Niel et al. (2010), perpetrators of sexual abuse are typically viewed as strangers who are sick or disturbed psychologically (O'Niel & Morgan, 2010). Additionally, a study by Tyler et al. (2002) reported that the largest category of perpetrators for sexual abuse were strangers (58%) followed by biological parents (10%) and foster or stepparents (7%) (Tyler & Cauce, 2002). In South Africa, school students reported that their friend

(44.6%) was the highest indicated perpetrator for sexual abuse (Madu & Peltzer, 2001). This finding was consistent with Niu's study in China where sexual abuse by victim's friends and classmates accounted for 23.9% of all sexual abuse cases (Niu et al., 2010).

2.4.3 Victims who are prone

There are many factors which contribute to the likelihood of an individual getting sexually abused. Young individuals are at a higher risk of sexual abuse because they are more vulnerable compared to older individuals (Lambert & Andipatin, 2014; Sweet & Welles, 2012). The subtle behaviour in both children and adults simply exposes the vulnerability in making them easy targets for sexual abuse (Pasura et al., 2014). According to Othman et al. (2012) victims especially children can be easily threatened by the perpetrators to not tell anybody about the sexual abuse experience (Othman & Jaafar, 2012). A qualitative study in Africa noted that children and young adults who watched television programs that showed sexual scenes were more prone for sexual abuse because it was perceived that such programs might have enhanced their knowledge and skills on sex thus making them interested in experimenting sexual acts (Mathoma et al., 2006). Similarly, an internet survey across regions of three different countries (United States, Ghana and Nigeria) reported similar findings on how children get negatively influenced towards trying sexual acts (Fakunmajo et al., 2013). The study also determined (Fakunmajo et al., 2013) that certain environments such as space limitations and inadequate accommodations faced by large families make sexual intercourse among parents unavoidable. Since children share the same bedroom with their parents, sexual intercourse between parents is sometime done with the presence of children around assuming that they are not aware (Fakunmajo et al., 2013).

With regards to gender, few studies have reported the females are more prone for sexual victimization compared to males (D. Jones et al., 2010; Pasura et al., 2014; Steel

& Herlitz, 2005). These findings have been more prominent in the Western studies. Nevertheless, there are several studies in South East Asia and Middle East that have showed males to be more vulnerable for sexual abuse compared to their counter parts (Almuneef et al., 2016; Madrid, 2016). A study in Malaysia among adolescents also revealed similar findings (Choo & Dunne, 2011).

With relation to power, females are generally looked at as weaker compared to males (Lambert & Andipatin, 2014). Most women and children are solely dependent on men financially and for survival (food and shelter) (Pasura et al., 2014). All essential needs given by men are exchanged for sex from women and children. In some communities it may be regarded as the right of a man to force his wife or child to have sexual intercourse to satisfy his sexual needs (Pasura et al., 2014). This finding by Pasura et al. (2014) is consistent with the nature of patriarchy practised in most South African communities. The social construction of masculinity and femininity has been found to be associated with gender-based violence where males exhibit dominant, aggressive and abusive behaviours towards their spouse and children (Bower, 2014). It is believed that women have to submit to men's wishes. For instance, the patriarchal pattern of males having more power than a female results in lack of decision making in matters including how, when and where to have sex (Abeid et al., 2014).

The public perception on sexual abuse is often victim-blaming in nature. It is believed that a victim's behaviour or character typically provokes the act of sexual abuse. In many cases the way a woman dresses is viewed as an indication that 'she asked for it'. A qualitative study revealed that participants perceived Western attires such as tight and short clothes that exposed more of the bodily structure attracted perpetrators (Mathoma et al., 2006). This finding was also supported by another study (Abeid et al., 2014) in Tanzania. It was perceived that women who dressed in sexy outfits aroused men's sexual desire attributing to a higher demand for sex and being

more forceful about it (Abeid et al., 2014). Similarly, there were two other studies (Lira et al., 1999; Pasura et al., 2014) which indicated that females who dressed up to look 'hot and shaped up' gave an impression that they wanted to engage in some form of sexual act. Nevertheless, it was believed that females with such behaviours can provoke the sexual desires of a man giving him the pleasure to satisfy his sexual needs by imagining and wanting to get sexual with the woman (Lira et al., 1999; Pasura et al., 2014). However, it was noted by Pasura et al. (2014) that a sexual act in this context has to be consensual rather than abusive (Pasura et al., 2014). The term 'loose' was commonly used in Mexico to describe women who are easy going (Lira et al., 1999). For examples, individuals who openly express their sexuality and lustful behaviour should be blamed for their act if they ever got sexually abused. Disabilities such as physical, emotional and cognitive disabilities have been found to increase one's likelihood for sexual abuse (Skarbek, Hahn, & Parrish, 2009). The study (Skarbek et al., 2009) revealed that the likelihood of being sexually victimized is 3 times higher among disabled individuals compared to a non-disabled individual. The impaired communication skills in disabled individuals do not allow them to disclose any event of sexual abuse experienced. Even in situations when a disabled victim is able to open up the sexual abuse experienced it is less likely for others to believe or get the right message (Othman & Jaafar, 2012; Tyler & Cauce, 2002). Although disabilities has been found to be significantly associated with sexual abuse, a study by Young et al. (1997) described that the risk of experiencing sexual abuse among disabled and non-disabled women was similar (Young, Nosek, Howland, Chanpong, & Rintala, 1997).

2.4.4 Information and prevention on sexual abuse

Although it may be difficult to completely protect ones' self from becoming a victim there are many valuable ways that can be taken into consideration for protection against sexual abuse. Adequate sex education and precautionary methods can

certainly prevent and lower the rates of sexual abuse cases (Lambert & Andipatin, 2014). Sometimes it is not known to the victim if a particular act convicted on them is a sexual abuse or not. Therefore, knowing about possible sexual behaviours that can be exhibited by any adult or sibling that is considered inappropriate is also important (Lambert & Andipatin, 2014). Creating proper awareness on sexual abuse and its consequences among adults and children can make it easier for them to identify themselves as having been victimized so that they can come forward and seek help (Sherill et al., 2011). Parents play an important role in the behaviour and manner of the adolescent's sexuality (Ip et al., 2001). At the same time, adolescents who experience negative outcomes on sexuality with their parents will not want to discuss such matters when they are older. Therefore, it is important for children to discuss the positive aspects of sexuality more openly with their parents so that they will be more comfortable with these forms of discussions even when they mature (Negeri, 2014). A study in South Africa reported that respondents perceived sex education to be taught to individuals during their childhood by parents and teachers in school (Lambert & Andipatin, 2014). To achieve this, the government should play an important role in teaching parents on how to speak to their children openly about body parts and in a positive manner. This is because until today the subject on sexuality remains a taboo in many societies in Malaysia. One of the reasons for this is that many parents do not have much knowledge to communicate on the risks of sexual abuse (Lira et al., 1999) and find it difficult to talk freely about any sexual issue to their children although it could be a form of education to protect themselves from becoming sexual abuse victims (Mathoma et al., 2006). This finding was consistent with practises in Ghana where it is strongly believed that sex is sacred and should be a rarely discussed subject in public (Doku, 2012). Following Ghanaian tradition, sex education is rightfully to be given to girls only at the time of puberty by their mothers or older women. To a greater extent, it

is believed that issues of premarital sex can give rise to many negative thoughts among Ghanaian society (Doku, 2012).

In a recent study conducted by Rahman et al. (2011), a large proportion (64.4%) of school students stated that their main source of sexual information was gained from peers (Rahman et al., 2011). On the other hand, first year medical students in Turkey indicated that they preferred to gain information on sexual health from doctors (90.8%) or psychologist (89.7) rather than anywhere else (Yilgor et al., 2010). Additionally, a preliminary investigation on sexual abuse cases in Malaysia showed that children and young adults are still lacking education on their personal safety from sexual abuse (Othman & Jaafar, 2012).

In many western countries like United States, Australia, New Zealand, Canada and Europe the preventive programmes towards sexual abuse are tackled right through school. School children are educated using the latest multimedia formats to protect themselves from sexual abuse. School based workshops, external facilitated presentation, video based classroom activities, role plays and discussions are among the methods used to increase awareness in children (Poole & Tomison, 2000; Russel, 2008). However, efforts to prevent sexual abuse in Malaysia still remain inadequate. It is difficult to create awareness on sexual abuse without appreciating what knowledge has to offer. According to the department of Islamic Affairs in Kedah, Malaysia it was noted that sexual abuse particularly in children happens to be a result of weakness in a family institution. Solving sexual abuse can be very complex, especially if parents fail to achieve strong leadership skills, give co-operation and understand elements of sexual abuse (Othman & Jaafar, 2012).

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Study area

The study was conducted in University Malaya which is one of the oldest and most esteemed public university in Malaysia. The university's name was abbreviated as 'Malaya' during the pre-independence period of Malaysia. It is situated in Kuala Lumpur (the capital city of Malaysia) on the west of Peninsular Malaysia (Figure 3.1). This location reflects its urbanized setting.

Figure 3.1: Map of Peninsular Malaysia showing Kuala Lumpur on the west

The university was established on 8 October 1949 as a public funded tertiary institution in Singapore. Its establishment was done between the merger of the King Edward VII College of Medicine (founded in 1905) and Raffles College (founded in 1928). During the first decade after its establishment, the growth of the university was very rapid. Soon after in 1959, the university was divided into two autonomous campuses, one in Singapore and the other in Kuala Lumpur. However, in 1961, the governments of Malaysia and Singapore passed the legislation to make the university the national university of Malaysia. On 1 January 1962, this University in Kuala Lumpur was

permanently located on a 309-hectare land and was called University of Malaya. On the other hand, the campus in Singapore is called the National University of Singapore today. Over the years the university has expanded in area and at present the University of Malaya campus is located on a 992-acre land and its geographical location is (30 07'15" N, 1010 39'23" E). It has 12 different faculties with the medical faculty linked to a semi private medical centre called the University Malaya Medical Centre. The other faculties in University Malaya include Faculty of Arts and Social Sciences, Faculty of Business and Accountancy, Faculty of Computer Science and Information Technology, Faculty of Economics and Administration, Faculty of Dentistry, Faculty of Education, Faculty of Engineering, Faculty of Language and Linguistic, Faculty of Law, Faculty of Medicine, Faculty of Science and Faculty of Built Environment. Figure 3.2 illustrates the map of University Malaya and the location of its faculties. Statistical data retrieved from the Records and Admissions department of the university revealed that in 2012, the university had 12,308 undergraduate students. From this 4430 were male and 7877 were female undergraduate students.

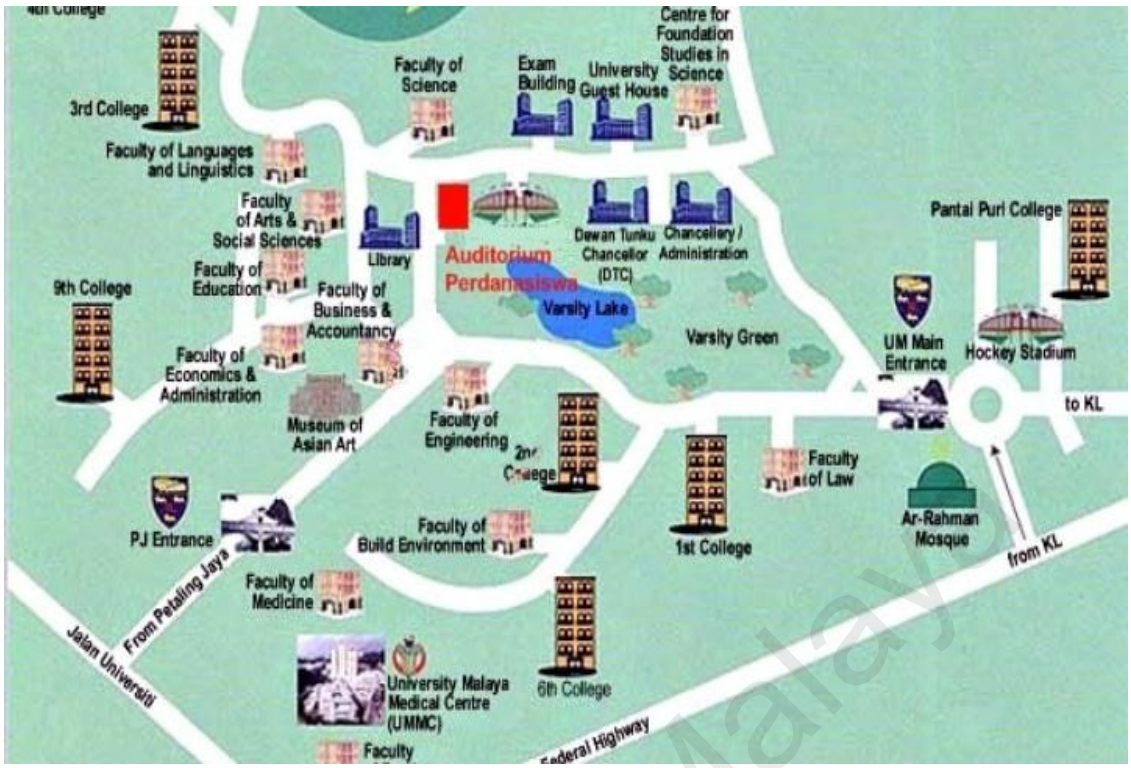


Figure 3.2: Map of University Malaya

3.2 Phase I: Quantitative study methodology

3.2.1 Study design and period

The design chosen for this study was cross sectional study due to the sensitivity of the issues discussed. Information on CSA experience and risky sexual behaviours are may be highly sensitive to an individual. Data collection was carried out between September 2013 and February 2014 (6 months).

3.2.2 Study population and sampling procedure

The study population consisted of University Malaya students from 12 different faculties. The eligibility criteria for students to participate were undergraduate students of University Malaya, unmarried and Malaysian only. This population resembled a good representative set of undergraduate students who came from all parts of the country. A convenience sampling procedure was used to recruit respondents for this study. The rational for selecting this sampling method was firstly because it is not possible to

include every undergraduate student in the University. Secondly, the convenience sampling in this study allowed respondents to be easily recruited on a voluntary basis as subjects were already easily accessible and readily available. It was expected that voluntary participation will result in respondents to provide more unique and rich information on the study as compared to if the sample was randomized. Thirdly, the issue on CSA and RSB discussed in this study is very sensitive. Disclosing issues such as having unwanted sexual experience during childhood and admitting to their involvement in risky sexual behaviours can be quite embarrassing to some individuals. Therefore, a convenience sampling method in this study was the most suitable method used in recruiting the respondents, so that respondents felt comfortable to participate.

3.2.3 Method of data collection

Data was collected anonymously via an online survey. The online survey had been specially designed using the GOOGLE CONSUMER SURVEY. This approach was used to strengthen the respondent's understanding on privacy and guaranteed confidentiality of participating in the study. Emphasis on respondent's privacy had helped decrease their embarrassment and queries on revealing their CSA experience or risky sexual behaviours. This brought about more frank and forth coming responses from the respondents when they answered the online survey. This method of administrating the survey captured respondents form a large target population. To launch this survey, the researcher emailed the survey to all students of University Malaya. The email was sent once a week via the internal university mail system (*siswamail*) so that those who missed the mail would have had a chance to answer the online survey. In the email, the inclusion criteria was mentioned to ensure the eligibility of respondents before taking part in the study. Respondents were also informed about the research subject, the objectives of the study, the anonymity and confidentiality in

answering the online survey. The email also stated that the student's participation was completely voluntary. Respondents were informed that they could discontinue their involvement or participation in this study at any time. Respondents who fitted the inclusion criteria and agreed to participate in the study were instructed to proceed by clicking on a particular web-link. Before the respondents could start answering the survey, a consent page appeared asking them to give their informed consent. Only two response options appeared for the consent. Respondents were asked to choose between answers "Yes" or "No" when giving their consent. If respondents clicked "Yes" for consent the survey page appeared in the next step. If respondents clicked "No" for consent the survey page will not appear. No personal identification of respondents for example name, identity card number, address or contact number were asked upon giving consent. This was to confidentiality of respondents who participated. Instructions on how to answer the questions was included in the survey. Respondents were asked to answer all questions online and were informed that it would only take an estimated 15 to 20 minutes to complete the entire questionnaire. Simple and easily understood vocabulary was used to phrase the questions to avoid any misinterpretation and confusion among respondents. Respondents were also given the opportunity to contact the researcher and clarify any doubts while answering the online survey. To improve the response rate, respondents who answered all the questions in the survey were offered a small gift as a token of appreciation from the Department of Social and Preventive Medicine (SPM). Each respondent was asked to key in a pseudonym at the beginning of the online survey for verification during the collection of gifts at the SPM department. During the collection of the gift, respondents were asked to display their university identity card as a proof of being an undergraduate student of the university. However, no personal information was obtained from respondents who claimed their gifts. The respondents participated anonymously. To further improve the participant's response,

student representatives from all residential colleges were approached to promote the existence of the online survey. Student representatives were instructed to display posters about the online survey in different faculties of the university. Students who did not check their *siswamail* actively and who were unaware about this survey was made known by putting up the posters. In addition, flyers were also distributed by these student representatives at the residential colleges of the undergraduate students to increase their response rate of the online survey.

3.2.4 Sample size calculation

The sample size was obtained based on population proportions, a method used for sample size estimation when the prevalence is unknown. In this case, the prevalence of CSA experience neither risky sexual behaviours is known. The sample size estimation is based on the 50% prevalence of CSA experience or risky sexual behaviour in the population, with a marginal error of 2.5% and a confidence interval of 95%. The sample size was calculated using total population of Malaysian undergraduate students in University Malaya following 2012 statistical figures obtained from the admission and records department. There were 12,308 Malaysian undergraduate students in the university. Among all undergraduate students, 4430 (36%) were males and 7877 (64%) were females.

Sample size calculation:

Sample size (S) = n / [1 + (n/population)],

$$n = Z * Z [P (1-P)/ (D*D)]$$

Therefore, n = 1.960 * 1.960 [0.5(1 - 0.5) / (0.025 * 0.025)

n = 1.960 * 1.960 [0.5(0.5) / (0.000625)

n =1536.64

Sample size (S) = 1536.54 / [1 + (1536.54 / 12,308)]

=1536.54/1.12

=1372

P = True proportion of factor in the population, or the expected frequency value

D = Maximum difference between the sample mean and the population mean

Z = Area under normal curve corresponding to the desired confidence level

Sample size calculated was 1372. In estimation of incomplete and ineligible responses, an additional 20% (n=274) was added to the sample size. Therefore, this study aimed to collect 1646 respondents.

3.2.5 Study variables

Table 3.1 illustrates the independent and dependent variables of this study. There are 9 independent and 3 dependent variables used to conduct the study.

Table 3.1: Independent and dependent variables of the study

Independent variable	Dependent variable
1) Socio-demographic characteristics 2) CSA experience 3) Familial factors 4) Substance use 5) Peer association 6) Level of religiosity 7) Knowledge of HIV 8) Knowledge of Sexual and Reproductive Health 9) Health Belief	Risky sexual behaviours 1) Unprotected sex during first sexual intercourse 2) Unprotected sex throughout subsequent sexual intercourse 3) Multiple sexual partners

3.2.6 Instrument

A 73-item online survey was developed in the English language over a period of 7 months (February 2013 to August 2013). Due to the good English literacy level of the respondents (among university undergraduate students) the researcher did not intend translating the online survey to other languages besides English. The online survey was designed and modified based on previous literature, suggestions from expert paediatricians and a pilot study which was conducted on a convenient sample of university students (n=20). This study instrument was divided into 10 sections. The ten different sections of the online survey and the variables to each section are described below:

a) Section A: Socio-demographic characteristics

   Variables: *Age, Gender, Ethnicity, Religion, Current educational level, Educational background of degree, Family's monthly household income, Family structure, Residential area and Number of siblings.*

b) Section B: CSA experiences

   Variables: *Forced to watch sexual pornography on videos/ magazines/photos, Forced to watch sexual scenes in reality, Witnessed someone masturbating, Forced into sexual talk, Experienced someone rub their genitals against them, Forced to pose naked, Experienced someone touching/fondling with their genitals/breast before, Forced to touch someone's genitals, Experienced someone perform oral sex on them, Forced to have sexual intercourse and Forced to have anal intercourse.*

c) Section C: Familial factors

   Variables: *Family closeness, Parental monitoring, Family support and Family violence*

d) Section D: Substance use

   Variables: *Cigarette smoking, Alcohol consumption and Drugs*

e) Section E: Peer association

   Variables: *Early age of sexual intercourse, Condom use, Condom reduces pleasure and Multiple sexual partners*

f) Section F: Level of religiosity

   Variable: *Religious status*

g) Section G: Knowledge of HIV

   Variables: *as shown in Appendix A*

h) Section H: Knowledge of sexual and reproductive health

   Variables: *as shown in Appendix A*

i) Section J: Health belief

Variables: *Perceived severity item 1, Perceived severity item 2, Perceived susceptibility item 1, Perceived susceptibility item 2, Perceived barriers item 1, Perceived barriers item 2, Perceived self-efficacy item 1 and Perceived self-efficacy item 2.*

j) Section K: Sexual experiences

Variables: *Ever had sex, Consensus, Condom use and Having multiple sexual partners.*

Ten questions addressed socio-demographic characteristics, eleven on CSA experience, four on familial factors, three on substance use, four on peer associations, one on level of religiosity, sixteen on knowledge of HIV, ten on knowledge of sexual and reproductive health, eight on health belief and eight on sexual experiences.

There is no CSA screening instrument that exists up to date (Mohler-Kuo et al., 2014). In the present study, questions on CSA experiences was adapted from three different studies by Chen et al (2004), Steel et al (2005) and Choo et al (2011). The questions were modified and selected in combination to answer the objectives of this study. Questions on knowledge of HIV was taken from the HIV KQ-18 questionnaire (Carey & Schroder, 2002). The questions on knowledge of sexual and reproductive health were adapted from Wong et al. (2012). The section on health belief was adapted from a study by Boone et al. (2004). However, all of the questions in the sections mentioned above have been previously validated.

3.2.7 Operational definitions

a) CSA experience - Having experienced any one or more of the eleven different types of sexual abuse asked in the survey and it has to have occurred before the age of 18 years with the perpetrator being at least five years older than the victim.

b) RSB - Risky sexual behaviours were defined based on three different measures which are:

   i) RSB 1: Unprotected sex during first sexual intercourse
      - respondents who reported ever had sex, consented and did not use a condom during first exposure to sexual intercourse.

   ii) RSB 2: Unprotected sex throughout subsequent sexual intercourse
      - respondents who reported ever had sex, consented and did not use a condom during subsequent exposure to sexual intercourse if they have had sexual intercourse more than once.

   iii) RSB 3: Having multiple sexual partners
      - respondents who reported ever had sex and had more than one sexual partner.

3.2.8 Scale of measurements

Independent variables in this study includes measures of socio-demographic characteristics, CSA experience, familial factors, substance use, peer association, level of religiosity, knowledge of HIV, knowledge of sexual and reproductive health and Health Belief Model constructs.

Socio –demographic characteristics

The variables under socio-demographic characteristics were age, gender, ethnicity, religion, current educational level, educational background of degree, family household income, family structure, residential area and number of siblings. All these variables have been identified in previous research to be associated with CSA experience and risky sexual behaviours.

CSA experience

CSA experience was assessed by an 11-item question on unwanted sexual experiences experienced by the study respondents. Questions asked were (1) "Have you been forced to watch any sexual scenes (eg. Pornography on video, magazines or photo?" (2) "Have you been forced to watch any sexual scenes in reality?" (3) "Has anybody masturbated in front of you?" (4) "Have you been forced into any sexual talk before?" (5) "Has anybody rubbed their genitals against your body?" (6) "Has anybody forced you to pose naked?" (7) "Has anybody touched or fondled with your genitals or breast?" (8) "Has anybody force you to touch their genitals?" (9) "Has anybody performed oral sex with you?" (10) "Has anybody forced you to have sexual intercourse with them?" (11) "Has anybody forced you to have anal intercourse with them?". All answer options to the eleven questions were dichotomized. CSA experience was referred to as unwanted sexual experiences faced by respondents when they were below 18 years with the act being convicted by a perpetrator who was at least five years older than the victim. This definition was used in many previous researches (J. Bailey & Ann McCloskey, 2005; Dilorio et al., 2002; Dube et al., 2006; D Finkelhor, 1979; Finklehor et al., 2009; Hillis et al., 2004; Jirapramukpitak et al., 2005; D. Jones et al., 2010; Loeb et al., 2011; Mamun et al., 2007; Merill et al., 2003; Mohler-Kuo et al., 2014; Schein M et al., 2000; Schraufnagal et al., 2010; Senn et al., 2008). Respondents were considered to have

experienced sexual abuse if they had responded "Yes" to any one of the eleven questions asked related to unwanted sexual experience questioned. To date, there has been no consensus among researchers as to what defines CSA experience. Many researchers use the age difference between perpetrator and victim to define CSA experience (Mohler-Kuo et al., 2014).

Familial factors

Previous literature has suggested that familial factors such as family closeness, parental monitoring, family support and family violence are associated with risky sexual behaviours (Gillmore, Butler, Lohr, & Gilchrist, 1992; Vukovic & Bjegovic, 2007). With regard to the four variables that described familial factors, respondents in this study were asked (1) "How often do you discuss sexual matters/problems with your parents?", (2) "Do your parents/guardians know where you are when you are not at home?", (3) "Does your family hold responsibility in giving positive support if you were to face an emotional/ physical/ affectionate problem?" and (4) "Have you ever heard or seen one of your parent or guardian being physically hurt by the other parent?" There were four response categories for each of the questions asked. The response categories included were 1 = "Never", 2 = "Rarely", 3 = "Usually", 4 = "Always". All response options were finally coded to a dichotomous form; 1 = "Yes" and 2 = "No". Respondents who answered 1 = "Never" or 2 = "Rarely" was recoded as 1 = "Yes" and 3 = "Usually" or 4 = "Always" was recoded as 2 = "No".

Substance use

Substance use was assessed using questions adapted from previous literature (Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004; Guo et al., 2002). Three questions concerning cigarette smoking, alcohol and drug consumption were asked. The questions

were (1) “Have you ever smoked cigarettes?”, (2) “Have you ever consumed alcohol before?” and (3) “Have you taken any type of ilicit drug before? (eg. Marijuana, cocaine, amphetamine, barbiturates, heroin or opium)”. Cigarette smoking was indicated by a single item with four answer options; 1= “Never smoked before”, 2 = “Used to smoke but quit”, 3 = “Currently smoke but occasional”, 4 = “Currently smoke and regularly”. The similar method was used to gauge alcohol consumption and any type of ilicit drug intake, with four answer options for each question. The response options were then dichotomized to 1 = “Yes” and 2 = “No”. A recode of 1 = “Yes” was given for respondents who chose answer options 2 = “Used to smoke but quit”, 3 = “Currently smoke but occasional” and 4 = “Currently smoke and regularly” whereas a recode of 2 = “No” was given for respondents who chose answer option 1 = “Never smoked before”.

Peer association

Four variables were used to determine how peer associations could influence risky sexual behaviours among respondents. The four variables that measured the peer association was having (1) peers with early age of sexual intercourse, (2) peers who used condom, (3) peers who believed that condom reduced pleasure and (4) peers who had multiple sexual partners. The measure of peer association consisted of four main questions with six responses categorized as 1 = “None”, 2 = “Few”, 3 = “Some”, 4 = “Most”, 5 = “All” and 6 = “Don’t know”. Questions asked were (1) “How many of your friends have ever engaged in sexual intercourse before the age of 18?”, (2)“How many of your friends do use condoms during sexual intercourse?”, (3) “How many of your friends believe that condom reduces pleasure?” and (4) “How many of your friends are involved in multiple sexual partnership?” The respondent’s responses were later coded into 1 = “Yes” and 2 = “No” for analysis. Respondents who chose answers 2 = “Few”, 3

= “Some”, 4 = “Most” or 5 = “All” were recoded as 1 = “Yes” and answers 1 = “None” or 6 = “Don’t know” was recoded as 2 = “No”.

Level of religiosity

The level of religiosity was assessed by a single item. Respondents were asked “How do you categorize your religious status?” Three answer options were given for this question. Answer options were 1 = “Not religious”, 2 = “Somewhat religious”, 3 = “Religious” and 4 = “Very religious”. All response options were then dichotomized to 1 = “Religious” and 2 = “Not Religious”. Options 2 = “Somewhat religious”, 3 = “Religious” or 4 = “Very religious” were recoded as 1 = “Religious” and option 1 = “Not religious” was recoded as 2 = “Not Religious”.

Knowledge of HIV

The HIV KQ-18 (Carey & Schroder, 2002) which is an 18-item questionnaire was used to assess and evaluate the knowledge of HIV among respondents in this study. In this study, two questions from the original validated questionnaire were removed following advice from paediatric experts during content validation. Questions asked are illustrated in Table 2. All 16 questions had similar response options; 1 = “True”, 2 = “False” and 3 = “Don’t know”. Each of the responses were then scored. Respondents who answered correctly were given 1 point and wrong answers were given 0 point. The scores were then dichotomized for easier analysis. Respondents who scored “(8-16)” was recoded as 1 = “High score” and scores of “(0-7)” was recoded as 2 = “Low score”. This implied that respondents who achieved high scores in this section had better HIV knowledge compared to those who achieved low scores.

Knowledge of sexual and reproductive health

Knowledge on sexual and reproductive health was measured using a 10-item tool. This tool helped to assess respondent's knowledge on sexual and reproductive health. The questions of this tool has already been validated and used by Wong et al. (2012). Respondents were required to answer correctly from 3 options given; 1 = "True", 2 = "False", 3 = "Don't know". These responses were then scored. A point of "1" was given for correct answers and "0" for wrong answers. Finally these scores were recoded to 1 = "High score" for respondents who scored (6-12) and 2 = "Low score" for those who score (0-5). Respondents with high scores implied that their knowledge on sexual and reproductive health was better in contrast to respondent with low scores.

Health beliefs

There were four main constructs of the HBM that were considered in this study namely *perceived severity, perceived susceptibility, perceived barriers and perceived self-efficacy*. Each of these construct was measured by 2 items. Perceived severity item 1 and perceived severity item 2 were the two variables that measured perceived severity. *Perceived severity item 1* was measured based on seriousness of not using a condom during sex and becoming pregnant/impregnating one's partner. Here respondents were asked "How serious would it be for you if you do not use a condom during sex and became pregnant or impregnated you partner if you were a male?" *Perceived severity item 2* was measured by asking "How serious would it be for you if you do not use a condom during sex and acquire a sexually transmitted disease (STD)?" Answer options for *perceived severity item 1* and *perceived severity item 2* were; 1 = "Very serious", 2 = "Serious", 3 = "Not serious" and 4 = "Not at all serious". These responses were further dichotomized for the analysis. After recoding, 1 was for "Serious" and 2 was for "Not Serious". Therefore, options 1 = "Very serious" and 2 = "Serious" were recoded as 1 =

"Serious; whereas options 3 = "Not serious" and 4 = "Not at all serious" were recoded as 2 = "Not Serious".

Perceived susceptibility was measured by 2 items; *perceived susceptibility item 1* and *perceived susceptibility item 2*. *Perceived susceptibility item 1* was assessed by asking respondents to state the level they agreed to the statement; "There is little chance that I could get (pregnant/impregnate my partner) if I do not use a condom during sex because I will only have intercourse during the infertile days/(or partner infertile days if you are a male participant)". On the other hand, *perceived susceptibility item 2* was assessed by asking respondents the level of agreement for; "There is little chance that I could get STD if I do not use a condom during sex because if I have sex, it would be only with someone whom I trust is clean." For both of these variables *perceived susceptibility* (item 1 and item 2) respondents rated their level of agreement based on four options. Response options given were 1= "Strongly agree", 2 = "Agree", 3 = "Disagree", 4 = "Strongly disagree". These response options were then dichotomized to 1 for "Agree" and 2 for "Disagree". Answer options 1= "Strongly agree" and 2 = "Agree" were recoded as 1 = "Agree" whereas options 3 = "Disagree" and 4 = "Strongly disagree" were recoded as 2 = "Disagree".

Perceived barriers were used to measure respondent's attitudes towards condom use. Perceived barrier was measured by 2 variables (perceived barrier item 1 and perceived barrier item 2). Question asked to measure *perceived barrier item 1* included "Using a condom during sex makes sex un-pleasurable". *Perceived barrier item 2* measured how much respondents agreed to the statement; "I would not talk to my partner about using a condom during sex because he or she would think badly of me." Response options were similar to that for perceived susceptibility. There were four response options 1= "Strongly agree", 2 = "Agree", 3 = "Disagree", 4 = "Strongly disagree" that were further dichotomized to 1 for "Agree" and 2 for "Disagree".

Perceive self-efficacy was also measured based on 2 items (perceived self-efficacy item 1 and item 2). Question asked to measure perceived self-efficacy item 1 was, "How sure are you that you could always use a condom during sexual intercourse to avoid from being pregnant or impregnating your partner if you were a male?" Perceived self-efficacy item 2 was determined by asking respondents "How sure are you that you could always use a condom during sex to avoid getting STDs if you have sex?" Both items had similar response options. The response options were 1 = "I am very sure", 2 = "I am somewhat sure", 3 = "I am somewhat unsure" and 4 = "I am very unsure". Respondent's answers were finally dichotomized to 1 = "Sure" and 2 = "Unsure". Response options 1 = "I am very sure" and 2 = "I am somewhat sure" were recoded as 1 = "Sure" and response options 3 = "I am somewhat unsure" and 4 = "I am very unsure" were recoded as 2 = "Unsure" in the analysis.

Risky sexual behaviour

Risky sexual behaviour was the outcome variable in this study. This outcome variable was determined by three indicators and all the indicators were independent of each other. The three independent variables of risky sexual behaviours are; unprotected sex during first sexual intercourse, unprotected sex throughout subsequent sexual intercourse and having multiple sexual partners. Risky sexual behaviours in this study is referred to a high risk behaviour that a respondent engages in or practises that increases their risk of contracting diseases like HIV/STD (Kahn, Huang, Rosenthal, AM, & Burk, 2005; Steel & Herlitz, 2005). The first indicator of the outcome variable was unprotected sex during first sexual intercourse. It was determined by respondents who answered "Yes" when asked "Have you ever had sexual intercourse before?", "Consensual" when asked "Was your first sexual experience consensual or not?" and "No" for question "Did you use a condom during your first sexual intercourse?" The

second indicator was unprotected sex throughout subsequent sexual intercourse. This was assessed by 2 items. Respondents who answered "Consensual" when asked "Were most of the following sexual experiences consensual or not, if applicable?" and who picked any answer options "Few", "Some", "All" or "Most" when asked "If you had sex more than once, how often did you use a condom in the following sexual experiences?" These answer options gave a description that respondents did have unprotected sex (without using a condom) throughout their subsequent exposures of sexual intercourse. The third indicator measured the presence of having multiple sexual partners in the past. This was assessed by asking the respondents, "How many sexual partners have you had in your past?" Response options were 1 = "1", 2 = "2", 3 = "3" and 4 = "4 and more." Respondents who chose any option more than 1 were identified as to have multiple sexual partners.

3.2.9 Method of data analysis

Statistical analysis was done using the SPSS version 18.0. Firstly, the data was cleaned manually. Missing data was handled by Listwise deletion. Data from participants that were incomplete were deleted from time to time when the data set was reviewed. It was easy to drop data without substantial loss of statistical power due to the large sample size of this study. Secondly, descriptive analysis of the data was performed and its values were expressed in frequencies and percentages. The descriptive analysis described the socio-demographic characteristics of study respondents, CSA experience and the type of CSA experience reported by them. The chi-square and a Fisher's exact test were used to examine the uni-variate association between categorical variables and the outcome of interest, namely having unprotected sex during first sexual intercourse, having unprotected sex throughout subsequent sexual intercourse and having multiple sexual partners. Multiple logistic regression analysis was used to examine CSA

experience and the exposure factors associated with each of the risky sexual behaviour. In the multivariate logistic analysis, associations with a P value <0.05 in the uni-variate analysis were entered as a single block into the model. Adjusted odds ratio (OR) and 95% confidence interval (CI) were calculated. Goodness-of-fit test for the logistic regression models were assessed with the Hosmer-Lemeshow test.

3.2.10 Pilot study

The purpose of the pilot testing was to access the quality of the instrument (questionnaire) and to refine the protocol. The instrument was developed in simple English for easy understanding. The pilot study was done among 20 undergraduate students with the aim to check for acceptance of the protocol, question wording, order, and survey length to minimize respondent's burden and maximize question clarity. The questionnaire was distributed to respondents with an information sheet explaining the purpose of the study. A blank space for respondents to write their comments regarding question clarity and relevance was included. Respondent's feedback was taken into consideration to make minor adjustments to the sentence structure of the questions in the questionnaire. This was done so that respondents will not be misled or take opportunity to skip questions simply because they did not understand while answering the questionnaire. Respondents who fulfilled the inclusion criteria of being an undergraduate student, Malaysian and unmarried took part in the pilot study. These students were recruited conveniently from locations where they often hang out. The library, canteen, bank and post office within the campus grounds were common areas where students gathered in the university. On the average each student took about 10-15 minutes to complete the entire questionnaire. From the pilot study conducted, questions B5, B6, G15, H3 and K2 were revised based on respondent's feedbacks and lack of understanding.

3.2.11 Ethical consideration

CSA and risky sexual behaviour are sensitive topics to be discussed or asked about among young adults. Therefore, several precautions to address ethics concern were expressed prior to conducting this study. The Medical Ethics Committee of University of Malaya Medical Centre (UMMC) approved this research project with the reference code 913.8. The main concern of the ethics committee was to ensure confidentiality of respondent's information. Therefore, the internet-based survey was designed to protect respondent's privacy and ensure the anonymity of their participation. Every respondent was asked to give informed consent prior to answering the online survey. The consent icon that appeared only asked respondents to click between two options; "Yes" or "No". Respondents were informed that clicking the "Yes" icon implied that they had given consent to take part in the study. Respondents were encouraged to answer all questions of the online survey. They were also informed about the sensitive nature of the issue discussed and were given the right to terminate from the study at any point while answering if they felt uncomfortable with the questions asked.

3.3 Phase II : Qualitative study methodology

3.3.1 Study setting and population

Similar to the quantitative phase, the qualitative phase was also conducted in the same university (University Malaya). Respondents in the qualitative study were recruited via convenient sampling on a voluntary basis. The sample size depended on data saturation which is a method used in qualitative study. The final sample consisted of 75 respondents recruited by word of mouth and advertisements. Advertisements were posted on campus faculties, residential colleges/hostels and bus stops within the university. Respondents who were University Malaya undergraduate students, females and Malaysians only were the eligibility criteria to take part in this qualitative phase of the study. Their eligibility to take part in the study was regardless of whether they had a history of sexual abuse or not.

3.3.2 Data collection

Data collection was done by conducting focus group discussions (FGD). In total, there were fourteen FGDs conducted stratified into three different ethnic groups; 5 Malay groups, 5 Chinese groups and 4 Indian groups which consisted of only female respondents. The reason for segregating respondents into groups according to different ethnicity was because of the different cultural practises between ethnic groups. This also allowed the FGD to flow well without much interruption as different ethnicities spoke different languages and had used certain words in their language during the discussion. This phase of the study was carried out over a period of 6 months (October 2013 to March 2014). The FGDs were held in a discussion room in the university's Department of Social and Preventive Medicine at the Faculty of Medicine, University of Malaya. Each focus group made up of five to seven respondents. Prior to the FGD, a semi-structured focus group interview guide of relevant questions corresponding to the

qualitative research objectives was developed (Table 3.2). The focus group interview guide consisted of open-ended questions that allowed respondents to be free in giving their answers openly. A female moderator and note taker was chosen to be present during the discussions so that the female respondents will not be hesitant in sharing their information when questions were asked. Whilst some respondents did feel embarrassed to say certain things or share their experiences particularly in relation to sexual abuse, the single gender (female) group allowed them to speak out confidently. As the moderator kept the discussion focused by facilitating and prompting questions that guided the flow of the discussion the note taker observed and took down hand-written notes. The FGD was started off by discussing respondent's general perceptions on defining sexual abuse, followed by perceptions on perpetrators who are prone to sexually abuse, perceptions on victims who are prone for sexual abuse, perceptions on whether victims deserved to be sexually abused and the source of information from which respondents preferred to gain more knowledge on sexual abuse. All the fourteen FGD were moderated by the sole researcher of this study and were conducted in simple English. Before the FGD commenced each respondent was informed on the objective of the study and an informed consent was obtained. They were also guaranteed of their anonymity and confidentiality when participating in this study. Respondents were administered with a survey which asked on their socio-demographic characteristics. Information such as on age, gender, ethnicity, religion, marital status, monthly household income, family structure, residential area and number of siblings were asked to determine their socio-demographic background. Respondents were also asked to write an unidentifiable pseudonym at the start of the survey. All the FGDs conducted was audio recorded and then later transcribed in English language. Notes taken down by the note taker and the audiotaped interviews supplemented the transcribing process. Conversations during the interview were kept informal to keep the respondents at ease

to speak freely during the discussion. In attempt to protect the privacy and confidentiality of the FGD respondents, firstly all respondents were addressed by the pseudonyms that were given. We also requested all respondents to avoid addressing any identifying remark of other respondents in the group discussion during the FGD in view that some group members might have known each other. We also enlightened the study respondents that all conversation will be private and confidential and there should not be any unintentional identifying remarks during the FGD. Additionally, the respondents were made known that the conversations will be transcribed as anonymous verbatim quotes. Further, we also reminded respondents that the discussion is for the purpose of research and any identifiable remarks is prohibited during the FGD to protect the confidentiality of our study respondents as well as to encourage them to express their opinions or experiences without hesitation. Due to the scope of the broad questions respondents were given the opportunity and time to discuss issues which they deemed significant to the topic of discussion. Some respondents shared their sexual abuse experiences. Most of the FGD interviews took approximately 45 to 60 minutes. At the end of each discussion the moderator presented an incentive worth RM100 in cash to each respondent as a token of appreciation for their time and participation.

Table 3.2: Focus group discussion guide and guiding questions

Themes	Issues	Guiding questions
General perceptions	Define sexual abuse	1) Can you define what is sexual abuse? 2) Do you think consent of a person is associated with sexual abuse? 3) From your understanding, does the a sexual abuse involve the element of force? 4) How do you perceive that sexual abuse be classified? 5) Have you heard of direct and indirect sexual abuse? If you have, can you describe what is meant by direct and indirect sexual abuse? 6) What is meant by physical sexual abuse? 7) Can you give some examples of physical sexual abuse? 8) What is meant by verbal sexual abuse? 9) Can you give some examples of verbal

		sexual abuse? 10) Do you perceive whistling as a form of verbal sexual abuse? 11) Do you perceive sexual teasing as a form of verbal sexual abuse? 12) What is meant by visual sexual abuse? 13) Can you give some examples of visual sexual abuse? 14) Do you perceive staring as a form of visual sexual abuse?
Perpetrators	Factors that made an individual more prone for perpetrating sexual abuse	1) What are the factors that make an individual prone for perpetrating sexual abuse? 2) With regard to gender, who do you perceive are more likely to perceive sexual abuse, male or female? 3) Does age of a sexual abuse perpetrator matter? Should the perpetrator be older than sexual abuse victim? 4) Do you perceive that a sexual abuse perpetrator be related to the victim or not? 5) Do you think if there are any high risk behaviours that may be related to a sexual abuse perpetrator to perpetrate sexual abuse.
Victims	Factors that made an individual more prone for becoming a sexual abuse victim	1) What are the factors that make an individual more prone for sexual abuse? 2) With regard to gender, who do you perceive are more prone for sexual abuse, male or female? 3) Does age of an individual matter in view of being more prone for sexual abuse? 4) Do you perceive that the personality of an individual is related to them being more prone for sexual abuse? 5) Do you perceive that attractive and good looking people are more prone for sexual abuse? 6) Is an individual more prone for sexual abuse depending on how they dress, for example sexy and revealing outfits? 7) Do you perceive that an individual is at a higher risk of sexual abuse because of poor knowledge and lack of awareness on sexual abuse? 8) Are there any environmental factors that could make an individual more prone for sexual abuse, for example, surrounding or family structures?
Sexual abuse Information	Sources where information on sexual abuse was gained.	1) From where do you perceive that most of your information on sexual abuse was gained before this? 2) Did you get to know about sexual abuse from your family, peers or school?
	Sources where information on sexual abuse was preferred to gain knowledge	1) From your perception, what kind of sources would you prefer in order to gain more knowledge on sexual abuse? 2) Will you rely on the internet, books or media to gain more knowledge on sexual abuse? Which of these sources do you

		perceive is better?
	Who plays a role in sexual abuse knowledge.	1) Who do you perceived should play an important role in spreading knowledge on sexual abuse? 2) Do you believe that family or schools should be responsible for educating children on what is sexual abuse?

3.3.3 Data analysis

Data analysis was done using thematic analysis. The data collection and analysis were continuous and interactive where all FGDs were immediately analysed and compared with the previous discussion. This helped further shape the subsequent data collection and analysis. The FGDs continued until saturation was reached and no new information was reached.

The study aimed to confirm the in-depth understanding and to explore the multi-ethnic perception of sexual abuse among female undergraduate students. As a result the focus was mainly on the respondent's perceptions, feelings and experiences to the questions asked. The FGDs were conducted and transcribed in English. However, the audiotaped sessions that were transcribed did not include respondent's names. Respondents were identified by their pseudonyms in the transcripts. Transcripts were read and analysed further using Nvivo qualitative software. Open, axial and selective coding procedures were used to identify specific themes that emerged from the discussions. More specific axial codes were developed from the initial open codes. The codes were analysed using an interpretive description method. Coding was performed by a single coder and the consistency of coding was assessed by intra-observer reliability (Krippendorff, 2011). The calculated intra-rater agreement was in the 90th percentile range.

CHAPTER 4: RESULTS

4.1 Phase I : Quantitative study

4.1.1 Socio-demographic characteristics of respondents

The data collection stopped as soon as 1,650 respondents responded to the online survey, as calculated in the sample size calculation. Out of these only 83.8% (n=1,383) completed responses were received and included in the analysis. Incomplete surveys and responses from respondents who did not meet the eligibility criteria (not undergraduate students and foreign students) (n=267, 16.2%) were excluded from the analysis. Table 4.1 shows the socio-demographic characteristics of the 1,383 study respondents.

The sample included in the data analysis consisted of 35.2% males (n=487) and 64.8% females (n=896). This proportion of males and females in the sample accurately represents the male to female ratio (1:2) of local undergraduate students in University Malaya. All respondents were aged between 19 and 38 years (mean age=21.5 years, SD=2.01 years). However, most of the respondents were young individuals (19-21 years) making up more than 50% (n=777) from the total sample. With relation to ethnic group distribution, there were 52.6% (n=728) Malays, 38.8% (n=536) Chinese, 6.7% (n=93) Indians and 1.9% (n=26) from other ethnic groups that participated in the study. The respondents were mostly undergraduate year 1 students (34.2%, n=473), and from Arts background degree course (33.8%, n=468). Less than half (38.7%, n=533) of the respondents reported that their family household income was below RM 2000. Over 80% (n=1214) of respondents had reported to have lived with two biological parents and 55.2% (n=764) had more than four siblings. About three quarters (74.8%, n=1035) of respondents reported to have lived in an urban residential area as compared to those who reported to have lived in a rural residential area (25.2%, n=348). In relation to the

number of siblings in the family, most (55.2%, n=764) of the respondents reported to have four or more siblings. About (44.8%, n=619) were from families with three or lesser siblings.

Table 4.1: Socio-demographic characteristics of respondents, N=1383

Socio-demographic characteristics	N (%)
Age	
19-21	777(56.2)
22-24	536(38.8)
25 and above	70(5.1)
Gender	
Male	487(35.2)
Female	896(64.8)
Ethnicity	
Malay	728(52.6)
Chinese	536(38.8)
Indian	93(6.7)
Others	26(1.9)
Religion	
Muslim	744(53.8)
Buddhist	368(26.6)
Taoist	61(4.4)
Hindu	72(5.2)
Christian	125(9.0)
Others	13(0.9)
Current educational level	
Undergraduate Year 1	473(34.2)
Undergraduate Year 2	312(22.6)
Undergraduate Year 3	332(24.0)
Undergraduate Year 4	199(14.4)
Undergraduate Year 5	67(4.8)
Educational background of degree	
Engineering & Technology	362(26.2)
Arts	468(33.8)
Pure Science	281(20.3)
Health Science	272(19.7)
Family Household Income	
<RM 2000	533(38.5)
RM 2001 -4000	450(32.5)
>RM 4001	400(29.0)
Family structure	
Two biological parents	1214(87.7)
Single parent or Both parents deceased	169(12.2)
Residential area	
Rural	348(25.2)
Urban	1035(74.8)
Siblings	
3 and less	619(44.8)
4 and more	764(55.2)

4.1.2 Other exposure factors of study respondents

The descriptive statistics of other exposure factors is shown in Table 4.2. More than one third (38.3%, n=530) of the study respondents had reported CSA experience. Majority of them reported 'No' for family closeness (95.7%, n=1323), 'Yes' for parental monitoring (86.2%, n=1192), 'Yes' for family support (79.3%, n=1097) and 'No' for family violence (95.6%, n=1322). With regard to substance use large proportions of respondents reported 'No' for cigarette smoking (89.5%, n=1238), alcohol (72.2%, n=998) and drug (97.7%, n=1351) consumption. Almost half (46.7%, n=646) of the study respondents reported 'Yes' for having peers who engaged in early age of sexual intercourse. Only 20.5% (n=284) reported 'Yes' for having peers who used condom and 29.1% (n=402) reported 'Yes' for peers who believed condoms reduced pleasure. More than 90% of the study respondents were religious. A higher proportion of respondents reported a score of 8-16 for knowledge of HIV (56.5%, n=781) compared to those who reported a score of 0-7 (45.3%, n=602). There were more respondents who scored 0-5 (82.6%, n=1143) compared to those who scored 6-12 (17.4%, n=240) for knowledge of sexual and reproductive health. With regard to health belief components, majority of the respondents reported perceived severity item 1 (59.9%, n=829) and perceived severity item 2 (94.4%, n=1305) to be 'serious'. More than 50% of them reported 'Agree' for perceived susceptibility item 1 and item 2. There were more respondents who reported 'agree' for perceived barrier item 1 (55.1%, n=762) compared to perceived barrier item 2 (31.4%, n=434). Most of the study respondents reported 'Sure' for perceived self-efficacy item 1 (53.7%, n=743) and item 2 (57.8%, n=800).

Table 4.2: Descriptive statistics of other exposure factors, N=1383

Other exposure factors	N (%)
CSA	
Yes	530 (38.3)
No	853 (61.7)
Familial factors	
Family closeness	
Yes	60 (4.3)
No	1323 (95.7)
Parental monitoring	
Yes	1192 (86.2)
No	191 (13.8)
Family support	
Yes	1097 (79.3)
No	286 (20.7)
Family violence	
Yes	61 (4.4)
No	1322 (95.6)
Substance use	
Cigarettes	
Yes	145 (10.5)
No	1238 (89.5)
Alcohol	
Yes	385 (27.8)
No	998 (72.2)
Drugs	
Yes	30 (2.2)
No	1351 (97.7)
Peer association	
Early age of Sexual intercourse	
Yes	646 (46.7)
No	737 (53.3)
Condom use	
Yes	284 (20.5)
No	1099 (79.5)
Condom reduce pleasure	
Yes	402 (29.1)
No	981 (70.9)
Multiple sexual partner	
Yes	191 (13.8)
No	1192 (86.2)
Level of religiosity	
Religious status	
Religious	1297 (93.8)
Not religious	86 (6.2)
Knowledge of HIV	
Scores (8-16)	781 (56.5)
Scores (0-7)	602 (43.5)
Knowledge of SRH	
Scores (6-12)	240 (17.4)
Scores (0-5)	1143 (82.6)
Health Belief [n]	
Perceived severity item 1	
Serious	1218 (88.1)
Not serious	165 (11.9)
Perceived severity item 2	
Serious	1305 (94.4)
Not serious	78 (5.6)

Table 4.2, continued

Other exposure factors	**N (%)**
Perceived susceptibility item 1	
Agree	829 (59.9)
Disagree	553 (40.0)
Perceived susceptibility item 2	
Agree	866 (62.6)
Disagree	517 (37.4)
Perceived barriers item 1	
Agree	762 (55.1)
Disagree	621 (44.9)
Perceived barriers item 2	
Agree	434 (31.4)
Disagree	949 (68.6)
Perceived self-efficacy item 1	
Sure	743 (53.7)
Unsure	640 (46.3)
Perceived self-efficacy item 2	
Sure	800 (57.8)
Unsure	583 (42.2)

4.1.3 Knowledge of HIV

Table 4.3 shows the responses of respondents on questions regarding knowledge of HIV. Most of the respondents knew that having sex with more than one partner can increase a person's chance of being infected with HIV (87.6%, n=1211). A smaller proportion of respondents were aware that people are not likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV (55.6%, n=769), a person can still get HIV although they showered or washed their genitals or private parts after having sex with a HIV infected person (55.0%, n=760), people infected with HIV do not show serious signs of HIV (53.8%, n=744) and a person can get HIV from oral sex (46.3%, n=641). Some misconceptions were noted, with 76.4% who believed that all pregnant women infected with HIV will infect her baby and 65.2% who did not know that there is a female condom that can help decrease a woman's chance of getting HIV. The mean (±SD) and median of the total scores on knowledge of HIV on a 16-item test were 8.7±3.6 and 9.0 respectively. Male respondents had a higher mean total score (9.9±3.5) than female respondents (8.1±3.5) ($P<0.001$). There was a significant difference in the scores among different ethnicities, with the Chinese having the highest score (10.4±3.4, $P< 0.001$) followed by others, Indians and Malays.

Table 4.3: Correct responses on Knowledge of HIV

Knowledge of HIV	**Correct Answers**	**Number of respondents (% Correct answer)**
Coughing and sneezing do not spread HIV	True	1040 (75.2)
A person can get HIV by sharing a glass of water with someone who has HIV	False	1081 (78.2)
Pulling out a penis before a man climaxes/cums keeps a women from getting HIV during sex	False	651 (47.1)
A woman can get HIV if she has anal sex with a man	True	796(57.6)
All pregnant women infected with HIV will definitely infect her baby as well	False	327 (23.6)
People are likely to get HIV by deep kissing, putting their tongue in their partner's mouth, if their partner has HIV	False	769 (55.6)
A person can get HIV by sitting in a pool or tub with a person who has HIV	False	962 (69.6)
A person can get HIV from oral sex	True	641(46.3)
People who are infected with HIV show Serious signs of being infected	False	744 (53.8)
Taking a test for HIV one week after having sex will tell a person if she or he has HIV	False	494 (35.7)
Showering, or washing one's genitals/private parts, after sex keeps a person from getting HIV	False	760 (55.0)
A woman cannot get HIV if she has sex during her periods	False	776 (56.1)
There is a female condom that can help decrease a woman's chance of getting HIV	True	481 (34.8)
A person will NOT get HIV if he or she is taking antibiotics	False	843 (61.0)
Having sex with more than one partner can increase a person's chance of being infected with HIV	True	1211 (87.6)
Using Vaseline or Baby Oil with condoms lowers the chance of getting HIV	False	533 (38.5)

4.1.4 Knowledge of sexual and reproductive health

In response to questions related to knowledge of sexual and reproductive health, only 63% knew that they should not have sex during the fertile period of the menstrual cycle and 62.8% were aware that a woman can get pregnant when having sexual intercourse for the first time (Table 4.4). Slightly more than 50% of study respondents knew that douching (washing after sexual intercourse) (56.6%, n=784) and having sex while standing did not prevent pregnancy (53.5%, n=740). A very small proportion of respondents were aware that a woman can get pregnant anytime of the month even on her periods (16.2%, n=224). On the whole, the mean (±SD) and median of the total scores on knowledge of sexual and reproductive health on a 10-item test were 4.5±2.3 and 5.0, respectively. The mean total score was 5.1±2.2 for males and 4.3±2.3 for females (P<0.001). There was a significant difference in the scores among age group of respondents (5.4±2.8, P< 0.001) with those between (25 and above) having the highest mean score. Chinese respondents (5.2±2.1, P<0.001) had the highest mean score compared to all other ethnic groups.

Table 4.4: Correct responses on Knowledge of Sexual and Reproductive Health

Knowledge of Sexual and Reproductive Health	**Correct Answers**	**Number of respondents (% Correct answer)**
A woman can get pregnant if she has sex just before her periods begin	True	666 (48.2)
A woman can get pregnant anytime of the month even on her periods	True	224 (16.2)
If a woman has gotten her period or is about to get her first period, then she can get pregnant	True	608 (44.0)
Douching (washing after sexual intercourse) can prevent pregnancies	False	784 (56.6)
A male's sperm lives less than one day inside a woman's body	False	625 (45.2)
The use of emergency contraceptive pills / morning after pills is more effective the earlier it is taken after sex	True	398 (28.8)
A woman can get pregnant when having sexual intercourse for the first time	True	868 (62.8)
Do not have sex in fertile period in a menstrual cycle (have sex during the safe period of the menstrual cycle to prevent pregnancy)	True	870 (63.0)
Having sex while standing prevents pregnancy	False	740 (53.5)
A woman cannot be pregnant if she has had unprotected sex and has had her period since	False	526 (38.0)

4.1.5 Health Belief Model

Table 4.5 describes the descriptive analysis of health belief items. A large majority of study respondents perceived serious if they did not use a condom during sex and acquired a STD (94.4%, n=1305). More than four fifths of them perceived serious if they did not use a condom and became pregnant or impregnated their partner (88.1%, n=1218). With relation to perceived susceptibility, a smaller majority agreed for perceived susceptibility item 1 (that one would not get pregnant or impregnate their partner because they will have sexual intercourse during the infertile days or will practise withdrawal method) (59.9%, n=829) and item 2 (that one will not get a STD if they did not use a condom because they will only have sex with someone they trust is clean) (62.6%, n=866). For perceived barrier item 1, 51% of respondents agreed that condom use reduced pleasure. However for perceived barrier item 2, most of them disagreed and reported that they would talk to their partners about condom use (68.6%, n=949). Almost half of the study respondents felt that they were sure they would use a condom during sex to avoid getting pregnant and impregnating their partner (53.7%, n=743) besides avoiding from getting a STD (57.8%, n=800).

Table 4.5: Descriptive statistics of health belief

Perceived severity	**Serious (%)**	**Not Serious (%)**
Item 1: How serious would it be for you if you do not use a condom during sex and become pregnant / (or impregnate your partner if you are a male participant)?	1218 (88.1)	165 (11.5)
Item 2: How serious would it be for you if you do not use a condom during sex and acquire a sexually transmitted disease?	1305 (94.4)	78 (5.6)
Perceived susceptibility	**Agree (%)**	**Disagree (%)**
Item 1: There is little chance that I could get (pregnant/ impregnate my partner) if I do not use a condom during sex because I will only have intercourse during the infertile days / (*or partner infertile days if you are male participant) or* we practise withdrawal method.	829 (59.9)	554 (40.1)
Item 2: There is little chance that I could get sexual transmitted disease if I do not use a condom during sex, because if I have sex , it would be only with someone whom I trust is clean.	866 (62.6)	517 (37.4)
Perceived barriers		
Item 1: Using a condom during sex makes sex unpleasurable.	762 (51.1)	621 (44.9)
Item 2: I would not talk to my partner about using a condom during sex because he/she would think badly of me.	434 (31.4)	949 (68.6)
Perceived self-efficacy	**Sure (%)**	**Unsure (%)**
Item 1: How sure are you that you could always use a condom during sex to about being pregnant/ (*or impregnate your partner for male participants)* if you have sex?	743 (53.7)	640 (46.3)
Item 2: How sure are you that you could always use a condom during sex to avoid getting sexual transmitted diseases if you have sex?	800 (57.8)	583 (42.2)

4.1.6 Association between socio-demographic characteristics and knowledge of HIV and knowledge of sexual and reproductive health

The association between socio-demographic characteristics and knowledge of HIV and knowledge of sexual and reproductive is described in Table 4.6. On the whole, 62.6% (n=866) of respondents scored 8-16 for knowledge on HIV compared to those who scored 0-7. A significant difference was found between knowledge of HIV and gender (χ^2 = 42.54, P<0.001), ethnicity (χ2= 128.43,P<0.001), religion (χ^2= 124.79, P<0.001), current educational level (χ^2= 18.99, P=0.001) and educational background of degree (χ^2= 17.05, P<0.01)and number of siblings (χ^2= 5.19, P<0.05). The proportion of respondents who scored 8-16 for knowledge of HIV was significantly higher among male respondents (74.1%, n=361) compared to female respondents (56.3%, n=505) . Among all ethnic groups, a score of 8-16 for knowledge of HIV was reported to be significantly higher among Chinese (80.7%, n=433), followed by Others (69.2%, n=18), Indians (55.9%, n=52) and Malays (38.3%, n=299). In relation to religion, more than 80% Buddhist, Taoist and Other respondents scored 8-16 for knowledge of HIV compared to the other religions. The highest proportion of respondents who scored 8-16 for knowledge of HIV were Undergraduate year 5 students (83.5%, n=56) and was significantly higher than that scores reported by undergraduate year 1, 2, 3 and 4. A significantly higher percentage of respondents from Health Science (72.7%, n=198) scored 8-16 for knowledge of HIV compared to respondents from all other educational background of degree. A score of 8-16 for knowledge of HIV was significantly higher among respondents with 3 and less siblings (65.9%, n=408) compared to those with 4 and more siblings (59.9%, n=458). Respondent's age, family household income, family structure and residential area were not significantly associated with high scores for knowledge of HIV.

With regard to knowledge of sexual and reproductive health, a greater proportion of respondents reported a score of 0-5 (64.6%, n=893) in contrast to those who scored 6-10 (35.4%, n=490). Age (χ^2=17.67, P<0.001), gender (χ^2=26.16, P<0.001), ethnicity (χ2=55.17, P<0.001), religion (χ2= 60.56, P<0.001), current educational level (χ2= 31.17, P<0.001), educational background of degree (χ2=12.87, P<0.01) and residential area (χ2=4.45, P<0.05) were found to have a significant difference with knowledge of Sexual and Reproductive Health. A significantly higher percentage of respondents between ages 19-21 (68.0%, n=528) scored 0-5 for knowledge for sexual and reproductive health compared to those aged 22-24 (62.3%, n=334) and 25 and above (44.3%, n=31). A greater proportion of Malay respondents (72.5%, n=528) reported to have significantly scored 0-5 for knowledge of sexual and reproductive health compared to all other ethnic groups. Among all religion, the highest proportion of respondents who score 0-5 for knowledge and reproductive health were Muslims (72.4%, n=539) followed by Hindu (72.2%, n=52), Buddhist (55.7%, n=205), Christians (53.6%, n=67), Taoist (42.6%, n=26) and others (30.8%, n=4). With relation to current educational level, a significantly higher proportion of undergraduate year 2 (71.8%, n=224) scored 0-5 for knowledge of sexual and reproductive health compared to all other undergraduates. A significantly higher percentage of respondents living in rural residential areas (69.3%, n=241) reported to have scored 0-5 for knowledge for sexual and reproductive health compared to those living in the urban residential areas (63.0%, n=652). There was no significant difference found between family household income, family structure, number of siblings and knowledge on sexual and reproductive health.

Table 4.6: Association between socio-demographic characteristics and knowledge of HIV and knowledge of sexual and reproductive health, N = 1383

Socio-demographic characteristics	Knowledge on HIV			Knowledge on Sexual and Reproductive Health		
	Score (8-16) n = 866	Scores (0-7) n = 517	χ^2	Scores (6-10) n = 490	Scores (0-5) n = 893	χ^2
	n (%)	n (%)	P value	n (%)	n (%)	P value
Age						
19-21	482(62.0)	295(38)	0.117	249(32)	528(68.0)	0.000***
22-24	332(61.9)	204(38.1)		202(37.7)	334(62.3)	
25 and above	52(74.2)	18(25.8)		39(55.7)	31(44.3)	
Gender						
Male	361(74.1)	126(25.9)	0.000***	216(44.4)	271(55.6)	0.000***
Female	505(56.3)	391(43.7)		274(30.6)	622(69.4)	
Ethnicity						
Malay	363(49.8)	365(50.2)	0.000***	200(27.5)	528(72.5)	0.000***
Chinese	433(80.7)	103(19.3)		252(47.0)	284(53.0)	
Indian	52(55.9)	41(44.1)		26(28.0)	67(72.0)	
Others	18(69.2)	8(30.8)		12(46.2)	14(53.8)	
Religion						
Muslim	374(50.2)	370(49.8)	0.000***	205(27.6)	539(72.4)	0.000***
Buddhist	300(81.5)	68(18.5)		163(44.3)	205(55.7)	
Taoist	49(80.3)	12(19.7)		35(57.4)	26(42.6)	
Hindu	40(55.5)	32(44.5)		20(27.8)	52(72.2)	
Christian	91(72.8)	34(27.2)		58(46.4)	67(53.6)	
Others	12(92.3)	1(7.7)		9(69.2)	4(30.8)	
Current educational level						
Undergraduate Year 1	303(69.3)	170(30.7)	0.001**	162(34.2)	311(65.8)	0.000***
Undergraduate Year 2	176(56.4)	136(43.6)		88(28.2)	224(71.8)	
Undergraduate Year 3	202(60.8)	130(39.2)		140(42.2)	192(57.8)	
Undergraduate Year 4	129(64.8)	70(35.2)		61(30.7)	138(69.3)	
Undergraduate Year 5	56(83.5)	11(16.5)		39(58.2)	28(41.8)	

*P<0.05, ** P<0.01, *** P<0.001

Table 4.6, continued

Socio-demographic characteristics	Knowledge on HIV			Knowledge on Sexual and Reproductive Health		
	Score (8-16) n = 866	Scores (0-7) n = 517	χ^2	Score (6-10) n = 490	Scores (0-5) n = 893	χ^2
	n (%)	n (%)	P value	n (%)	n (%)	P value
Educational background of degree						
Engineering & Technology	223(61.6)	139(38.4)	0.001**	140(38.7)	222(61.3)	0.005**
Arts	270(57.6)	198(42.4)		150(32.1)	318(67.9)	
Pure Science	175(62.2)	106(37.8)		85(30.2)	196(69.8)	
Health Science	198(72.7)	74(27.3)		115(42.3)	157(57.7)	
Family Household Income						
<RM 2000	341(63.9)	192(36.1)	0.683	180(33.8)	353(66.2)	0.567
RM 2001 -4000	276(61.3)	174(38.7)		162(36.0)	288(64.0)	
>RM 4001	249(62.2)	151(37.8)		148(37.0)	252(63.0)	
Family structure						
Two biological parents	754(62.1)	460(37.9)	0.295	420(34.6)	794(65.4)	0.082
Single parent or Both parents deceased	112(66.2)	57(33.8)		70(41.4)	99(58.6)	
Residential area						
Rural	202(58.0)	146(42.0)	0.042	107(30.7)	241(69.3)	0.035*
Urban	664(64.1)	371(35.9)		383(37.0)	652(63.0)	
Siblings						
3 and less	408(65.9)	211(34.1)	0.023*	231(37.3)	388(62.7)	0.186
4 and more	458(59.9)	306(40.1)		259(33.9)	505(66.1)	

*P<0.05, ** P<0.01, *** P<0.001

4.1.7 Socio-demographic characteristics and health beliefs

Table 4.7 illustrates the association between socio-demographic characteristics and Health beliefs namely perceived severity item 1, perceived severity item 2, perceived susceptibility item 1 and perceived susceptibility item 2. A large proportion of study respondents reported 'serious' (88%, n=1218) for perceived severity item 1 compared to those who reported 'not serious' (22%, n=165). There was a significant difference found between perceived severity item 1 with ethnicity (χ^2= 17.79, P<0.001), religion (χ^2= 20.93, P=0.001) and family household income (χ^2=14.84, P=0.001). A vast majority of respondents who reported 'Serious' for perceived severity item 1 were Chinese (92.1%, n=494) by ethnicity, Taoist (96.7%, n=59) by religion and had reported a family household income of less than RM2000 (91.7%, n=489).

More than 90% of respondents had reported 'serious' (94.3%, n=1305) for perceived severity item 2 compared to those who reported 'not serious' (5.7%, n=78). Among all socio-demographic characteristics investigated only ethnicity (χ^2= 8.39, P=0.038) and number of siblings (χ^2= 5.39, P=0.020) were significantly different in association with perceived severity item 2. Respondents who reported 'serious' for perceived severity item 2 was the most prevalent among the Chinese (96.2%, n=516). With regards to number of siblings, a significantly higher proportion of respondents with 3 and less siblings (95.9%, n=594) reported 'serious' for perceived severity item 2in contrast to those with 4 and more siblings (93.0%, n=711).

With relation to perceive susceptibility item 1, about 60% of respondents had reported 'agree'. Ethnicity (χ^2 = 27.17, P<0.001), religion (χ^2 = 39.58, P<0.001), current educational level (χ^2 = 10.06, P=0.039) and family household income (χ^2 = 8.93, P=0.011) showed a significant difference with perceived susceptibility item 1. A considerably larger percentage of Others (76.9%, n=20) by ethnicity and Hindus (68%, n=49) by religion reported 'agree' for perceived susceptibility item 1 compared to those

who reported ‘disagree’. . Compared with respondents from the different current educational level a significantly lower proportion of undergraduate year 5 students (53.7%, n=36) reported ‘agree’ for perceived susceptibility item 1. The highest proportion of respondents who reported ‘agree’ for perceived susceptibility item 1 was respondents who reported a family household income of less than RM 2000 (64.1%, n=340) compared to all other categories of household income

There were 62% (n=866) of study respondents who reported ‘agree’ for perceived susceptibility item 2 compared to 38% (n=517) who reported ‘disagree’. There was a significant difference between ethnicity (χ^2= 8.47, P=0.037), religion (χ^2= 14.86, P=0.011), educational background of degree (χ^2=11.01, P=0.012), family structure (χ^2= 4.27, P=0.039) and perceived susceptibility item 2. More than 50% of respondents from all ethnic groups reported ‘agree’ for perceived susceptibility item 2. A significantly higher proportion of respondents from Engineering and Technology educational background of degree (69.6%, n=252) reported ‘agree’ for perceived susceptibility item 2 than the respondents from Pure Science (62.2%, n=175), Arts (59.4%, n=278) and Health science (59.1%, n=161). ‘Perceived susceptibility item 2 was significantly higher among respondents with single parent or both parents deceased (69.8%, n=118) who had reported ‘serious’ compared to those with two biological parents (61.6%, n=748).

Table 4.7: Association between socio-demographic characteristics and Health beliefs (perceived severity item 1, perceived severity item 2, perceived susceptibility item 1 and perceived susceptibility item 2), N = 1383

Socio-demographic characteristics	Perceived severity item 1			Perceived severity item 2			Perceived susceptibility item 1			Perceived susceptibility item 2		
	Serious n=1218	Not serious n=165	χ^2	Serious n= 1305	Not Serious n=78	χ^2	Agree n= 829	Disagree n= 554	χ^2	Agree n= 866	Disagree n= 517	χ^2
	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value
Age												
19-21	696 (89.5)	81(10.5)	0.064	734(94.4)	43(5.6)	0.241	479(61.6)	298(38.4)	0.239	473(60.8)	304(39.2)	0.202
22-24	465(86.7)	71(13.3)		506(93.7)	34(6.3)		313(58.5)	222(41.5)		344(64.1)	192(35.9)	
25 and above	57(81.4)	13(18.6)		69(98.5)	1(1.5)		37(52.8)	33(47.2)		49(70.0)	21(30.0)	
Gender												
Male	428(87.8)	59(12.2)	0.876	457(93.8)	30(6.2)	0.536	306(62.8)	181(37.2)	0.111	316(64.8)	171(35.2)	0.198
Female	790(88.1)	106(11.9)		848(94.6)	48(5.4)		523(58.4)	372(41.6)		550(61.3)	346(38.7)	
Ethnicity												
Malay	617(35.4)	111(64.6)	0.000***	677(92.9)	51(7.1)	0.038*	472(64.8)	256(35.2)	0.000***	469(64.4)	259(35.6)	0.037*
Chinese	494(92.1)	42(7.9)		516(96.2)	20(3.8)		276(51.5)	259(48.5)		316(58.9)	220(41.1)	
Indian	82(88.1)	11(11.9)		86(92.4)	7(7.6)		61(65.5)	32(34.5)		67(77.0)	26(33.0)	
Others	25(96.1)	1(3.9)		26(100.0)	0(0)		20(76.9)	6(23.1)		14(53.8)	12(46.2)	
Religion												
Muslim	633(85.0)	111(15.0)	0.001**	693(93.1)	51(6.9)	0.071	486(65.3)	258(34.7)	0.000***	481(64.6)	263(35.4)	0.011*
Buddhist	337(91.5)	31(8.5)		355(96.4)	13(3.6)		203(55.3)	164(44.7)		219(59.5)	149(40.5)	
Taoist	59(96.7)	2(3.3)		60(98.3)	1(1.7)		31(50.8)	30(49.2)		36(59.0)	25(41.0)	
Hindu	60(83.3)	12(16.7)		65(90.3)	7(9.7)		49(68.0)	23(32.0)		54(75.0)	18(25.0)	
Christian	116(92.8)	9(7.2)		119(95.2)	6(4.8)		59(47.2)	66(52.8)		72(57.6)	53(42.4)	
Others	13(100)	0(0)		13(100.0)	0(0)		1(7.6)	12(92.4)		4(30.7)	9(69.3)	
Current educational level												
Undergraduate Year 1	429(90.6)	44(9.4)	0.143	444(93.8)	29(6.2)	0.478	273(57.7)	200(42.3)	0.039*	286(60.8)	187(39.2)	0.211
Undergraduate Year 2	273(87.5)	39(12.5)		291(93.2)	21(6.8)		210(67.5)	101(32.5)		194(62.1)	118(37.9)	
Undergraduate Year 3	291(87.6)	41(12.4)		316(95.1)	16(4.9)		193(58.1)	139(41.9)		221(66.5)	111(33.5)	
Undergraduate Year 4	170(85.4)	29(14.6)		188(94.4)	11(5.6)		117(58.7)	82(41.3)		129(64.8)	70(35.5)	
Undergraduate Year 5	55(82.0)	12(18.0)		66(98.5)	1(1.5)		36(53.7)	31(46.3)		36(53.7)	31(46.3)	

*P<0.05, ** P<0.01, *** P<0.001

Table 4.7, continued

Socio-demographic characteristics	Perceived severity item 1			Perceived severity item 2			Perceived susceptibility item 1			Perceived susceptibility item 2		
	Serious n=1218	Not serious n=165	χ^2	Serious n= 1305	Not Serious n=78	χ^2	Agree n= 829	Disagree n= 554	χ^2	Agree n= 866	Disagree n= 517	χ^2
	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value
Educational background of degree												
Engineering &Technology	313(86.4)	49(13.6)	0.550	337(93.0)	25(7.0)	0.464	227(62.7)	135(37.3)	0.115	252(69.6)	110(30.4)	0.012*
Arts	416(88.8)	52(11.2)		440(94.0)	28(6.0)		284(60.8)	183(39.2)		278(59.4)	190(40.6)	
Pure Science	252(89.6)	29(10.4)		269(95.7)	12(4.3)		172(61.2)	109(38.8)		175(62.2)	106(37.8)	
Health Science	237(87.1)	35(12.9)		259(95.2)	13(4.8)		146(53.6)	126(46.4)		161(59.1)	111(40.9)	
Family Household Income												
<RM 2000	489(91.7)	44(8.3)	0.001**	507(95.1)	26(4.9)	0.050	340(64.1)	192(35.9)	0.011*	343(64.3)	190(35.7)	0.343
RM 2001 -4000	395(87.7)	55(12.3)		430(95.5)	20(4.5)		272(60.4)	178(39.6)		284(63.1)	166(36.9)	
>RM 4001	334(83.5)	66(16.5)		368(92.0)	32(8.0)		217(54.2)	183(45.8)		239(59.7)	161(40.3)	
Family structure												
Two biological parents	1066(87.8)	148(12.2)	0.423	1145(94.3)	69(5.7)	0.850	721(59.4)	492(40.6)	0.267	748(61.6)	466(38.4)	0.039*
Single parent or Both parents deceased	152(89.9)	17(10.1)		160(94.6)	9(5.4)		108(63.9)	61(36.1)		118(69.8)	51(30.2)	
Residential area												
Rural	299(85.9)	49(14.1)	0.153	322(92.5)	26(7.5)	0.087	220(63.2)	128(36.8)	0.155	227(65.2)	121(34.8)	0.244
Urban	919(88.7)	116(11.3)		983(94.9)	52(5.1)		609(58.8)	425(41.2)		639(61.8)	394(38.2)	
Siblings												
3 and less	552(89.1)	67(10.9)	0.253	594(95.9)	25(4.1)	0.020*	365(58.9)	254(41.1)	0.486	392(63.3)	227(36.7)	0.623
4 and more	666(87.1)	98(12.9)		711(93.0)	53(7.0)		464(60.8)	299(39.2)		474(62.0)	290(38.0)	

*P<0.05, ** P<0.01, *** P<0.001

The association between socio-demographic characteristics and Health beliefs perceived barriers item 1, perceived barriers item 2, perceived self-efficacy item 1 and perceived self-efficacy item 2 are demonstrated in Table 4.8. Overall, 55% of study respondents had reported 'agree' for perceived barrier item 1. With regard to perceived barrier item 1, age (χ^2= 6.55, P=0.038), gender (χ^2= 6.59, P=0.010), ethnicity (χ^2= 34.86, P<0.001), religion (χ^2= 43.90, P<0.001), family household income (χ^2= 9.49, P=0.009) and residential area (χ^2= 7.01, P=0.008) were found to be significantly different. With regard to gender, the proportion of respondents who reported 'agree' for perceived barrier item 1 was significantly higher among male respondents (59.7%, n=291) in contrast to female respondents (52.5%, n=471). A significantly higher percentage of Malays (62.3%, n=454) and Muslims (61.9%, n=461) reported 'agree' for perceived barrier item 1 in comparison to their counterparts. In relation to family household income, the highest proportion of respondents who reported 'agree' for perceived barrier item 1 was seen among those who reported a household income to be RM 2001-4000 (58.6%, n=264). Perceived barrier item 1 was significantly lower among respondents who reported living in urban residential area (53.0%, n=549) compared to those who reported living in rural residential area (61.2%, n=213).

More than two-thirds (68.6%) of the study respondents reported 'disagree' for perceived barrier item 2. Only ethnicity (χ^2= 51.77, P<0.001), religion (χ^2= 56.68, P<0.001), family structure (χ^2= 28.11, P<0.001) and residential area (χ^2=28.23, P<0.001) were significantly different in associated with perceived barrier item 2. A significantly larger proportion of respondents from all ethnic groups had reported 'disagree' for perceived barrier item 2 in comparison to those who had reported 'agree' . Compared with respondents of different religions, a significantly lower percentage of Muslim (57.4%, n=452) respondents reported 'disagree' for perceived barrier item 2 . A significantly higher percentage of respondents with two biological parents (71.1%,

n=863) reported 'disagree' for perceived barrier item 2 compared to those with single parent or both parents deceased (50.9%, n=86). Among the respondents from urban residential area significantly larger proportion of them reported 'disagree' for perceived barrier item 2 (72.5%, n=750) in comparison to those who reported 'agree' (27.5%, n=285).

With relation to perceived self-efficacy item 1, more respondents reported 'sure' (53.7%, n=743) versus those who reported 'unsure' (46.3%, n=640). Socio-demographic characteristics that were significantly different in association with perceived self-efficacy item 1 were age (χ^2= 7.63, P= 0.022), gender (χ^2=49.58, P<0.001), ethnicity (χ^2=53.11, P<0.001), religion (χ^2=51.69, P<0.001) and number of siblings (χ^2=13.96, P<0.001). In contrast to respondents from all other age categories, a significantly lower percentage of respondents between ages 19-21 years (51.7%, n=402) reported 'sure' for perceived self-efficacy item 1 in contrast to respondents between ages 22-24 years (54.6%, n=293) and 25 years and above (68.5%, n=48). A significantly larger proportion of respondents who were male (66.5%, n=324), Chinese (65.6%, n=352) and Taoist (68.8%, n=42) reported 'sure' for perceived self-efficacy item 1. With relation to number of siblings, the percentage of respondents who reported 'sure' for perceived self-efficacy item 1 was significantly higher among those with 3 and less siblings (59.2%, n=367) compared to those with 4 and more siblings (49.2%, n=376).

About 60% of respondents reported 'sure' for perceived self-efficacy item 2 in contrast to those who reported 'unsure'. A significant difference was found between respondents who reported 'sure' for perceived self-efficacy item 2 with gender (χ^2= 42.66, P<0.001), ethnicity (χ^2=61.30, P<0.001), religion (χ^2= 56.06, P<0.001), educational background of degree (χ^2= 11.84, P=0.008) and number of siblings (χ^2=, P=0.012). Female respondents (51.4%, n=461) were significantly lower in proportion compared to male respondents (69.6%, n=339) to report 'sure' for perceived self-

efficacy item 2. The highest proportion of respondents who reported 'sure' for perceived self-efficacy item 2 was seen among the Chinese (70.8%, n=380) followed by the Indians (51.6%, n=48), Others (50.0%, n=13) and Malays (49.3%, n=359). A considerably smaller proportion of Muslims (53.8%, n=368) significantly reported 'sure' for perceived self-efficacy item 2 in contrast to all other religions. The proportion of respondents who reported 'sure' for perceived self-efficacy item 2 and from Health Science (64.3%, n=175) educational background degree were significantly the highest compared to respondents from other educational background of degree. A significantly larger proportion of respondents with 3 and less siblings (61.5%, n=381) had reported 'sure' for perceived self-efficacy item 2 compared to those with 4 and more siblings (54.8%, n=419).

Table 4.8: Association between socio-demographic characteristics and Health beliefs (perceived barriers item 1, perceived barriers item 2, perceived self-efficacy item 1 and perceived self-efficacy item 2), N = 1383

Socio-demographic characteristics	Perceived barrier item 1			Perceived barrier item 2			Perceived self-efficacy item 1			Perceived self-efficacy item 2		
	Agree n =762	Disagree n = 621	χ^2	Agree n = 434	Disagree n = 949	χ^2	Sure n = 743	Unsure n = 640	χ^2	Sure n= 800	Unsure n = 583	χ^2
	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value
Age												
19-21	425(54.6)	352(45.4)	0.038*	239(30.7)	538(69.3)	0.173	402(51.7)	375(48.3)	0.022*	449(57.7)	328(42.3)	0.373
22-24	308(57.4)	228(42.6)		179(33.3)	357(66.4)		293(54.6)	243(45.4)		305(56.9)	231(43.1)	
25 and above	29(41.4)	41(58.6)		16(22.8)	54(77.2)		48(68.5)	22(31.5)		46(65.7)	24(34.3)	
Gender												
Male	291(59.7)	196(40.3)	0.010*	145(29.7)	342(70.3)	0.342	324(66.5)	163(33.5)	0.000***	339(69.6)	148(30.4)	0.000***
Female	471(52.5)	425(47.5)		289(32.2)	607(67.8)		419(46.7)	477(53.3)		461(51.4)	435(48.6)	
Ethnicity												
Malay	454(62.3)	274(37.7)	0.000***	288(39.5)	440(60.5)	0.000***	328(45.0)	400(55.0)	0.000***	359(49.3)	369(50.7)	0.000***
Chinese	245(45.7)	291(54.3)		112(20.8)	424(79.2)		352(65.6)	184(34.4)		380(70.8)	156(29.2)	
Indian	49(52.6)	44(47.4)		29(31.1)	64(68.9)		48(51.6)	45(48.4)		48(51.6)	45(48.4)	
Others	14(53.8)	12(46.2)		5(19.2)	21(80.8)		15(57.6)	11(42.4)		13(50.0)	13(50.0)	
Religion												
Muslim	461(61.9)	283(38.1)	0.000***	292(42.6)	452(57.4)	0.000***	336(49.1)	408(50.9)	0.000***	368(53.8)	316(46.2)	0.000***
Buddhist	158(42.9)	210(57.1)		75(20.3)	293(79.7)		243(66.0)	125(44.0)		262(71.1)	106(28.9)	
Taoist	25(40.9)	36(59.9)		10(16.3)	51(83.7)		42(68.8)	19(31.2)		42(68.8)	19(31.2)	
Hindu	36(50.0)	36(50.0)		25(34.7)	47(65.3)		42(58.3)	30(41.7)		40(55.5)	32(44.5)	
Christian	76(60.8)	49(39.2)		32(25.6)	93(74.4)		73(58.4)	52(41.6)		77(61.6)	48(38.4)	
Others	6(46.1)	7(53.9)		0(0)	13(100.0)		7(53.8)	6(46.2)		11(84.6)	2(15.4)	
Current educational level												
Undergraduate Year 1	250(52.8)	223(47.2)	0.362	151(31.9)	322(68.1)	0.126	257(54.3)	216(45.7)	0.076	284(60.0)	189(40.0)	0.241
Undergraduate Year 2	170(54.4)	142(45.6)		95(30.4)	217(69.6)		160(51.2)	152(48.8)		181(58.0)	131(42.0)	
Undergraduate Year 3	187(56.1)	145(43.9)		114(34.3)	218(65.7)		176(53.0)	156(47.0)		187(56.3)	145(43.7)	
Undergraduate Year 4	121(60.8)	78(39.2)		62(31.1)	137(68.9)		103(51.7)	96(48.3)		104(52.2)	85(47.8)	
Undergraduate Year 5	34(50.7)	33(49.3)		12(17.9)	55(82.1)		47(70.1)	20(29.9)		44(65.6)	23(34.4)	

*P<0.05, ** P<0.01, *** P<0.001

Table 4.8, continued

Socio-demographic characteristics	Perceived barrier item 1			Perceived barrier item 2			Perceived self-efficacy item 1			Perceived self-efficacy item 2		
	Agree n =762	Disagree n = 621	χ^2	Agree n = 434	Disagree n = 949	χ^2	Sure n = 743	Unsure n = 640	χ^2	Sure n= 800	Unsure n = 583	χ^2
	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value	n(%)	n(%)	P value
Educational background of degree												
Engineering &Technology	203(56.0)	159(44.0)	0.145	120(33.1)	242(66.9)	0.555	185(51.1)	177(48.9)	0.076	186(51.3)	176(48.7)	0.008**
Arts	247(52.7)	221(47.3)		152(32.4)	316(67.6)		260(55.5)	208(44.5)		280(59.8)	188(40.2)	
Pure Science	170(60.4)	111(39.6)		80(28.4)	201(71.6)		138(49.1)	143(50.9)		159(56.5)	122(43.5)	
Health Science	142(52.2)	130(47.8)		82(30.1)	190(69.9)		160(58.8)	112(41.2)		175(64.3)	97(35.7)	
Family Household Income												
<RM 2000	303(56.8)	230(43.2)	0.009**	185(34.7)	348(65.3)	0.071	292(54.7)	241(45.3)	0.662	290(54.4)	243(45.6)	0.121
RM 2001 -4000	264(58.6)	186(41.4)		138(30.6)	312(69.4)		234(52.0)	216(48.0)		271(60.2)	179(39.8)	
>RM 4001	195(48.7)	205(51.3)		111(27.7)	289(72.3)		217(67.7)	183(32.3)		239(59.7)	161(40.3)	
Family structure												
Two biological parents	657(54.1)	557(45.9)	0.050	351(28.9)	863(71.1)	0.000***	646(53.2)	568(46.8)	0.307	696(57.3)	518(42.7)	0.299
Single parent or Both parents deceased	105(62.1)	64(37.9)		83(49.1)	86(50.9)		97(57.3)	72(42.7)		104(61.5)	65(38.5)	
Residential area												
Rural	213(61.2)	135(38.8)	0.008**	149(42.8)	199(57.2)	0.000***	187(53.7)	161(46.3)	0.996	187(53.7)	161(46.3)	0.073
Urban	549(53.0)	486(47.0)		285(27.5)	750(72.5)		556(53.7)	479(46.3)		613(59.2)	422(40.8)	
Siblings												
3 and less	333(53.7)	286(46.3)	0.381	185(29.8)	434(70.2)	0.281	367(59.2)	252(40.8)	0.000***	381(61.5)	238(38.5)	0.012*
4 and more	429(56.1)	335(43.9)		249(32.5)	515(67.5)		376(49.2)	388(50.8)		419(54.8)	345(45.2)	

*P<0.05, ** P<0.01, *** P<0.001

4.1.8 Prevalence of CSA experience and its association with socio-demographic characteristics

Table 4.9 summarizes the CSA experience among the study respondents by socio-demographic characteristics. The overall prevalence of CSA experience among the respondents was found to be 38.3% (n=530) with the rates being significantly higher (P<0.005) in females (41%, n=368) than in males (33.2%, n=162). In the univariate analysis, a significant difference was found between CSA experience with age (χ^2=12.96, P=0.002), gender (χ^2=8.14, P=0.004), ethnicity (χ^2=14.51, P=0.002), religion (χ^2=17.35, P=0.004) and educational background of degree (χ^2=17.32, P=0.001). Respondents aged 25 years and above (47.2%, n=33)reported the highest proportion of CSA experience in comparison to those from all other age group categories. A significantly higher proportion of Indians (48.4%, n=45) indicated CSA experience followed by the Others (42.3%, n=11), Malay (41.3%, n=300) and Chinese (32.5%, n=174). Compared with all other religions, Buddhist respondents (30.5%, n=112) were the lowest in proportion to report CSA experience. The highest proportion of respondents who reported CSA experience was seen among the Arts students (44.7%, n=209) in comparison to respondents with other educational background of degree. There was no significant difference found between CSA experience and current educational level, family household income, family structure, residential area and number of siblings.

In the multivariate logistic regression analysis, it was found that Buddhist religion and Arts background of degree were significantly associated with CSA experience. The odds of CSA experience was nearly four times ($OR_{adjusted}$ = 3.900, 95%CI, 1.196 to 12.719, P <0.01) higher in the Buddhist respondents compared to the respondents from 'Others' religion (reference group). Respondents from the Arts background of degree had odds 0.5 times lower ($OR_{adjusted}$ = 0.561, 95% CI, 0.405 to 0.776, P<0.001) than

respondents from health science background of degree (reference group) in terms of CSA experience.

Table 4.9: Prevalence of CSA experience and its association with socio-demographic characteristics, N= 1383

Socio-demographic characteristics	CSA Experiences			Multivariate logistic regression of CSA experience (CSA vs. No CSA)
	No CSA (N=853)	CSA (N=530)	χ^2	Adjusted OR (95% CI)
	n(%)	n (%)	P value	
Age				
19-21	511(65.7)	266(34.3)	0.002**	1.541 (0.925-2.566)
22-24	305(56.9)	231(43.1)		1.077 (0.624-1.807)
25 and above	37(52.8)	33(47.2)		Ref.
Gender				
Male	325(66.8)	162(33.2)	0.004**	1.246(0.973-1.597)
Female	528(58.9)	368(41.1)		Ref.
Ethnicity ǂ				
Malay	428(58.7)	300(41.3)	0.002**	1.293 (0.504-3.316)
Chinese	362(67.5)	174(32.5)		1.058 (0.398-2.810)
Indian	48(51.6)	45(48.4)		0.509 (0.165-1.575)
Others	15(57.7)	11(42.3)		Ref.
Religion ǂ				
Muslim	435(58.4)	309(41.6)	0.004**	2.091(0.524-8.351)
Buddhist	256(69.5)	112(30.5)		3.900 (1.196-12.719)**
Taoist	37(60.6)	24(39.4)		2.568(0.719-9.164)
Hindu	40(55.5)	32(44.5)		5.479 (1.284-23.385)
Christian	80(64.0)	45(36.0)		3.766 (1.123-12.629)
Others	5(38.4)	8(61.6)		Ref.

ǂ The category 'Others' for both ethnicity and religion were not included in the analysis due to number of sample was too small

***p<0.001;**p<0.01

Model; Hosmer and Lemeshow test, χ^2 (8) = 14.467, p = 0.070; Cox & Snell R^2 = 0.037; Nagelkerke R^2 = 0.050

Table 4.9, continued

Socio-demographic characteristics	CSA Experiences			Multivariate logistic regression of CSA experience (CSA vs. No CSA)
	No CSA (N=853)	CSA (N=530)	χ^2	Adjusted OR (95% CI)
	n(%)	n (%)	P value	
Current educational level				
Undergraduate Year 1	307(64.9)	166(35.1)	0.356	
Undergraduate Year 2	189(60.5)	123(39.5)		
Undergraduate Year 3	200(60.2)	132(39.8)		
Undergraduate Year 4	121(60.8)	78(39.2)		
Undergraduate Year 5	36(53.7)	31(46.3)		
Educational background of degree				
Engineering & Technology	232(64.0)	130(36.0)	0.001**	0.778 (0.549-1.103)
Arts	259(55.3)	209(44.7)		0.561 (0.405-0.776)***
Pure Science	171(60.8)	110(39.2)		0.749 (0.520-1.080)
Health Science	191(70.2)	81 (29.8)		Ref.
Family Household Income				
<RM 2000	319(59.8)	214(40.2)	0.211	
RM 2001 -4000	273(60.6)	177(39.4)		
>RM 4001	261(65.2)	139(34.8)		
Family structure				
Two biological parents	753(62.0)	461(38.0)	0.474	
Single parent or Both parents deceased	100(59.1)	69(40.9)		
Residential area				
Rural	224(64.3)	124(35.7)	0.233	
Urban	629(60.7)	406(39.3)		
Siblings				
3 and less	386(62.8)	233(37.2)	0.639	
4 and more	467(61.1)	297(38.9)		

ǂ The category 'Others' for both ethnicity and religion were not included in the analysis due to number of sample was too small

***p<0.001;**p<0.01

Model; Hosmer and Lemeshow test, χ^2 (8) = 14.467, p = 0.070; Cox & Snell R^2 = 0.037; Nagelkerke R^2 = 0.050

4.1.9 Types of CSA experience among study respondents by gender

The types of CSA experience among study respondents are described in Table 4.10. The most frequently reported CSA experience by study respondents for both genders is "forced into sexual talk" (49.0%, n=260). The second and third most commonly reported CSA experience is "somebody touched/fondled with your genitals or breast before" (44.3%, n=235) and "somebody rubbed their genitals on you" (27.5%, n=146). With relation to intercourse, only 11.8% (n=63) and 7.1%, n=38) respondents reported "somebody forced you to have sexual intercourse with them" and "somebody forced you to have anal intercourse with them."

With relation to gender, CSA experience was found to be higher among female respondents when compared to male respondents for most of the CSA experience investigated. Only "being forced to have anal intercourse" was higher among the males (52.6%, n=20) in comparison to the females (47.4%, n=18). The highest type of CSA experience reported by male respondents was "Somebody forced you to have anal intercourse with them" (52.5%, n=20). "Forced into sexual talk" (70.8%, n=184) was the highest type of CSA experience reported by female respondents. Among all types of CSA experience, "Forced into sexual talk", "Somebody rubbed their genitals on you", "Somebody performed oral sex in front of you" and "Somebody forced you to have anal intercourse with them" were significantly associated with gender. "Forced into sexual talk" was significantly associated with gender (χ^2= 5.023, P=0.025) with female respondents (70.8%, n=184) being higher than male respondents (29.2%, n=76). A statistically significant (χ^2= 4.508, P=0.034) higher percentage of female respondents (56.9%, n=83) had experienced "somebody rubbed their genitals on you" compared to male respondents (43.2%, n=63). The association between "somebody performed oral sex in front of you" and gender was statistically significant (χ^2= 4.167, P=0.041) with 44.5% (n=45) being males and 55.5% (n=56) being females. A statistically significant

(χ^2= 5.196, P=0.023) higher proportion of male respondents (52.6%, n=20) reported "somebody forced you to have anal intercourse with them" in contrast to female respondents (47.4%, n=18). The types of CSA experience with no significant difference by gender were "Forced to watch sexual pornography on videos, magazines or photos" (χ^2=0.003, P=0.956), "Forced to watch sexual scenes in reality" (χ^2=0.333, P=0.564), "Somebody masturbated in front of you" (χ^2=0.050, P=0.824), "Somebody forced you to pose naked" (χ^2=0.967, P=0.325), "Somebody touched and fondled with your genitals or breast before" (χ^2= 0.035, P=0.852), "Somebody forced you to touch their genitals" (χ^2=0.107, P=0.744) and "Somebody forced to have sexual intercourse with them" (χ^2=0.240, P=0.624).

Table 4.10: Comparison of types of CSA experience before age 18 years old by gender

Types of CSA experience	Total N (%)	Male n (%)	Female n (%)	χ^2	P value
Forced to watch sexual pornography on videos/ magazines/photos	110(20.7)	39(35.4)	71(64.6)	0.003	0.956
Forced to watch sexual scenes in reality	54(10.1)	21(38.8)	33(61.2)	0.333	0.564
Somebody masturbate in front of you	133(25.0)	48(36.1)	85(63.9)	0.050	0.824
Forced into sexual talk	260(49.0)	76(29.2)	184(70.8)	5.023	0.025*
Somebody rubbed their genitals on you	146(27.5)	63(43.1)	83(56.9)	4.508	0.034*
Somebody forced you to pose naked	82(15.4)	33(40.2)	49(59.8)	0.967	0.325
Somebody touched/fondled with your genitals/breast before	235(44.3)	84(35.7)	151(64.3)	0.035	0.852
Somebody forced you to touch their genitals	98(18.5)	36(36.7)	62(63.3)	0.107	0.744
Somebody performed oral sex in front of you	101(19.0)	45(44.5)	56(55.5)	4.167	0.041*
Somebody forced you to have sexual intercourse with them	63(11.8)	24(38.1)	39(61.9)	0.240	0.624
Somebody forced you to have anal intercourse with them	38(7.1)	20(52.6)	18(47.4)	5.196	0.023*

*$p<0.05$

4.1.10 Prevalence of unprotected sex during first sexual intercourse (RSB 1) and its association with socio-demographic characteristics.

Risky sexual behaviours (outcome variables) in this study was indicated by three types namely; 1) unprotected sex during first sexual intercourse, 2) unprotected sex throughout subsequent sexual intercourse and 2) having multiple sexual partners. Each of these outcome variables are labelled as RSB 1, RSB 2 and RSB 3 respectively.

Table 4.11 demonstrates the prevalence of RSB 1 and its association with socio-demographic characteristics of respondents. In total there were 181 respondents who reported to have ever had sex. Among 181 respondents, more than half (55.2%, n=100) of them reported RSB 1. Majority of respondents aged between 19-21 years (56.9%, n=33) reported RSB 1 when compared to the other age groups (22 to 24 years and 25 and above). With relation to gender, 56.8% of males and 54.0% of females reported RSB 1 respectively. Among all ethnicities, a greater percentage of Malays (52.7%, n=49), Chinese (63.0%, n=39) and Others (83.4%, n=5) reported RSB 1 compared to No RSB. Compared to all educational background of degree, a higher percentage of respondents from the Pure Science (62.5, n=20) had reported RSB 1. Majority of the respondents who reported RSB 1 also reported a family household income of RM 2001-4000 (66.2%, n=47), were from an urban residential area (56.3%, n=75) and had three or less siblings (59.4%, n=54). There was no significant association found between all of the socio-demographic characteristics and RSB 1.

Table 4.11: Prevalence of unprotected sex during first sexual intercourse (RSB 1) and its association with socio-demographic characteristics among study respondents, N=181

Socio-demographic characteristics	**Ever had sex**			**Multivariate logistic regression of RSB 1 (RSB 1 vs No RSB 1)**
	No RSB 1 (n = 81)	**RSB 1 (n=100)**	χ^2	**Adjusted OR (95% CI)**
	n (%)	**n (%)**	**P value**	
Age				
19-21	25(43.1)	33(56.9)	0.801	-
22-24	40(43.9)	51(56.1)		
25 and above	16(50.0)	16(50.0)		
Gender				
Male	35(43.2)	46(56.8)	0.707	-
Female	46(46.0)	54(54.0)		
Ethnicity ǂ				
Malay	44(47.3)	49(52.7)	0.084 ¶	-
Chinese	23(37.0)	39(63.0)		
Indian	13(65.0)	7(35.0)		
Others	1(16.6)	5(83.4)		
Religion ǂ				
Muslim	43(45.7)	51(54.3)	0.375 ¶	-
Buddhist	12(37.5)	20(62.5)		
Taoist	3(27.2)	8(72.8)		
Hindu	9(64.2)	5(35.8)		
Christian	1244.4)	15(55.6)		
Others	2(66.6)	1(33.4)		
Current educational level				
Undergraduate Yr 1	20(51.2)	19(48.8)	0.156	-
Undergraduate Yr 2	15(41.6)	21(58.4)		
Undergraduate Yr 3	30(50.8)	29(49.2)		
Undergraduate Yr 4	11(45.8)	13(54.2)		
Undergraduate Yr 5	5(21.7)	18(78.3)		
Educational background of degree				
Engineering & Technology	19(42.2)	26(57.8)	0.682	-
Arts	32(46.3)	37(53.7)		
Pure Science	12(37.5)	20(62.5)		
Health Science	18(51.4)	17(48.6)		
Family Household Income				
<RM 2000	31(54.3)	26(45.7)	0.050	-
RM 2001 -4000	24(33.8)	47(66.2)		
>RM 4001	26(49.0)	27(51.0)		
Family structure				
Two biological parents	64(43.5)	83(56.5)	0.495	-
Single parent or both parents deceased	17(50.0)	17(50.0)		
Residential area				
Rural	23(47.9)	25(52.1)	0.607	-
Urban	58(43.6)	75(56.3)		
Siblings				
3 and less	37(40.6)	54(59.4)	0.266	-
4 and more	44(48.8)	46(51.2)		

ǂ Category 'Others' was removed for ethnicity and religion (values were too small)

¶ Fisher exact test used to document the p value (ethnicity, religion and family structure) when there were cells with expected value of less than 5.

4.1.11 CSA experience and other exposure factors associated with unprotected sex during first sexual intercourse (RSB1)

The findings below represent the uni-variate and the multivariate analysis of factors associated with RSB 1 (Table 4.12). A significantly greater proportion of respondents without CSA experience (73.6%) reported RSB 1 (OR_{crude} = 3.06, 95% CI, 1.52 to 6.18, P=0.002) compared to the respondents who reported CSA experience (47.7%). RSB 1 was significantly higher among respondents who reported "Yes" for family violence (81.3%) compared to those who reported "No" for family violence (52.8%) (OR crude = 3.84, 95% CI, 1.06 to 14.2, P=0.040). A significantly larger proportion (64%) of respondents who reported "Yes" for alcohol consumption (OR_{crude} = 1.96, 95% CI, 1.08 to 3.57, P=0.026) had engaged in RSB 1 compared to respondents (47.4%) who reported "No" for alcohol consumption. There was no significant difference found between family closeness, parental monitoring, family support, cigarette smoking, drugs, having peers who engaged in early age of sexual intercourse, peers who used condoms during sexual intercourse, peers who believed that condoms reduced pleasure, peers who had multiple sexual partners and RSB 1. Additionally, level of religiosity, knowledge of HIV, knowledge of sexual and reproductive health, all the variables of health belief (perceived severity item 1 and 2, perceived susceptibility item 1 and 2, perceived barrier item 1 and 2, perceived self-efficacy item 1 and 2) was not significantly associated with RSB 1.

The multiple logistic regression model for RSB 1 showed that all significant factors found in the uni-variate analysis were also statistically significant in the multivariate analysis. CSA experience, family violence and alcohol consumption were significantly associated with RSB 1. Respondents who did not report CSA experience were two times more likely ($OR_{adjusted}$ = 2.56, 95%CI, 1.25 to 5.26, P=0.010) to practise RSB 1 when compared to respondents who reported CSA experience (reference group).

Respondents who reported "Yes" for family violence had an increased odds of practising RSB 1 by four times ($OR_{adjusted}$ = 4.00, 95% CI, 1.05 to 16.6, P=0.042) in contrast to respondents who reported "No" for family violence (reference group). In addition, the odds of RSB 1 was higher ($OR_{adjusted}$ = 2.12, 95% CI, 1.15 to 4.00, P=0.017) among those who reported "Yes" for alcohol consumption compared to those who reported "No" for alcohol consumption (reference group).

Table 4.12: Univariate and multivariate analysis of CSA and other exposure factors associated with unprotected sex during first sexual intercourse (RSB 1), N=181

Factors associated	**Ever had sex**				**Multivariate logistic regression of RSB 1 (RSB 1 vs. No RSB 1)**
	No RSB 1 (n=81) n(%)	**RSB 1 (n=100) n(%)**	**Crude OR (95% CI)**	**P value**	**Adjusted OR (95% CI)**
CSA					
Yes	67(52.3)	61(47.7)	Ref.	0.002*	Ref.
No	14(26.4)	39(73.6)	3.06(1.52-6.18)		2.56(1.25-5.26)*
Familial factors					
Family closeness					
Yes	4(44.4)	5(55.6)	1.01(0.26-3.90)		
No	77(44.7)	95(55.3)	Ref.	0.985	
Parental monitoring					
Yes	59(43.3)	77(56.7)	1.25(0.63-2.50)		
No	22(48.8)	23(51.2)	Ref.	0.520	
Family support					
Yes	50(43.1)	66(56.9)	1.20(0.65-2.22)		
No	31(47.7)	34(52.3)	Ref.	0.552	
Family violence					
Yes	3(18.7)	13(81.3)	3.84(1.06-14.2)		4.00(1.05-16.6)*
No	78(47.2)	87(52.8)	Ref.	0.040*	Ref.
Substance use					
Cigarettes					
Yes	25(41.6)	35(58.4)	1.20(0.65-2.27)		
No	56(46.2)	65(53.8)	Ref.	0.557	

*p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 6.813, p = 0.078; Cox & Snell R2 = 0.102; Nagelkerke R2 = 0.137

Table 4.12, continued

Factors associated	Ever had sex				Multivariate logistic regression of RSB 1 (RSB 1 vs. No RSB 1)
	No RSB 1 (n=81) n(%)	RSB 1 (n=100) n(%)	Crude OR (95% CI)	P value	Adjusted OR (95% CI)
Alcohol					
Yes	31(36.0)	55(64.0)	1.96(1.08-3.57)		2.12(1.15-4.00)*
No	50(52.6)	45(47.4)	Ref.	0.026*	Ref.
Drugs					
Yes	10(55.5)	8(44.5)	Ref.		
No	71(43.5)	92(56.5)	1.62(0.61-4.32)	0.335	
Peer association					
Early age of Sexual intercourse					
Yes	60(47.6)	66(52.4)	Ref.		
No	21(38.1)	34(61.9)	1.47(0.77-2.81)	0.241	
Condom use					
Yes	45(48.9)	47(51.1)	Ref.		
No	36(40.4)	53(59.6)	1.41(0.78-2.54)	0.253	
Condom reduce pleasure					
Yes	53(45.6)	63(54.4)	Ref.		
No	28(43.0)	37(57.0)	1.11(0.60-2.05)	0.735	
Multiple sexual partner					
Yes	29(38.6)	46(61.4)	1.54(0.83-2.77)		
No	52(49.0)	54(51.0)	Ref.	0.167	
Level of religiosity					
Religious status					
Religious	76(46.3)	88(53.7)	Ref.		
Not religious	5(29.4)	12(70.6)	2.07(0.70-6.15)	0.189	

*p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 6.813, p = 0.078; Cox & Snell R2 = 0.102; Nagelkerke R2 = 0.137

Table 4.12, continued

Factors associated	Ever had sex				Multivariate logistic regression of RSB 1 (RSB 1 vs. No RSB 1)
	No RSB 1 (n=81) n(%)	RSB 1 (n=100) n(%)	Crude OR (95% CI)	P value	Adjusted OR (95% CI)
Knowledge of HIV					
Scores (8-16)	53(43.0)	70(57.0)	Ref.		
Scores (0-7)	28(48.2)	30(51.8)	1.23 (0.66-2.33)	0.513	
Knowledge of SRH					
Scores (6-10)	35(44.3)	44(55.7)	1.03(0.57-1.86)		
Scores (0-5)	46(45.1)	56(54.9)	Ref.	0.915	
Health Belief					
Perceived severity item 1					
Serious	73(61.4)	82(38.6)	Ref.		
Not serious	8(30.7)	18(69.3)	2.00(0.82-4.88)	0.126	
Perceived severity item 2					
Serious	77(45.2)	93(54.8)	Ref.		
Not serious	4(36.3)	7(63.7)	1.45(0.41-5.13)	0.566	
Perceived susceptibility item 1					
Agree	54(45.3)	65(54.7)	Ref.		
Disagree	27(43.5)	35(56.5)	1.08(0.58-1.99)	0.814	
Perceived susceptibility item 2					
Agree	55(45.0)	67(55.0)	Ref.		
Disagree	26(44.0)	33(56.0)	1.04(0.56-1.95)	0.898	

[ii] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD).

*p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 6.813, p = 0.078; Cox & Snell R2 = 0.102; Nagelkerke R2 = 0.137

Table 4.12, continued

Factors associated	Ever had sex				Multivariate logistic regression of RSB 1 (RSB 1 vs. No RSB 1)
	No RSB 1 (n=81) n(%)	RSB 1 (n=100) n(%)		P value	Adjusted OR (95% CI)
Perceived barrier item 1					
Agree	43(39.8)	65(60.2)	1.64(0.90-2.94)		
Disagree	38(52.0)	35(48.0)	Ref.	0.105	
Perceived barriers item 2					
Agree	25(40.9)	36(59.1)	1.27(0.68-2.33)		
Disagree	56(46.6)	64(53.4)	Ref.	0.468	
Perceived self-efficacy item 1					
Sure	49(46.2)	57(53.8)	Ref.		
Unsure	32(42.6)	43(57.4)	1.16(0.64-2.10)	0.635	
Perceived self-efficacy item 2					
Sure	58(47.1)	65(52.9)	Ref.		
Unsure	23(39.6)	35(60.4)	1.36(0.72-2.56)	0.344	

[ii] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD).

*$p<0.05$

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 6.813, p = 0.078; Cox & Snell R2 = 0.102; Nagelkerke R2 = 0.137

4.1.12 Prevalence of unprotected sex throughout subsequent sexual intercourse (RSB 2) and its association with socio-demographic characteristics

Table 4.13 illustrates the prevalence and socio-demography of respondents with RSB 2. Out of 181 respondents who reported ever had sex and consented sex more than once, 57.4% (n=104) of them had reported RSB 2. In total, 60.5% of males and 55.0% of female respondents reported to have engaged in RSB 2. A higher percentage of respondents who reported RSB 2 were between ages 25 and above (65.6%), Others(83.3%) by ethnicity and Taoist(. A large proportion of respondents from the Pure Science educational background of degree (78.2%), had a family household income of <RM 2000 (61.5%). Living in an urban residential area (58.7%) had made respondents more prevalent for RSB 2. There was no statistical significant association between RSB 2 and all the ten socio-demographic characteristics analysed.

Table 4.13: Prevalence of unprotected sex throughout subsequent sexual intercourse (RSB 2) and its association with socio-demographic characteristics among study respondents, N=181

Socio-demographic characteristics	**Ever had sex**			**Multivariate logistic regression of RSB 2 (RSB 2 vs. No RSB 2)**
	No RSB 2 (n=77)	**RSB 2 (n=104)**	**χ^2**	**Adjusted OR (95% CI)**
	n(%)	**n (%)**	**P value**	
Age				
19-21	27(46.5)	31(53.5)	0.533	-
22-24	39(42.8)	52(57.2)		
25 and above	11(34.4)	21(65.6)		
Gender				
Male	32(39.5)	49(60.5)	0.457	-
Female	45(45.0)	55(55.0)		
Ethnicity ǂ				
Malay	38(40.8)	55(59.2)	0.758 ¶	-
Chinese	29(46.7)	33(53.3)		
Indian	9(45.0)	11(55.0)		
Others	1(16.7)	5(83.3)		
Religion ǂ				
Muslim	38(40.4)	56(59.6)	0.117 ¶	-
Buddhist	20(62.5)	12(37.5)		
Taoist	3(27.3)	8(72.7)		
Hindu	6(42.8)	8(57.2)		
Christian	9(33.3)	18(66.7)		
Others	1(33.3)	2(66.7)		
Current educational level				
Undergraduate Yr 1	19(48.7)	20(51.3)	0.130	-
Undergraduate Yr 2	19(52.7)	17(47.3)		
Undergraduate Yr 3	26(44.0)	33(56.0)		
Undergraduate Yr 4	8(33.3)	16(66.7)		
Undergraduate Yr 5	5(21.7)	18(78.3)		
Educational background of degree				
Engineering & Technology	22(48.9)	23(51.1)	0.071	-
Arts	31(44.9)	38(55.1)		
Pure Science	7(21.8)	25(78.2)		
Health Science	17(48.5)	18(51.5)		
Family Household Income				
<RM 2000	22(38.5)	35(61.5)	0.754	-
RM 2001 -4000	32(45.0)	39(55.0)		
>RM 4001	23(43.4)	30(56.6)		
Family structure				
Two biological parents	64(43.5)	83(56.5)	0.573	-
Single parent or both parents deceased	13(38.2)	21(61.8)		
Residential area				
Rural	22(45.8)	26(54.2)	0.590	-
Urban	55(41.3)	78(58.7)		
Siblings				
3 and below	41(45.0)	50(55.0)	0.492	-
4 and more	36(40.0)	54(60.0)		

ǂ Category 'Others' was removed for ethnicity and religion (values were too small)

¶ Fisher exact test used to document the p value (ethnicity, religion and family structure) when there were cells with expected value of less than 5.

4.1.13 CSA experience and other exposure factors associated with unprotected sex throughout subsequent sexual intercourse (RSB 2)

Table 4.14 describes the CSA experience and exposure factors that are significantly associated with RSB 2. About three quarters (71.2%, n=74) of respondents who had practised RSB 2 had reported CSA experience. There was a significant difference found in the uni-variate analysis between cigarette smoking, peers who used condom, peers who believed that condom reduced pleasure, peers who had multiple sexual partners, perceived susceptibility item 1 and perceived barriers item 1 with RSB 2. A significantly higher proportion of respondents (71.7%, n=43) who reported "Yes" for cigarette smoking had reported to have practised RSB 2 (OR $_{crude}$ = 2.50, 95% CI, 1.28 to 4.76, P=0.007) compared to those who reported "No" for cigarette smoking (50.5%, n=61). Among all respondents who reported RSB 2, a significant higher proportion of them (66.3%) reported "Yes" for having peers who used condoms during sexual intercourse (OR $_{crude}$ = 2.08, 95% CI, 1.15 to 3.85, P=0.015) versus (48.3%, n=43) those who reported "No" for having peers who used condom during sexual intercourse. There was a significant difference among respondents who practised RSB 2 and reported "Yes" for peers who believed that condom reduced pleasure (64.7%) (OR $_{crude}$ = 2.27, 95% CI, 1.22 to 4.16, P=0.009) compared to those who reported "No" for peers who believed that condom reduced pleasure (44.7%). Almost three quarters of the respondents who reported "Yes" for having peers with multiple sexual partners, had practised RSB 2 (OR $_{crude}$ = 3.22, 95% CI, 1.67 to5.90, P=0.000), a significant proportion compared to respondents who reported "No" for having peers with multiple sexual partners (46.2%, n=49). A significantly higher percentage of respondents who reported 'agree' for perceived susceptibility item 1 (63.9%. n=76) reported to practise RSB 2 (OR $_{crude}$ = 2.13, 95% CI, 1.15 to 4.00, P=0.017) when compared to those who reported 'disagree' for perceived susceptibility item 1 (45.2%, n=28). Likewise, among

all respondents who reported RSB 2, a significantly higher proportion of respondents (63.9%, n=69) reported 'agree' for perceived barrier item 1 (OR $_{crude}$ = 1.93, 95% CI, 1.05 to 3.45, P=0.034) in contrast to 48.0% respondents who reported 'disagree' for perceived barrier item 1.

The multiple logistic regression logistic regression analysis indicated that respondents who reported "Yes" for having peers with multiple sexual partners and agreed to perceived barriers item 1 were significantly associated with RSB 2. Respondents who had reported "Yes" for having peers with multiple sexual partners were more likely (OR $_{adjusted}$ = 3.70, 95% CI, 1.88 to 7.14, P=0.000) to practise RSB 2 compared to those who reported "No" for having peers with multiple sexual partners (reference group). The odds of practising RSB 2 was two times higher (OR $_{adjusted}$ = 2.38, 95% CI, 1.23 to 4.54, P=0.009) among respondents who reported 'agree' for perceived barrier item 1 in contrast to those who reported 'disagree' for perceived barrier item 1 (reference group). Cigarette smoking, having peers who used condom during sexual intercourse, peers who believed that condom reduced pleasure and agreeing to perceived susceptibility item 1 was not significantly associated with RSB 2.

Table 4.14: Univariate and multivariate analysis of CSA and other exposure factors associated with unprotected sex throughout subsequent sexual intercourse (RSB 2), N=181

Factors associated	Ever had sex				Multivariate logistic regression of RSB 2 (RSB 2 vs. No RSB 2)
	No RSB 2 (n=77) n(%)	RSB 2 (n=104) n(%)	Crude OR (95% CI)	P value	Adjusted OR (95% CI)
CSA					
Yes	54(42.1)	74(57.9)	1.05(0.55-2.01)	0.881	
No	23(43.3)	30(56.7)	Ref.		
Familial factors					
Family closeness					
Yes	4(44.4)	5(55.6)	Ref.		
No	73(42.4)	99(57.6)	1.09(0.28-4.18)	0.906	
Parental monitoring					
Yes	55(40.4)	81(59.6)	1.40(0.71-2.78)		
No	22(48.9)	23(51.1)	Ref.	0.321	
Family support					
Yes	45(38.8)	71(61.2)	1.54(0.83-2.86)		
No	32(49.2)	33(50.8)	Ref.	0.174	
Family violence					
Yes	3(18.7)	13(81.3)	3.57(0.97-12.5)		
No	74(44.8)	91(55.2)	Ref.	0.056	
Substance use					
Cigarettes					
Yes	17(28.3)	43(71.7)	2.50(1.28-4.76)		1.68(0.81-3.44)
No	60(49.5)	61(50.5)	Ref.	0.007**	Ref.

***p<0.001; **p<0.01; *p<0.05
Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 12.047, p = 0.149; Cox & Snell R2 = 0.125; Nagelkerke R2 = 0.169

Table 4.14, continued

Factors associated	**Ever had sex**				**Multivariate logistic regression of RSB 2 (RSB 2 vs. No RSB 2)**
	No RSB 2 (n=77) n(%)	**RSB 2 (n=104) n(%)**	**Crude OR (95% CI)**	**P value**	**Adjusted OR (95% CI)**
Alcohol					
Yes	34(39.5)	52(60.5)	1.26(0.70-2.27)		
No	43(45.2)	52(54.8)	Ref.	0.437	
Drugs					
Yes	5(27.8)	13(72.2)	2.04(0.70-5.88)		
No	72(44.2)	91(55.8)	Ref.	0.189	
Peer association					
Early age of Sexual intercourse					
Yes	48(38.0)	78(62.0)	1.81(0.95-3.45)		
No	29(52.7)	26(47.3)	Ref.	0.069	
Condom use					
Yes	31(33.7)	61(66.3)	2.08(1.15-3.85)		1.12(0.51-2.44)
No	46(51.7)	43(48.3)	Ref.	0.015*	Ref.
Condom reduce pleasure					
Yes	41(35.3)	75(64.7)	2.27(1.22-4.16)		1.21(0.58-2.56)
No	36(55.3)	29(44.7)	Ref.	0.009**	Ref.
Multiple sexual partner					
Yes	20(26.7)	55(73.3)	3.22(1.67-5.90)		3.70(1.88-7.14)***
No	57(53.8)	49(46.2)	Ref.	0.000***	Ref.
Level of religiosity					
Religious status					
Religious	69(42.0)	95(58.0)	1.22(0.44-3.33)		
Not religious	8(47.0)	9(53.0)	Ref.	0.693	

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 12.047, p = 0.149; Cox & Snell R2 = 0.125; Nagelkerke R2 = 0.169

Table 4.14, continued

Factors associated	Ever had sex				Multivariate logistic regression of RSB 2 (RSB 2 vs. No RSB 2)
	No RSB 2 (n=77) n(%)	RSB 2 (n=104) n(%)	Crude OR (95% CI)	P value	Adjusted OR (95% CI)
Knowledge of HIV					
Scores (8-16)	53(43.0)	70(57.0)	1.07(0.57-2.02)		
Scores (0-7)	24(41.3)	34(58.7)	Ref.	0.828	
Knowledge of SRH					
Scores (6-10)	30(38.0)	49(62.0)	1.39(0.76-2.53)		
Scores (0-5)	47(46.1)	55(53.9)	Ref.	0.275	
Health Belief [ii]					
Perceived severity item 1					
Serious	70(45.1)	85(54.9)	Ref.		
Not serious	7(26.9)	19(73.1)	2.24(0.89-5.62)	0.087	
Perceived severity item 2					
Serious	74(43.5)	96(56.5)	Ref.		
Not serious	3(27.2)	8(72.8)	2.06(0.53-8.02)	0.299	
Perceived susceptibility item 1					
Agree	43(36.1)	76(63.9)	2.13(1.15-4.00)		1.49(0.75-2.94)
Disagree	34(54.8)	28(45.2)	Ref.	0.017*	Ref.
Perceived susceptibility item 2					
Agree	56(45.9)	66(54.1)	Ref.		
Disagree	21(35.5)	38(64.5)	1.54(0.81-2.92)	0.190	

[ii] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD)

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 12.047, p = 0.149; Cox & Snell R2 = 0.125; Nagelkerke R2 = 0.169

Table 4.14, continued

Factors associated	Ever had sex				Multivariate logistic regression of RSB 2 (RSB 2 vs. No RSB 2)
	No RSB 2 (n=77) n(%)	RSB 2 (n=104) n(%)	Crude OR (95% CI)	P value	Adjusted OR (95% CI)
Perceived barriers item 1					
Agree	39(36.1)	69(63.9)	1.93(1.05-3.45)		2.38(1.23-4.54)**
Disagree	38(52.0)	35(48.0)	Ref.	0.034*	Ref.
Perceived barriers item 2					
Agree	25(40.9)	36(59.1)	1.09(0.59-2.04)		
Disagree	52(43.3)	68(56.7)	Ref.	0.763	
Perceived self-efficacy item 1					
Sure	45(42.4)	61(57.6)	1.01(0.56-1.81)		
Unsure	32(42.7)	43(57.3)	Ref.	0.977	
Perceived self-efficacy item 2					
Sure	55(44.7)	68(55.3)	Ref.		
Unsure	22(37.9)	36(62.1)	1.32(0.70-2.51)	0.390	

[ii] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD).

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 12.047, p = 0.149; Cox & Snell R2 = 0.125; Nagelkerke R2 = 0.169

4.1.14 Prevalence of multiple sexual partners (RSB 3) and its association with socio-demographic characteristics

Respondent's information on having RSB 3 is demonstrated below (Table 4.15). More than half (57.5%, n=104) of the respondents who reported ever had sex reported RSB 3 and only 42.5% (n=77) of them had reported to have one sexual partner. Among all the socio-demographic characteristics, current educational level ($\chi 2$= 10.72, P=0.030), family household income ($\chi 2$=6.24, P=0.044) and residential area ($\chi 2$=6.39, P=0.012) were found to be significantly associated with RSB 3. With regard to current educational level undergraduate year 2 students (75.0%, n=27) were the highest in proportion to engage in RSB 3. A greater proportion of respondents with a household income of more than RM 4,000 (68%, n=36), and those living in a rural residential area (72.9%, n=35) reported RSB 3. The non-significant factors include age (χ^2=2.95, P=0.228), gender (χ^2=3.81, P=0.051), ethnicity (P=0.053), religion (P=0.471), educational background of degree (χ^2=3.83, P=0.281), family structure (χ^2=0.32, P=0.573) and number of siblings (χ^2= 0.15, P=0.699).

Multiple logistic regression was also performed with significant predictors (current educational level, family household income and residential area) to determine the impact of socio-demographic characteristics on the likelihood of having multiple sexual partners. The model suggests that respondents with family household income of RM 2,001- RM4,000 are two times more likely ($OR_{adjusted}$= 2.243, 95% CI, 1.003 to 5.016, P=0.049) to have RSB 3 compared to those with a family household income of more than RM 4,000 (reference group). Meanwhile, respondents who lived in urban areas were significantly more likely ($OR_{adjusted}$=2.732, 95% CI, 1.273 to 5.847, P=2.732) to report RSB 3 in contrast to those from rural areas (reference group). There were no significant association between current educational level and RSB 3 in the model.

Table 4.15: Prevalence of multiple sexual partners (RSB 3) and its association with socio-demographic characteristics among study respondents, N=181

Socio-demographic characteristics	Ever had sex			Multivariate logistic regression (RSB 3 vs. No RSB 3)
	No RSB 3 (n=77) n(%)	RSB 3 (n=104) n(%)	χ^2 P Value	Adjusted OR (95% CI)
Age				
19-21	30(51.7)	28(48.3)	0.228	-
22-24	35(38.4)	56(61.6)		
25 and above	12(37.5	20(62.5)		
Gender				
Male	28(34.5)	53(65.5)	0.051	-
Female	49(49.0)	51 (51.0)		
Ethnicity ǂ				
Malay	32(34.4)	61(65.6)	0.053 ¶	-
Chinese	33(53.2)	29(46.8)		
Indian	10(50.0)	10(50.0)		
Others	2(33.3)	4(66.7)		
Religion ǂ				
Muslim	34(34.7)	60(65.3)	0.471 ¶	-
Buddhist	17(53.1)	15(46.9)		
Taoist	5(45.4)	6(54.6)		
Hindu	7(50.0)	7(50.0)		
Christian	12(44.4)	15(55.6)		
Others	2(66.6)	1(33.4)		
Current educational level				
Undergraduate Yr 1	21(53.8)	18(46.2)	0.030*	2.870(0.870-9.367)
Undergraduate Yr 2	9(25.0)	27(75.0)		0.928(0.269-3.199)
Undergraduate Yr 3	29(49.1)	30(50.9)		2.521(0.840-7.564)
Undergraduate Yr 4	12(50.0)	12(50.0)		2.590(0.705-9.508)
Undergraduate Yr 5	6(26.0)	17(74.0)		Ref.
Educational background of degree				
Engineering & Technology	18(40.0)	27(60.0)	0.281	-
Arts	35(50.7)	34(49.3)		
Pure Science	13(40.6)	19(59.4)		
Health Science	11(31.4)	24(68.6)		
Family Household Income				
<RM 2000	22(38.5)	35(61.5)	0.044*	1.281(0.556-2.952)
RM 2001 -4000	38(53.5)	33(46.5)		2.243(1.003-5.016)*
>RM 4001	17(32.0)	36(68.0)		Ref.
Family structure				
Two biological parents	64(43.5)	83(56.5)	0.573	-
Single parent or both parents deceased	13(38.2)	21(61.8)		
Residential area				
Rural	13(27.1)	35(72.9)	0.012*	Ref.
Urban	64(48.1)	69(51.9)		2.732(1.273-5.847)**
Siblings				
3 and less	40(43.9)	51(56.1)	0.699	-
4 and more	37(41.1)	53(58.9)		

ǂ Category others was removed for ethnicity and religion (values were too small)

¶ Fisher exact test used to document the p value (ethnicity, religion and family structure) when there were cells with expected value of less than 5.

**p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi^2(8) = 12.760$, $p = 0.120$; Cox & Snell $R^2 = 0.116$; Nagelkerke $R^2 = 0.155$

4.1.15 CSA experience and other exposure factors associated with multiple sexual partners (RSB 3)

Table 4.16 illustrates the uni-variate and multivariate analysis of the factors associated with RSB 3. The uni-variate analysis showed that CSA experience, parental monitoring, family violence, cigarette smoking, drugs, having peers who used condoms during sexual intercourse, peers who believed that condom reduced pleasure, peers who had multiple sexual partners, perceived severity item 2 and perceived susceptibility item 2 to be significantly associated with RSB 3. A significantly higher proportion of respondents who reported "Yes" for CSA experience (63.3%, n=81) were more likely (OR_{crude}= 2.25, 95% CI, 1.17 to 4.31, P=0.015) to involve in RSB 3 compared to respondents who reported "No" for CSA experience (43.4%, n=23). With regard to familial factors studied, parental monitoring and family violence were both significantly associated with RSB 3. Respondents who reported "No" for parental monitoring (75.6%, n=34) showed a significantly higher percentage to RSB 3 (OR_{crude}= 2.91, 95%CI, 1.37 to 6.22, P=0.006) in contrast to those who reported "Yes" for parental monitoring (51.5%, n=70). A considerable large proportion of respondents who had significantly reported "No" for family violence (60.0%, n=99), had involved in RSB 3 (OR_{crude}=3.30,95% CI, 1.10 to 9.93, P=0.034) versus those who reported "Yes" for family violence (31.3%, n=5). The odds of consuming drug in association with RSB 3 doubled in comparison to that of cigarette smoking. Respondents who reported "Yes" for cigarette smoking (75.0%) were three times (OR_{crude} = 3.12, 95% CI, 1.58 to 6.25, P=0.001) more likely to be involved with RSB 3 than those who reported "No" for cigarette smoking (48.8%). On the other hand, the likelihood of respondents involving in RSB 3 was six times higher (OR_{crude} = 6.66, 95% CI, 1.51 to 30.3, P=0.012) among those who reported "Yes" for drug consumption in comparison with those who reported "No" for drug consumption (54.0%). Respondents who reported "Yes" for having peers

who used condom during sexual intercourse (72.9%) were significantly higher in percentage to report RSB 3 (OR_{crude} = 3.70, 95% CI, 2.00 to 7.14, P=0.000) compared to those who reported "No" for having peers who used condom during sexual intercourse (41.6%). A significantly large majority (64.7%, n=75) of respondents who reported "Yes" for having peers who believed condom reduced pleasure were twice more likely (OR_{crude}=2.27, 95% CI, 1.21 to 4.17, P=0.009) to involve with RSB 3 compared to respondents who reported "No" for having peers who believed condom reduced pleasure (44.7%, n=29). More than 75% of respondents who reported "Yes" for having peers with multiple sexual partners also engaged in RSB 3 themselves. The likelihood of RSB 3 was four times higher among respondents who reported "Yes" for having peers who had multiple sexual partners (OR_{crude} = 4.34, 95% CI, 2.27 to 8.33, P=0.000) in contrast to respondents who reported "No" for having peers who have multiple sexual partners. The odds of RSB 3 was eight times more among respondents who reported "Not serious" for perceived severity item 2 (90.9%) compared to those who reported "Serious" for perceived perceive severity item 2 (55.3%). Respondents who disagreed to perceived susceptibility item 2 (72.9%, n=43) were twice more likely to involve in RSB 3 compared to those who agreed to perceived susceptibility item 2 (50.0%, n=61) (OR_{crude}=2.69, 95% CI, 1.37 to 5.28, P=0.004).

The multiple logistic regression model showed that the odds of RSB 3 was three times more ($OR_{adjusted}$ = 2.57, 95% CI, 1.07-6.16, P=0.034) among respondents who reported "No" for parental monitoring compared to those who reported "Yes" for parental monitoring (reference group). Respondents who were not serious about perceived severity item 2 were more likely ($OR_{adjusted}$ = 9.92, 95% CI, 1.08 to 90.7, P=0.042) to report RSB 3 compared to respondents who were serious about perceived severity item 2 (reference group). CSA experience, family violence, cigarette smoking, drug consumption, having peers who used condom during sexual intercourse, peers who

believed that condom reduced pleasure, peers who has multiple sexual partners and perceived susceptibility item 2 were not significantly associated with RSB 3 in the multiple logistic regression model.

Table 4.16: Univariate and multivariate analysis of CSA and other exposure factors associated with multiple sexual partners (RSB 3), N=181

Factors associated	**Ever had sex**				**Multivariate logistic regression (RSB 3 vs. No RSB 3)**
	No RSB 3 (n=77) n(%)	**RSB 3 (n=104) n(%)**	**Crude OR (95% CI)**	**χ^2 P value**	**Adjusted OR (95% CI)**
CSA					
Yes	47(36.7)	81(63.3)	2.25(1.17-4.31)	0.015*	1.61(0.74-3.47)
No	30(56.6)	23(43.4)	Ref.		Ref.
Familial factors					
Family closeness					
Yes	2(22.2)	7(77.8)	2.27(0.54-12.5)		
No	75(43.6)	97(56.4)	Ref.	0.223	
Parental monitoring					
Yes	66(48.5)	70(51.5)	Ref.		Ref.
No	11(24.4)	34(75.6)	2.91(1.37-6.22)	0.006**	2.57(1.07-6.16)*
Family support					
Yes	47(40.5)	69(59.5)	1.26(0.68-2.32)		
No	30(46.1)	35(53.9)	Ref.	0.462	
Family violence					
Yes	11(68.7)	5(31.3)	Ref.		Ref.
No	66(40.0)	99(60.0)	3.30(1.10-9.93)	0.034*	3.26(0.88-12.0)
Substance use					
Cigarettes					
Yes	15(25.0)	45(75.0)	3.12(1.58-6.25)		1.61(0.67-3.81)
No	62(51.2)	59(48.8)	Ref.	0.001**	Ref.

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 15.054, p = 0.058; Cox & Snell R2 = 0.255; Nagelkerke R2 = 0.343

Table 4.16, continued

Factors associated	Ever had sex				Multivariate logistic regression (RSB 3 vs. No RSB 3)
	No RSB 3 (n=77) n(%)	RSB 3 (n=104) n(%)	Crude OR (95% CI)	χ^2 P value	Adjusted OR (95% CI)
Alcohol					
Yes	38(44.1)	48(55.9)	Ref.		
No	39(41.0)	56(59.0)	1.14(0.63-2.05)	0.670	
Drugs					
Yes	2(11.1)	16(88.9)	6.66(1.51-30.3)		2.74(0.46-16.13)
No	75(46.0)	88(54.0)	Ref.	0.012*	Ref.
Peer association					
Early age of Sexual intercourse					
Yes	49(38.8)	77(61.2)	1.64(0.86-3.12)		
No	28(50.9)	27(49.1)	Ref.	0.134	
Condom use					
Yes	25(27.1)	67(72.9)	3.70(2.00-7.14)		2.29(1.00-5.26)
No	52(58.4)	37(41.6)	Ref.	0.000***	Ref.
Condom reduce pleasure					
Yes	41(35.3)	75(64.7)	2.27(1.21-4.17)		1.08(0.46-2.56)
No	36(55.3)	29(44.7)	Ref.	0.009**	Ref.
Multiple sexual partner					
Yes	17(22.7)	58(77.3)	4.34(2.27-8.33)		2.15(0.89-5.15)
No	60(56.6)	46(43.4)	Ref.	0.000***	Ref.
Level of religiosity					
Religious status					
Religious	70(42.6)	94(57.4)	Ref.		
Not religious	7(41.1)	10(58.9)	1.06(0.39-2.93)	0.905	

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 15.054, p = 0.058; Cox & Snell R2 = 0.255; Nagelkerke R2 = 0.343

Table 4.16, continued

Factors associated	Ever had sex				Multivariate logistic regression (RSB 3 vs. No RSB 3)
	No RSB 3 (n=77) n(%)	RSB 3 (n=104) n(%)	Crude OR (95% CI)	χ^2 P value	Adjusted OR (95% CI)
Knowledge of HIV					
Scores (8-16)	52(42.2)	71(57.8)	Ref.		
Scores (0-7)	25(43.1)	33(56.9)	1.03(0.55-1.95)	0.916	
Knowledge of SRH					
Scores (6-10)	30(38.0)	49(62.0)	1.39(0.76-2.53)		
Scores (0-5)	47(46.1)	55(53.9)	Ref.	0.275	
Health Belief [ii]					
Perceived severity item 1					
Serious	68(43.8)	87(56.2)	Ref.		
Not serious	9(34.6)	17(65.4)	1.48(0.62-3.52)	0.379	
Perceived severity item 2					
Serious	76(44.7)	94(55.3)	Ref.		Ref.
Not serious	1(9.1)	10(90.9)	8.08(1.01-64.6)	0.049*	9.92(1.08-90.7)*
Perceived susceptibility item 1					
Agree	47(39.4)	72(60.6)	1.42(0.77-2.63)		
Disagree	30(48.3)	32(51.7)	Ref.	0.252	
Perceived susceptibility item 2					
Agree	61(50.0)	61(50.0)	Ref.		Ref.
Disagree	16(27.1)	43(72.9)	2.69(1.37-5.28)	0.004**	1.93(0.87-4.26)

[ii] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD).

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 15.054, p = 0.058; Cox & Snell R2 = 0.255; Nagelkerke R2 = 0.343

Table 4.16, continued

Factors associated	Ever had sex				Multivariate logistic regression (RSB 3 vs. No RSB 3)
	No RSB 3 (n=77) n(%)	RSB 3 (n=104) n(%)	Crude OR (95% CI)	χ^2 P value	Adjusted OR (95% CI)
Perceived barriers item 1					
Agree	48(44.4)	60(55.6)	Ref.		
Disagree	29(39.7)	44(60.3)	1.21(0.66-2.22)	0.529	
Perceived barriers item 2					
Agree	22(36.0)	39(64.0)	1.50(0.79-2.85)		
Disagree	55(45.8)	65(54.2)	Ref.	0.210	
Perceived self-efficacy item 1					
Sure	44(41.5)	62(58.5)	1.11(0.61-2.04)		
Unsure	33(44.0)	42(56.0)	Ref.	0.739	
Perceived self-efficacy item 2					
Sure	49(39.8)	74(60.2)	1.40(0.75-2.63)		
Unsure	28(48.2)	30(51.8)	Ref.	0.285	

[ii] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD).

***p<0.001; **p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 15.054, p = 0.058; Cox & Snell R2 = 0.255; Nagelkerke R2 = 0.343

All significant variables in the uni-variate analysis between socio-demographic characteristics, CSA experience, other exposure factors and RSB 3 were included in a multiple logistic regression model to identify the significant predictors and confounders. This association is shown in table 4.17. Residential area, drug consumption, having peers who used condom during sexual intercourse and having peers who had multiple sexual partners were found to be significant predictors of RSB 3.

Respondents who lived in urban residential areas were less likely ($OR_{adjusted}$ = 0.212, 95% CI, 0.065 to 0.698, P value = 0.011) to involve with RSB 3 compared to respondent who lived in rural residential areas (reference group). The likelihood of RSB 3 was higher ($OR_{adjusted}$ = 16.949, 95% CI, 1.023 to 25.000, P value = 0.048) among respondents who reported "Yes" for drug consumption compared to those who reported "No" for drug consumption (reference group). The odds of RSB 3 was four times higher ($OR_{adjusted}$ = 4.081, 95% CI, 1.189 to 14.084, P value = 0.025) among the respondents who reported "Yes" for having peers who used condom during sexual intercourse compared to respondents who reported "No" for having peers who used condom during sexual intercourse (reference group). Respondents who reported "Yes" for having peers who had multiple sexual partners were more likely ($OR_{adjusted}$ = 6.369, 95% CI, 1.615 to 25.000, P value = 0.008) to involve with RSB 3 in contrast to those who reported "No" for having peers who had multiple sexual partners (reference group).

Table 4.17: Multivariate analysis between socio-demographic characteristics, CSA experience and other exposure factors with multiple sexual partners (RSB 3)

Socio-demographic characteristics, CSA experience and other exposure factors	**Adjusted OR (95% CI)**	**P value**
Age		
19-21		
22-24		
25 and above		
Gender		
Male		
Female		
Ethnicity ǂ		
Malay		
Chinese		
Indian		
Others		
Religion ǂ		
Muslim		
Buddhist		
Taoist		
Hindu		
Christian		
Others		
Current educational level		
Undergraduate Yr 1	0.956(0.062-14.69)	0.974
Undergraduate Yr 2	0.351(0.028-4.488)	0.421
Undergraduate Yr 3	2.698(0.332-21.926)	0.353
Undergraduate Yr 4	3.070(0.238-39.615)	0.390
Undergraduate Yr 5	Ref.	
Educational background of degree		
Engineering & Technology		
Arts		
Pure Science		
Health Science		
Family Household Income		
<RM 2000	0.451(0.118-1.717)	0.243
RM 2001 -4000	2.850(0.730-11.121)	0.132
>RM 4001	Ref.	
Family structure		
Two biological parents		
Single parent or both parents deceased		
Residential area		
Rural	Ref.	
Urban	0.212(0.065-0.698)	0.011*
Siblings		
3 and below		
4 and more		

** p<0.01; *p<0.05

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 10.500 , p = 0.232 ; Cox & Snell R2 = 0.439 ; Nagelkerke R2 = 0.590

Table 4.17, continued

Socio-demographic characteristics, CSA experience and other exposure factors	Adjusted OR (95% CI)	P value
CSA		
Yes	2.631(0.737-9.393)	0.136
No	Ref.	
Familial factors		
Family closeness		
Yes		
No		
Parental monitoring		
Yes	Ref.	
No	1.795(0.392-8.214)	0.451
Family support		
Yes		
No		
Family violence		
Yes	Ref.	
No	7.672(0.874-67.328)	0.066
Substance use		
Cigarettes		
Yes	1.636(0.401-6.667)	0.492
No	Ref.	
Alcohol		
Yes		
No		
Drugs		
Yes	16.949(1.023-25.000)	0.048*
No	Ref.	
Peer association		
Early age of Sexual intercourse		
Yes		
No		
Condom use		
Yes	4.081(1.189-14.084)	0.025*
No	Ref.	
Condom reduce pleasure		
Yes	2.227(0.543-9.174)	0.266
No	Ref.	
Multiple sexual partner		
Yes	6.369(1.615-25.000)	0.008**
No	Ref.	
Level of religiosity		
Religious status		
Religious		
Not religious		
Knowledge of HIV		
Scores (8-16)		
Scores (0-7)		
Knowledge of SRH		
Scores (6-10)		
Scores (0-5)		

** p<0.01; *p<0.05
Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 10.500 , p = 0.232 ; Cox & Snell R2 = 0.439 ; Nagelkerke R2 = 0.590

Table 4.17, continued

Socio-demographic characteristics, CSA experience and other exposure factors	Adjusted OR (95% CI)	P value
Health Belief		
Perceived severity item 1		
Serious		
Not serious		
Perceived severity item 2		
Serious	Ref.	
Not serious	24.820(0.836-73.700)	0.063
Perceived susceptibility item 1		
Agree		
Disagree		
Perceived susceptibility item 2		
Agree	Ref.	
Disagree	1.496(0.439-5.096)	0.520
Perceived barriers item 1		
Agree		
Disagree		
Perceived barriers item 2		
Agree		
Disagree		
Perceived self-efficacy item 1		
Sure		
Unsure		
Perceived self-efficacy item 2		
Sure		
Unsure		

[a] HBM variables are indicated below. Perceived severity 1: Severity of getting pregnant/impregnating one's partner, Perceived severity 2: Severity of getting sexually transmitted disease (STD), Perceived susceptibility 1: Susceptibility of getting pregnant/impregnating one's partner, Perceived susceptibility 2: Susceptibility of getting sexually transmitted disease (STD), Perceived barrier 1: barrier towards using condom as it reduces pleasure, Perceived barrier 2: barrier towards talking about using condom to the partner as he/she might think badly, Perceived self-efficacy 1: efficacy of using a condom during sex to about from getting pregnant or impregnating one's partner, Perceived self-efficacy 2: efficacy of using a condom during sex to avoid getting sexually transmitted disease (STD).

** $p<0.01$; *$p<0.05$

Model; Hosmer and Lemeshow test, $\chi 2$ (8) = 10.500 , p = 0.232 ; Cox & Snell R2 = 0.439 ; Nagelkerke R2 = 0.590

4.2 Phase II: Qualitative study

The data were analysed based on the five key categories identified below. Besides determining the respondent's background, perceptions of the female undergraduate students with relation to sexual abuse was identified:

i) Respondent's background

ii) Perception on definition of sexual abuse

iii) Perception on sexual abuse perpetrators

iv) Perception on sexual abuse victims

v) Perception on source of information of sexual abuse

4.2.1 Respondent's background

The socio-demography characteristics of the respondents' are described in Table 4.18. Fourteen focus group discussions were conducted among the female undergraduate students of University Malaya. The focus groups were grouped based on the three common ethnic groups in Malaysia (Malay, Chinese and Indian). Of the fourteen FGDs, five were Malay groups, another five were Chinese groups and four were Indian groups. Each of the focus group discussion conducted consisted of five to seven female respondents. In total, 75 respondents were interviewed among all fourteen discussions conducted.

The respondent's age ranged from 19 to 32 years. The majority of those who took part were Chinese, followed by Malays and Indians. Almost all (98.7%, n=74) of the respondents were unmarried. Most of the respondents were undergraduate year 4 students, from Arts educational background of degree, have two biological parents, live in the sub-urban and have more than two siblings at home. The family household income ranged from less than RM 1,000 to more than RM 4,000 with the vast majority earning more than RM 4,000 per month.

Table 4.18: Socio-demographic characteristics of the respondents in the qualitative study

Socio-demographic characteristics	**Frequency (N)**
Age (in years)	
19-21	11(14.6)
22-24	56(74.7)
25 and above	8(10.7)
Ethnicity	
Malay	27(36.0)
Chinese	28(37.8)
Indian	20(26.7)
Religion	
Muslim	27(36.0)
Buddhist	18(24.0)
Taoist	0(0)
Hindu	13(17.3)
Christian	16(21.3)
Others	1 (1.3)
Marital status	
Married	1(1.3)
Not married	74(98.7)
Current educational level	
Undergraduate Year 1	6(8.0)
Undergraduate Year 2	5(6.7)
Undergraduate Year 3	23(30.7)
Undergraduate Year 4	33(44.0)
Undergraduate Year 5	8(10.6)
Educational background of degree	
Engineering & Technology	11(14.7)
Arts	34(45.3)
Pure Science	15(20.0)
Health Science	15(20.0)
Family Household Income	
<RM 1000	7(9.3)
RM 1001 -2000	15(20.0)
RM 2001-3000	15(20.0)
RM 3001-4000	12(16.0)
>RM 4001	26(34.7)
Family structure	
Two biological parents	65(86.7)
Single parent	5(6.7)
Both parents deceased	5(6.7)
Residential area	
Rural	10(13.3)
Sub-urban	33(44.0)
Urban	32(42.7)
Siblings	
1	3(4.0)
2	21(28.0)
3	18(24.0)
4	15(20.0)
>4	18(24.0)

4.2.2 Perception on definition of sexual abuse

Of the three ethnic groups (Malay, Chinese and Indian), most of them had a similar way of defining the term 'sexual abuse'. All respondents recognized sexual abuse as a wrong doing. Majority of the respondents perceived sexual abuse as an act which involves force on to the victim to perform a sexual act without their consent. Additionally, a few respondents held opinions on sexual abuse as an act that initiates sexual pleasure by taking advantage on a person who is treated like a tool. Whether a sexual abuse experienced had physical involvement or not most respondents believed that it brought discomfort to the victim.

> *"While I stood in a bus one day throughout my journey back home…… a guy stood next to me and started rubbing his private part against my hand. I was so uncomfortable because at some point he was having an erection of his penis."* (CH – Chinese group, 22 years).

While defining sexual abuse, many respondents perceived the act to be related to the victims stress built up .For instance, in the Chinese community it is important for women to maintain their virginity before marriage. One respondent shared her opinion.

> *"Sexual abuse causes stress to the victim because after the incident they will not be able to continue their life's in a normal way. In the Chinese community women who are no longer a virgin are considered to be morally a loser where she will have to face the social consequences of her status. This kind of chastity and sexual purity is very important for them."* (Kelly - Chinese group, 19 years).

In addition, a handful of respondents mentioned that sexual abuse was an obscene act. When probed further, respondents emphasized on how sexual abuse involved exposing one's naked body. A few respondents described sexual abuse as a form of violation to human personality. Two Malay respondents reported that they have read about sexual abuse being classified into direct and indirect forms. Although many of them from all three ethnic groups had heard of such terminologies, majority were unable to explain the differences between direct and indirect form of sexual abuse. A Chinese respondent illustrated the following statement.

> *"Direct sexual abuse involves having sexual contact with the victim for example molest or rape, whereas indirect sexual abuse will refer to sexual acts without any sexual contact, like having sexual talk or watching pornography."* (Bee Lee, Chinese group, 21 years).

A handful of Indian and Chinese respondents perceived sexual abuse to be an involuntary act. One respondent mentioned.

> *"Sexual abuse could be a result of an individual who is unable to control his or her sexual desires."* (Lotus – Indian group, 24 years).

About half of the respondents across all the FGDs reported that the culture and upbringing of an individual influenced the perception of sexual abuse. Specifically with regard to culture it was perceived that the western culture differed from the eastern culture. When probed further, several respondents mentioned that some sexual experiences may be perceived as a sexual abuse in the eastern culture but not in the western culture.

"The eastern culture is definitely more conservative than the western culture. For instance western people may be more open and comfortable when discussing topics about their breast or figure. Such discussions may be humiliating to someone from the Eastern culture." (CM-Chinese group, 23 years).

"An incident which has been believed to be a sexual abuse to one individual may not be similarly perceived to another." (Abby-Malay, 23 years).

More than three quarter of the FGD respondents perceived sexual abuse to involve physical contact. Majority of the Malays and Chinese were more likely to perceive that sexual abuse involved either vaginal or anal penetration.

"Sexual abuse means sexual intercourse has to be convicted on the victim." (NC-Chinese group, 22 years).

"I think that sexual abuse has something to do with contact and it means having sexual intercourse." (Ran - Malay group, 24 years).

Several Malays reported rape as a common form of sexual abuse. This belief was disagreed by most Indian respondents. Overall, Indian respondents gave examples such as rape, molest, touching someone's buttock, breast or private part to be forms of sexual abuse. Most Indian respondents felt that sexual penetration was not necessary in a sexual abuse.

Several Malay respondents believed that sexual abuse did not necessarily have to be physical, it could be verbal as well. When probed, some of them reported that a

verbal sexual abuse meant teasing somebody in a sexual manner with regard to their body parts or having a conversation with sexual content. One respondent shared a personal experience.

> *"There was once when I was asked by a guy on Friendster to remove my T-shirt and put something in between my breast. Being a Muslim, I told him that it was a sin to do that and not accepted in my religion."* (Iqa-Malay group, 24 years).

Respondents strongly believed that performing such acts in front of a computer satisfied the sexual pleasure of the perpetrator and was definitely a form of sexual abuse. When asked to explain further, two respondents mentioned that the Muslim religion emphasizes that one should know how to respect another human being. They noted that humans are god's gift to this world and they should not be misused for nudism or obscene acts. Additionally, a handful of Chinese and Indian respondents reported that the use of vulgar and crude language in a conversation was also perceived as a form of verbal sexual abuse.

> *"When I went to receive a certificate from my headmaster on stage one day, I was asked by two male prefects who were constantly watching me. They commented by saying that my breast was too small and that there was hardly anything there. I felt really embarrassed and uncomfortable."* (Hilda- Malay group, 24 years).

Respondents were also questioned on how they perceived whistling in the context of sexual abuse. Many Chinese and Indians did not perceive whistling as a form of sexual abuse. Respondents from these two ethnic groups were more inclined to believe that whistling did not mean anything serious and in most situations it was done for fun.

When questioned further, Chinese and the Indian respondents felt that whistling was a common nature of boys or girls to express themselves to each other especially to the opposite sex. According to this group, whistling could be a form of greeting or an indirect way of saying 'Hi' to the opposite sex. Furthermore, respondents mentioned that whistling is commonly seen in movies and television programmes today. Although most of the Chinese and Indian respondents did not perceive whistling as a form of sexual abuse, majority of Malay respondents felt whistling was a lighter form of sexual abuse. Further probing resulted in a few Malay respondents to discuss the discomfort and disruption in freedom caused when an individual is whistled at. A Malay respondent stated.

> *"I think whistling is a part of sexual abuse. It is not a good way to attract people becuase it makes a person uncomfortable."* (Ira, - Malay group, 23 years)

One Indian respondent limited her perception and explanation to the ethnic group of the person who whistled.

> *"I would perceive a whistle that came from a guy of the same ethnic group would mean a sexual abuse. I think it is a way to attract a bond between the opposite sex."* (Liza-Indian group, 24 years).

A handful of the Chinese and Indian respondents commented that sexual abuse can be performed in a visual manner as well. When asked to quote types of visual sexual abuse, many of the respondents gave examples such as seeing something sexual or being forced to watch somebody who is naked. With regard to visual sexual abuse, an Indian respondent quoted the term 'flashes'.

"Flashes are a form of visual sexual abuse…for example in public, you find a man seeking attention by showing off his private part to others." (Abbie-Indian group, 25 years).

A few respondents noted that today's world is applicable to many forms of advance technology. They perceived that the presence of computers, internet and mobile phones has enhanced the communication skills via social networking and by uploading photos or videos. Photos and videos uploaded can be easily shared with friends or strangers. However advance the technology may be, many respondents stated that the technology available today has been misused by some individuals. Two Chinese respondents mentioned the term 'sexting'. Further probing revealed that sexting involved sending text or picture messages with sexual content via a mobile phone which has become very common among teenagers and young adults today. Snapping photos of one's topless or nude body and sharing it with friends or sexual partners through mobile phones has become widespread. One respondent illustrated the following statement.

"I had a female friend who exchanged numbers with a male friend on 'facebook'. Soon the guy started sexting photos of his naked body and his erected penis to her….asking her if she felt turned on." (KJ-Indian group, 25 years).

In addition, one respondent had mentioned that visual sexual abuse could involve viewing any sexual acts performed between two people in a video. The respondent added by stating the existence of 'Youtube' has allowed such videos to be uploaded online. A few respondents supported and perceived that this can be very disturbing to a victim, mentally and emotionally. When respondents were questioned about staring,

there were more Malay respondents who perceived staring to be a type of sexual abuse compared to Chinese and Indian respondents.

> *"Staring is an indirect form of sexual abuse. Although it does not involve any physical contact it still made an individual uncomfortable."* (Fiqah- Malay group, 22 years).

> *"Guys usually stare at girls to tackle and flirt with them…..and usually they stared at a woman's breast or buttocks."* (Jenny-Malay group, 22 years).

A few Chinese and several Indians believed it was normal for anybody to stare because it did not cause any harm. They felt that staring should not be considered as a sexual abuse. Chinese respondents commented that abuse was a strong a word to be used to describe staring. They held opinions that staring is a form of sexual harassment than a sexual abuse, because it's outcome was not impactful to the victim. One Indian respondent stated that staring was a right of a person. It was perceived that there must be something interesting or good in a person for someone to stare at them. A stare is not harmful and most of the time it is done in association with fun and entertainment. There was an Indian respondent who noted that visual form of sexual abuse did not exist and was more inclined to believing traditional forms of sexual abuse like molest and rape. It was also mentioned that today's world is a modern and free world. Therefore, it is difficult to stop somebody from performing certain acts that may contain sexual contents.

> *"If I happened to be in the same room as someone who is viewing pornography, I will not call that a sexual abuse. I feel that everybody has the right to do what*

they wish as long as it does not interfere with me because they are minding their own business. I would consider acts like molestation and rape as a sexual abuse." (Ruby-Indian group, 24 years).

4.2.3 Perception on sexual abuse perpetrators

Although many respondents noted that sexual abuse perpetrators may be of any gender regardless of age, a considerably large number of respondents perceived that males commonly perpetrated an act of sexual abuse in comparison to females. When asked why, several of them explained that the macho and strong physical appearance were main factors attributed to them becoming a perpetrator. In addition, a handful of respondents gave general comments on the high sexual drive that men have and how sex is an essential element in a man's life. Respondents were more likely to believe that sexual feelings of a man also contributed to the perpetration the sexual abuse.

Age of a perpetrator was brought up by many respondents with regard to factors which made a perpetrator who are more likely to commit sexual abuse. It was believed that perpetrators were always older than the victim. When probed further, two Chinese respondents mentioned that older individuals are usually highly respected and easily trusted in many situations compared to a younger individual. It is less likely for sexual abuse victims to doubt or feel suspicious about sexual acts performed on them with the presence of older individuals. Contrastingly, some respondents also mentioned having read about child perpetrators. A few Malay and Chinese respondents stated that it was not rare for a child to sexually abuse another child. Several respondents stressed that a child who commits a sexual abuse is usually older than the victim. There were two Malay respondents who perceived sexual acts performed by a child on to another child cannot be addressed as a sexual abuse. When questioned why, respondents gave reasons that a child perpetrator is below the legal age of accusation. However, majority of the respondents perceived that any sexual act perpetrated by a child is to be identified as a

sexual abuse. When questioned further, one respondent explained that although a child may be innocent, he or she is capable of having sexual ideas bloom in their minds. It is believed that there has to be some influence on their minds to behave abnormally and parents are to be blamed for this. With relation to parent influence a few respondents held opinions on the incorrect parental supervision which is believed to be the core factor for a child to have sexual thoughts and behave in a sexual manner with another child. The following respondent shared an article she read in the newspaper.

> "*A 6-year-old boy hugged and kissed his 5-year-old sister lip to lip while he undressed her T-shirt. The parents of these children refused to correct their doings and only ignored because they claimed that the children were only acting out a scene that they saw in the movie. I feel this is a sexual abuse because it is the parent's fault to allow and expose the children to such movies at such a young age. If the child did it to another child and the parents took it more seriously, it could become a bigger problem"* (Yaya – Malay group, 23 years)

Most of the respondents perceived perpetrators could be family members, peer, or stranger. A handful of Malay and Indian respondents stated that they commonly read about sexual abuse being perpetrated by a family member. One respondent gave explanations that a family member can easily instigate and influence a victim because of the trust and respect that has already been earned from the victim.

> *"I have read of parents, step parents and even grandmother sexually abusing the granddaughter. The dominance and stronger blood relationship certainly can make the victim create more trust in the perpetrator."* (Black-Chinese group, 22 years).

Most Chinese respondents, on the other hand, were not able to comment on the relationship between the perpetrator and the victim. There were a few respondents who perceived that the relationship of the perpetrator and the victim was dependent on the type of the sexual abuse. When asked to explain, one respondent mentioned that a perpetrator who is a family member will be more inclined to perform a contact sexual abuse compared to a non-contact sexual abuse. Contrastingly, perpetrators who are a peer or stranger to the victim will be more likely to perform a non-contact sexual abuse instead of a contact sexual abuse. As to justify further, two respondents gave reasons that a perpetrator would take more advantage by performing more serious forms of sexual abuse on a victim who has a closer relationship to them. Respondents from the Indian group perceived that sexual abuse between legally married couples was also possible. When asked to elaborate, one respondent described that if a husband forced his wife to perform sexual intercourse with him it was a sexual abuse. Another respondent explained further that sexual touching or kissing by a husband is definitely a form of sexual abuse especially if it made the wife feel uncomfortable. One respondent quoted an example with regard to this.

> *"An aunty of mine is always tortured by her husband ……forcing her to have sex with him even if she doesn't want."* (Fid – Malay group, 22 years).

> *"It is not right for any husband to have a physical contact ….even touch or kiss his wife if she was not ready or made her uncomfortable. Going against her will is a sexual abuse"* (Jen – Chinese group, 21 years).

Additionally, sexting which involves sending text messages with sexual content between married couples was also not acceptable among a few conservative respondents. A few respondents felt that power and position played a role in a relationship between perpetrator and victim triggering the likelihood of perpetrating sexual abuse. When asked to explain, many respondents perceived that a person with a dominating character or an individual in a highly authorized position is more likely to perpetrate sexual abuse. Respondents mentioned this in relation to the advantage that could be taken on a person who is less empowered.

> *"A person who lacks dominance in their status is at risk of sexual abuse. Oprah Winfrey once interviewed this guy who said that he was sexually abused by his single mother when he was a child. He thought it was normal to experience it until he became a teenager."* (Mun-Chinese group, 23 years).

Contrastingly, four Chinese respondents stated that this attitude of wanting to show off their power was common among individuals who do not gain respect in society. Such individuals were believed to take opportunity on a weaker person because they wanted to try and gain more power. Some respondents gave examples of relationships that created a difference in power between two individuals such as parent and child, lecturer and student or employer and employee.

> *"I was once abused by my lecturer in University. One day when I had to see him to discuss my studies, he got physical with me. He put his hands around my breast….and told me that if I could be his girlfriend, getting good grades in my exams will not be a problem. I pushed him and ran out of the room."* (NC-Chinese group, 22 years).

As the respondents disclosed their feelings towards who were perpetrators more likely, a considerably large number of them gave views on individuals with high risk behaviours to be more likely to perpetrate sexual abuse. Slightly more than a handful of respondents described the negative impacts of alcohol and drug consumption. When probed, few respondents pointed out that alcohol and drug intake interfere with the decision-making of an individual. As a result of the impaired decision-making it was believed that individuals with alcohol and drug consumption had tendencies to practise risky sex such as unprotected sex or have more than one sexual partner. Subsequently, one Chinese respondent acknowledged a situation when an individual may not have had an intention to perform a sexual act but the influence of other substances (alcohol or drugs) caused them to get high and become less alert on their behaviours.

4.2.4 Perceptions on sexual abuse victims

The vast majority of respondents across all three ethnic groups revealed at least having read or heard of a sexual abuse victim being either male or female. When respondents were asked on their perception on who is usually more likely for sexual abuse, a considerably large proportion of respondents felt that sexual abuse commonly happened to females in comparison to males. When probed, most of them believed that females were more vulnerable in contrast to males and that is why their risk of getting sexually abused is high. Almost half of the respondents gave further explanation on female vulnerability, because females have a weaker physical built making them easy targets for sexual abuse. In addition, a few respondents added that a female's petite physical structure does not allow them to defend themselves or fight back when they are forced to perform sexual acts.

"Sexual abuse victims are usually weak; they can't defend themselves. When comparing both genders females are the weaker sex than males. They are passive and do not fight back always." (Sue – Chinese group, 20 years).

Comparatively there were two Chinese respondents stated that males were more macho and stronger physically in comparison to females. It was believed that the stronger physical built in males allow them to handle a situation physically if they ever got sexually abused. More than half of the respondents perceived females were soft in their personality and that this increased their vulnerability to becoming sexual abuse victims. Furthermore, a handful of Chinese respondents stated that individuals with low self-esteem and low-confidence are more likely for sexual abuse.

"May be people with low-confidence and low self-esteem are prone to sexual abuse... because they don't socialize well." (Ting-Chinese group, 19 years).

It was perceived by a few Indians that although females may be vulnerable because of their weak physical appearance and soft personality, sexual abuse does happen to males as well. When questioned further, several respondents mentioned that males with similar characteristics for instance small physical built and soft personality could also be more likely to be involved in sexual abuse. One Indian respondent shared a story of a quiet and timid boy who was abused sexually as reported in the following excerpt.

"Being a lady may give others an impression that they are weak and easy going. But I do not believe in this. I know of a form four boy who was sexually abused by five other form five girls in a school. He was forced to undress and run around the classroom naked." (Abbie-Indian group, 25 years).

With regard to society, one Malay respondent revealed that among the Malay community it is a norm for all Muslim women to abide to Muslim men because women are perceived to be the weaker sex and men are believed to be more dominant. The majority of Malay respondents reported that traditional Muslim families do not give women much freedom of speech and are supposed to accept things with no changes. Similarly, a few Indian respondents revealed a similar practise called 'Patriarchy' in the third world countries which they had come across in African Literature. They described patriarchy with the frequently occurring sexual abuse that happened in African societies because females were believed to be the weaker sex and obey men at all times.

> *"I recall from African literature, society plays a role in things that can go beyond control. Patriarchy is one of the reasons. It simply means the domination of men where men are in control of the society. They always have the structural privilege over women…whether young or old and even children. And this still happens in some of the societies in the third world countries. Men feel that they have the right to dominate women and children."* (Rose-Indian group, 24 years).

When respondents were questioned further and asked to state an example, one respondent mentioned that a grandfather, father or an uncle had the rights to get sexual satisfaction from any women whether his wife or daughter.

Across all the ethnic groups, dress code was perceived to be an important factor that made a victim more likely for sexual abuse. More than three quarters of Malays and half of Chinese and Indian respondents felt that a woman dressed sexily made her more vulnerable to sexual abuse. When probed further, most of them commented that any dress codes that revealed more skin increased the risk of an individual for sexual abuse.

Three Indian respondents noted that women dress up sexily to attract the opposite sex not realising their risk of being sexually abused. Additionally, women who dress up sexily give out opportunities for men to look and have sexual feelings for them. There were some respondents who believed that men are more tempted to have physical or sexual contact when they see women dressed up with lesser clothes.

> *"The way a girl dresses up makes her vulnerable to being sexually abused. Guys are more tempted when they see girls with more skin and less cloth on their body"* (Ruby- Indian group, 24 years).

Although many Indian respondents believed that dress code was a factor for sexual abuse victimization, a small minority of them did not perceive so. When questioned further, several respondents pointed out that children also get sexually abused however they do not dress up in a sexy manner. One respondent reported the following statement.

> *"I do not agree that dress code is a factor…..because children also get abused…. but they do not dress in a way that excite men?"* (Van- Indian group, 23 years).

Another Indian respondent reported to have heard of women who are dressed up traditionally with costumes that completely covered could also become rape victims. Therefore, it was perceived that dress code does not determine the risk of an individual for sexual abuse. Majority of Malay respondents strongly believed that the act of sexual abuse can be precipitated by sexy dress codes. With regard to Islamic perspectives many respondents from all five Malay groups justified that wearing very tight, short or transparent attires which revealed their body shapes was against their religion and culture. One Malay respondent added that, the reason for covering up the natural

appearance is the best that can be done to escape from male gaze and sexual tension from the world. A few Chinese participants disagreed with the association between dress code and sexual abuse victimization.

> *"In the Chinese community it is common to dress up skimpily and with short skirts or dresses nowadays. So, the more you see the more uninterested you are. I don't think that clothing has much to do with the victim becoming prone to sexual abuse."* (CH- Chinese group, 22 years).

Other Chinese expressed that if dress code made an individual more likely for sexual abuse, the percentages of sexual abuse cases among the Chinese should be very high, however it doesn't appear to be that way. One Chinese participant added that rather than blaming it on a person's attire, certain appearances of a woman like having long hair or wearing a dress could also make the woman more prone for sexual abuse. For instance, women with a long hair let down can make the situations easier for the perpetrator to catch them. It was perceived that a long untied hair of a woman made it easier for a perpetrator to pull and attack. Similarly, a woman wearing a dress can create a much easier situation for the perpetrator to have sexual intercourse compared to if she was using a pant. It was believed that removing the pants of an individual to rape them would be harder and more time-consuming for a perpetrator than lifting up a skirt or a dress of the victim. It was also perceived that carrying certain objects reduced the risk of an individual getting sexually abused.

> *"It could be even harder for a perpetrator to attack and sexually abuse someone who is carrying an object like an umbrella."* (Black –Chinese group, 22 years).

Many Chinese and Indian participants believed that in this modern era, woman should have the rights to dress the way they like and are comfortable with. When probed, a few respondents gave reasons that it is a free world and there should not be strong rules for clothes we wear.

> *"We are in the 21st century. Men and women are in par, they can actually dress up the way they want. I don't think that dressing makes them prone to becoming sexual abuse victims. We should have rights to do whatever we want provided that it is not against the law of the country."* (Ruby-Indian group, 24 years).

A few respondents stated that it is only important for the right dress code to be worn at the right time and to the right place. For example, dressing up skimpily in the bedroom while a woman is with her husband is certainly not forbidden. Additionally dressing up for any formal events such as work and functions should also have their specific limits.

A considerable number of respondents believed that good looks also accounted for being prone for sexual abuse. When probed further, a few Malay and Indian respondents referred good looks as fair complexion and having beautiful features. Among all respondents who perceived good looks to be a factor for an individual to be easily sexually victimized, a handful of them considered good looks as a factor only applied to female victims and did not matter to a male victim.

> *"I think that looks play a role for victims who get sexually abused only if it is a female. For males I don't think that looks are important."* (Liza-Indian group, 24 years).

With regard to a woman's physical appearance many respondents perceived that women who are curvaceous and luscious are more likely to get sexually abused. Few respondents illustrated by commenting on how the sexual urges of a man can become totally uncontrollable if they saw a sexy woman. On the other hand one Malay respondent reported it is not rare for a feminine looking male to get sexually abused. After further probing, the respondent revealed a known scenario of a guy friend who was mistakenly abused sexually by another man simply because he had a girlish appearance.

> *"I have a friend who has been sexually abused by a man. I think it is because he was mistakenly looked at as a girl. I should say he is a very 'pretty boy'. His looks eventually made him become a victim. So I would say, a feminine looking man is more prone."* (Iz Malay group, 23 years).

In that case, the male's vulnerability was explained by his feminine appearance. Few Chinese respondents had a different opinion saying that different genders did not interfere with looks. It was well accepted that a good-looking male or female could equally be at risk of sexual abuse. Additional probing revealed that it is normal for sexual feelings and desires to get stimulated when a perpetrator sees a good-looking person. Subsequently, it was noted by one respondent how women go crazy and easily mesmerized upon seeing a handsome man who is, for example, well built with six packs. Comparatively, it is believed that the masculinity is equally regarded as sexy to a woman and it could entice sexual excitement to a women's sensual feelings. Nevertheless, one Chinese respondent perceived that good looks did not matter for a perpetrator to sexually abuse the victim. It was further revealed by a respondent in the

discussion that as long as an individual is physically a female no perpetrator will want to think twice to sexually abuse the victim.

> *"I disagree with looks. Perpetrators don't care. Most of the time a rapist goes for easy targets rather than the looks. As long as it is a female and has a vagina…that is all that they want."* (Mun- Chinese group, 23 years).

Overall, most of the respondents noted that sexual abuse victims were frequently children or teenagers. About half of the respondents gave reasons that children were naive and it resulted in them being vulnerable for sexual abuse. When the respondents were questioned further about children's naivety many held an opinion that children easily obey and follow instructions ordered. A few respondents reported that children are naturally obedient and more compliant to any request if they are rewarded with candies, chocolates, or toys. It was believed that due to their naivety, children were also capable of trusting anyone around them whether family members or strangers. In addition, one Chinese respondent stated besides a child's innocence children are easily threatened as well.

> *"When a victim is told not to tell anybody about the incident, they will not. Because they get threatened also at times and fear telling anybody."* (Bell- Chinese group, 24 years).

In most cases the victim fears that something bad will happen to them if they had ever disclosed the sexual abuse experience to someone. Another respondent shared an experience as reported in the following excerpt.

"I was 9 years old when my mother used to leave me in one of the market stalls while she went to get her marketing stuff. There was an old man in that stall (my grandpa's friend). Few times he tried to touch me around my breast….and when I pushed him away he would say 'It is nothing…..you are not hurt, there is no blood'. Although I wasn't aware that I was experiencing a form of sexual abuse, today when I look back at what happened….I feel sorry for myself." (Pei-Chinese group, 20 years).

Additionally, a considerable number of respondents revealed that children did not know how to differentiate between what was right and wrong. Almost all respondents perceived that children would not know if a sexual act performed on them is wrong.

"It is easy to tell a child to do something and tell them that it is the right thing to do although it is wrong. When a child is asked them to remove his or her clothes…they will probably just do it without knowing that it is wrong." (Jenny-Chinese group, 22 years).

With regard to influence, a handful of respondents stated that children were easily influenced especially if they have been guaranteed of some reward or gift. When probed further, a Malay respondent mentioned that giving chocolates and little gifts to a child was a form of mental bribery against the child's naivety. When the moderator questioned about teenagers and how they are prone for sexual abuse, most respondents perceived the innocence of a teenager is what that causes them to be easily manipulated. Two Chinese respondents explained further that the experimental behaviour of a teenager can cause them to be easily victimized sexually. When probed, respondents

pointed out that the curiosity among teenagers to try new things especially getting involved in a sexual activity can be quite interesting for them.

When respondents were brought into discussion about other possible factors that could made a victim more likely for sexual abuse many addressed an individual's personality or character to contribute to the risk of sexual abuse. More than half of the study respondents perceived that individuals with weak personality and innocent characteristics easily trust others making them more vulnerable to sexual abuse. Two Indian respondents mentioned about women who displayed sociable and talkative behaviours were at a higher risk of sexual abuse. It was believed that such women can be easy going and easily give opportunities to the opposite sex to take them for granted.

> *"Women who have very sociable and talkative behaviours can be victims. Getting too friendly and physical with a guy can stimulate a guy's view. It is not wrong for a guy to feel that it is a signal that he too can hold her hands and may be take advantage of touching her body in certain areas in a very sexual way."* (Nita- Indian group, 24 years).

Several Malay respondents also indicated that males can have sudden sexual feelings towards females when they are easy going and too sociable although the female did not have intention or thoughts to be sexual with them. Additionally, a few Malay respondents noted that some females only mixed around with male friends. They perceived body language played a role towards the proneness for sexual abuse.

> *"Girls who are overly 'manja-manja' [love being pampered] with the opposite sex can easily be taken for granted*." (Lotus- Indian group, 24 years).

Further probing resulted in many Malay respondents to believe that women who displayed such behaviours did not look at friendship through the perspective of religion and faith. It was further explained that instead of looking after and maintaining a relationship between two friends of the opposite sex, the chance of having a sexual feeling between these two individuals can be very high.

> *"There are many females who like getting close with males. By doing this, I feel that the friendship is not taken care of following the Islam religion… they tend to go overboard. This can lead to a different feeling inside their hearts. Even if the girl doesn't feel anything, men are more prone to having sexual thoughts about a woman and henceforth taking advantage on the woman."* (Zaza-Malay group, 23 years).

Majority of the Malays and a handful of Chinese and Indians reported similar opinions. They indicated that although a woman does not feel anything, it is quite normal for a man to have sexual thoughts about a woman who moves very closely with them resulting in the man to take advantage on the woman. However, there were more Malay respondents compared to Chinese and Indians who felt that women should know their limits towards a guy and not over react in some situations. A Chinese respondent gave views on daring individuals who like experimenting on new experiences with the opposite gender. It was perceived that such sort of behaviours could increase the risk for sexual abuse on that individual. A few respondents also reported to have heard of metrosexual men who take care of their appearance to always look good. It was perceived that metrosexual men usually had a highly sociable character to attract other men or women for a sexual relationship which could increase their risk of becoming sexual abuse victims.

"A metrosexual guy may be easily forced to perform sexual acts and indirectly getting sexual abuse. They are guys who take care of their appearance and get involved in a lot of social events." (Yui-Chinese group, 27 years).

A considerable number of respondents agreed that the risk of getting sexually abused can be high among individuals with poor sexual abuse knowledge. In most sexual abuse cases, respondents perceived that victims lacked awareness on sexual abuse.

"Victims are not educated about what sexual abuse is…that will make them more likely for sexual abuse." (Ran-Malay group, 24 years).

One respondent stated that proper awareness and adequate sex education on sexual abuse will definitely reduce the accelerating rates of sexual abuse cases. Many respondents felt that very little has been implemented by the appropriate authorities to enhance sex education among the public. Further probing revealed that children are an important group to be tackled and given the proper sex education because they are generally at a higher risk for sexual abuse. Additionally, older children or teenagers will only be aware if there had enough knowledge or exposure to the risk of getting sexually abused. From the religious context, Indian respondents stated that across the Indian community, sex is a very sensitive topic for discussion among the family members.

"Usually Indian parents won't teach or talk about sex to their children. I would say that conversations on sex in Indian homes…..are extremely rare." (Nita-Indian group, 24 years).

Many Chinese respondents also reported that any discussion on sexual issues at home was totally forbidden. A few Chinese shared opinions that talking or enquiring about sex made Chinese parents more furious and suspicious about their children's characteristics. Among the Malay respondents, only a handful of them agreed that the lack of sex education increased an individual's risks for sexual abuse. When questioned why, many respondents reported that although sex was a sensitive topic, most Malay families did not perceive discussions on sex a taboo. Several Malay respondents reported that conversations on sexual issues were freely carried out among parents and siblings because some Malay parents believed that it was a way to expose the children on the sexually related issues.

A considerably large number of respondents felt that certain environments predisposed the likeliness of sexual abuse. Respondents described that certain settings in an environment increased the risk and vulnerability of an individual for sexual abuse. Most Chinese respondents noted that being in dark surroundings increased the risks for getting sexually abused. When respondents were asked why dark areas increased an individual's vulnerability to sexual abuse, many held opinions that areas with less lighting or visibility had put the perpetrators at a greater advantage as they did not have to worry about anybody spotting them. On the other hand, a handful of Malays and Indians perceived that being in lonely places with fewer people or movements could also increase the risks of sexual abuse. In addition, a few Chinese and Indian respondents also identified certain familial situations such as living with a broken family or being in a family with multiple parental issues increased the risk of sexual abuse in victims.

"I know of a single parent child….where her biological mother was divorced and had a boyfriend who abused her sexually. So I would say, coming from a broken family background can cause such ill happenings too." (Vissa-Indian group, 23 years).

In addition, parents who frequently consume alcohol or drugs may tend to prey on their children or spouse to release their stress remarked an Indian respondent. Another Indian respondent shared and elaborated on a real scenario as illustrated in the following statement.

"In Singapore, there was a case of a widowed teacher (40 years) who frequently dated her son's friend (15 years). One day the son accidently found the both of them naked and making love in the bedroom. She was charged in court because he was a minor and under age." (Sera- Indian group, 28 years).

The vast majority across all ethnic groups perceived a few medical and health conditions to increase the risk of sexual abuse. Physical or mental disability, deaf and dumb and Down Syndrome were the few medical conditions mentioned by several respondents in relation to an increased risk for sexual abuse.

"Those with disabilities are more prone I would say. I have read recently about 2 girls who raped an autistic boy. He was not capable of defending himself." (Nicky-Chinese group, 23 years).

Most of the respondents mentioned that having any of these medical conditions are definitely an added advantage for the perpetrator to sexually perpetrate a victim. When

they were probed further, majority held the opinion that most of the victims do not know what has happened to them and even if they were to tell anyone it can be difficult for others to believe what they say.

> *"A care taker working in a disabled home took advantage of a 4-year-old Down syndrome girl and raped her. The child was a slow speaker, therefore nobody knew until it was noted that the child was bleeding from the vagina."* (Vissa-Indian group, 23 years).

4.2.5 Perception on source of information on sexual abuse

Of all the three ethnic groups interviewed, most of the Indian respondents stated that their information about sex had been thought to them by their siblings or mother during the period when they came of age. A few of them added by saying their mother would explain about the dos and don'ts if they mixed with boys.

> *"My uniform in kindergarten and school was a skirt, so mother got me a pair of shorts to wear with the skirt. She said if my skirt ever got lifted up no matter how I sit……it wouldn't look so bad exposing my panty."* (Loges-Indian group, 24 years).

A fairly large proportion of Malay respondents on the other hand admitted having learned about sex from their parents or siblings when they were in secondary school. However, majority of the Chinese and a handful of Malays admitted that most of their knowledge on sexual issues was gained from peers. Due to the conservativeness of the family background a few of them identified reasons that sex was a taboo and a very

sensitive topic to be discussed at home. When probed, a Chinese respondent stated that most of the time Chinese parents felt uncomfortable to initiate any talk about sex.

> *"My knowledge about sex was all gained from friends and the television. My family is conservative when it comes to sharing issues like this…. anyway it is quite common for Chinese families to feel that their children are never matured enough to know about sex."* (Mun-Chinese group, 23 years).

> *"I came across the word 'oral sex' in the magazine when I was 13. I tried to 'google' the meaning of it and couldn't believe the information and disgusting pictures came out from my search. Next day in school I confided with my best friend to clear my doubts."* (Trex- Malay group, 21 years).

Focus group members gave different responses when they were asked about their preferred source of information preferred to gain more knowledge on sexual abuse. About half of the respondents and most of them were Chinese. Additionally, a few respondents shared their views on how governmental and non-governmental websites on the internet can benefit the public by posting information on sexual abuse and ways to avoid it. Since internet is the closest medium to the current generation majority commented that social networking is common among youngsters today. They explained by stating youngsters are more likely to surf the internet and click on a link rather than pick up a magazine or a book to read. One Indian respondent added that typing out the term 'sexual abuse' online can give an individual abundance of information. It was also expressed that in this era, any information about the whole world is in our hands with the existence of the 'google'. On the whole, about two-fifths of the Malay respondents showed increased interest in reading from real life story or articles written by sexual

abuse victims. Another respondent from an Indian group perceived that reading real scenarios can make a person more cautious besides it guides them to take necessary precaution in such situations. Nevertheless, sexual abuse information published in newspapers and shown on television are perceived as important to educate the community. Further probing revealed that the older generation who may not be very familiar with computers and will still rely on various forms of mass media to gain information on sexual abuse.

> *"The older generation (people who are 60 and above) rely a lot on mass media rather than surfing online and reading. At least this by way they can educate the young generation about it."* (Ran-Malay group, 24 years).

Furthermore, information on the television can also help convey a message easily among groups of people who do not frequently read or find it challenging to comprehend written articles. Indian respondents generally preferred reading books or any other reading materials in order to enhance their knowledge on sexual abuse. Many Indian respondents agreed that it was good to read from real life experiences of sexual abuse victims.

> *"I would like to read books written by raped or sexual abuse victims where they can share their real life situations. They don't need to show their face but there is a way to express their experience."* (Loges- Indian group, 24 years).

A small proportion of respondents across all ethnic groups also highlighted that they would prefer sex education to be taught to children in schools to increase their awareness since children are the most vulnerable group for sexual abuse. A handful gave

reasons that children do not have access to internet, therefore sex education in school can benefit them a lot. In addition, Indian respondents shared their concerns on having awareness campaigns that teaches the community on the dangers of sexual abuse. For some respondents, just looking at words in the newspaper and magazines could bring more boredom compared to an awareness campaign that involves a lot of fun activities, games, quizzes and prizes to win.

More than half of the Indian respondents interviewed felt that parents played a more important role in giving sex education compared to schools. When probed, it was believed that children spent more time with their families at home than in the school.

> *"I think that parents should play a role. Parents should take time and explain to their children about sex. It will be wiser to put away shame and discomfort when talking and educating their children on this topic as it is only for the benefit of their children."* (Liza-Indian group, 24 years).

There were some respondents who believed that daughters should receive sex education from their mothers and sons should receive it from their fathers.

> *"Mothers can easily create a trust with their daughters and by educating them on sexual issues it can certainly build a special bond between the both of them. The same goes for fathers and sons. As a result, daughters and sons will feel free to talk openly to their mothers or fathers about se*x." (Ally-Indian group, 24 years).

A few of them held an opinion that it was easier for each family to teach their children compared to a school trying to teach and handle so many children at one time. Furthermore in schools, children may not completely understand what is being taught

and if they had questions they will feel ashamed to clarify their doubts in front of so many of their peers remarked a few respondents. On the other hand, majority of conservative Malay and Chinese respondents perceived that schools should expose children on sex education.

> *"I think it is important that schools implement sex education. There is no guarantee that every parent is going to expose their children on this topic. Moreover, Chinese parents feel that by allowing the child to seek information on sex on their own leaves their children innocent and pure in mind. They also perceive that sharing and talking about sex can bring negative impacts on the child's mind. For them, the lesser you know, the better."* (Nicky Chinese group, 23 years).

Additionally, one Chinese respondent stated that since it is a taboo for Chinese parents to talk about sex to their children, it is better for the children to learn it from outside sources first. Another Chinese respondent added that parents in the Chinese community experienced shame and discomfort if they had to discuss sexual issues with their children. It was strongly believed that exposing or discussing issues on sex may cause the children to go ahead and do it rather than protect themselves from it. With regard to sex education in schools, two Indian respondents commented on the current syllabus of the human reproductive system taught in form three Science class. With the presence of these classes it was believed that student's still had a poor understanding.

> *"The whole sex education given to in Form three students needs to undergo a complete revision. Students were confused and there were boys who used to ask 'when you have your period does it come out one time and where does the blood*

come from?' This is because the syllabus does not emphasize on important facts." (Van- Indian group, 23 years).

This resulted in poor understanding of students who attended the Science classes. Although many of the Chinese and Malay respondents felt that schools had to get involved in sex education, one Malay respondent disagreed. It was perceived that if parents faced problems in educating children about sex, older siblings could do the favour. When probed further, the respondent gave reasons that a smaller age difference between siblings can make the process of communication regarding sexual issues much easier in comparison to a larger age gap between parents and children.

CHAPTER 5: DISCUSSION

5.1 Phase I: Quantitative study

5.1.1 Prevalence and significant socio-demographic characteristics of CSA experience

From this study it is clear that CSA experience is not uncommon in Malaysia. CSA has been and continues to be a social and diagnostic challenge to the society (Csorba et al., 2005). From the broad definition of CSA used in this study it is found that the overall prevalence of CSA experience is 38.3%, with the rates being higher for females than males. The prevalence rate of CSA in this study is five times more than a study conducted by Amar et al. (1996) 20 years ago. The study by Amar et al. (1996) was the first ever study to estimate prevalence rate of CSA cases reported in Malaysia. According to Amar et al. (1996), the prevalence of CSA experience among paramedical students in Malaysia was only 6.8% (Amar, TYiing, & Hajah, 1996). One possible explanation for the high prevalence rate found in this study in contrast to that by Amar et al. (1996) could be due to the survey method used. CSA being a sensitive issue questioned in an online survey could have more likely attracted the interest of young people who might have had such experiences. This is probably less likely to happen in a self-administered or class room questionnaire in the past or even in recent years. Several other studies on CSA experience in China and Saudi Arabia had reported a prevalence rate of 8.0% (K. Chan et al., 2013) and 14% (Almuneef et al., 2016) respectively. A meta-analysis on prevalence of CSA around the world that covered 217 publications reported a low prevalence in Asia compared to all other continents (Stoltenborgh et al., 2011). Contrastingly, there are a few Western studies (D Finkelhor, 1979; Okur & Leontien, 2015) that have reported a much higher prevalence rate of CSA compared to that reported by Amar et al. (1996). For instance, a prevalence study

on CSA cases by Finkelhor et al. (1979) conducted in New England and Boston reported a prevalence rate of 19% and 15% respectively (D Finkelhor, 1979). Another study in Netherlands noted 42.9% of study respondents to have experienced at least one type of CSA before the age of 18 years (Okur & Leontien, 2015).

The Department of Social Welfare Malaysia has found CSA cases to be continuously increasing over the years (Department of Social Welfare, 2010). It is interesting to note how the prevalence rate obtained in this study has increased markedly and is as high as some of the Western studies. Researchers have viewed the possibility of increased literacy rate among the study sample to result in the high prevalence rate obtained in this study. The increased literacy rates amongst the students might have caused most of the CSA victims to come forward and report the experience to relevant authorities. The literacy rate in Malaysia is about 90% and has been said to be the second best country among the ASEAN countries (Muhammad Hussein, Subramaniam, & Wan Jaafar, 2013). There is a possibility that the increase in CSA reporting reflects an improved awareness on the community's responsibility to prevent CSA cases (Amar et al., 1996). Besides that the cultural beliefs and lifestyle situations among the Malaysian community might have undergone drastic changes over the years. Across time the change in people's mentality might have made them to think that some of their traditions are ridiculous and meaningless (Muhammad Hussein et al., 2013). Therefore, people might have amended their traditional practices to suit their current preferences and lifestyle (Muhammad Hussein et al., 2013). Twenty years ago, it might have been common for Malaysians to be bound by sociocultural taboos that prevented them from sharing a history of CSA with anyone. The collectivist culture that is widely practised among the Asians would not have allowed victims to disclose their experience of CSA (Stoltenborgh et al., 2011). This is probably due to the strong influence of culture on disclosures (Fontes & Plummer, 2010). CSA victims had rather kept their

experience a secret and not tell anybody, not even their family members to avoid shaming and fear from stigmatization (Olafson, 2011). Secondly, the high prevalence rate of CSA experience in this study could have been attributed by the detailed questionnaire used. The questionnaire questions on specific types of sexual abuse experienced whether contact or non-contact. This might have made it even easier for the respondents to recall the experience of CSA. Furthermore, female respondents made up 60% of the study sample and it has been documented in previous studies that females are at a greater risk of experiencing CSA (D. Fergusson, Lynskey, & Horwood, 1996; D. Finkelhor, 1993) compared to males. Therefore, having a large percentage of female respondents might have resulted in a high prevalence rate. Lastly, different assessment methods, target groups and time periods could have also contributed to the higher prevalence rate of CSA experience in the present study compared to that conducted by Amar et al. (1996). For instance, the online survey conducted in this study might have attracted more respondents with CSA experience to take part in the study considering the sensitivity of the issue discussed compared to a self-administered questionnaire.

Several implications appeared from the socio-demographic data collected from the current study. Socio-demographic characteristics such as age, gender, ethnicity, religion and educational background of degree of respondents were found to be significantly associated with CSA experience. Age of study respondents was found to be significantly (P=0.002) associated with CSA experience. A larger proportion of younger (19 -21 years) respondents reported CSA experience compared to the older (25 years and above) respondents. This finding correlates with the findings of Anwar et al. (2010), in a study among school students in Malaysia (Anwar et al., 2010). The study reported that as students get more matured, they tend to hide the reality because they feel uncomfortable sharing personal experiences (Anwar et al., 2010). A similar finding was found in a study in South Africa among a sample of heterosexual men (Icard et al.,

2014). The study stated that the likelihood of younger men reporting CSA experience was higher than older men because older men faced difficulties in acknowledging their experience of CSA (Icard et al., 2014). So far it has not been documented in previous literature reasons for this association between respondent's age and CSA experience. However, one possible reason for this finding could have been due to the attitudes of the younger respondents who wanted to come forward and seek help but not the older respondents. Older respondents might have wanted to keep the CSA experience more personal to maintain their dignity.

This study found a significant association between gender and CSA experience. The prevalence rate of CSA experience in this study was higher in females (41%) compared to males (33.2%). Many international studies have demonstrated similar findings with regard to gender and CSA experience. For example, a study conducted by Roode et al. (2009) in New Zealand reported 30.1% of women and 9.1% of men to have experienced at least one type of CSA (Roode et al., 2009). Following another study in Egypt, it was found that, the prevalence of CSA experience was 21.2% in males and 37.8% in females (Aboul-Hagag & Hamed, 2012). In fact many Western studies have showed CSA to be more likely directed to females compared to males which happens to be the case in this study (Holme & Slap, 1998; H. Kar & O'Leary, 2010). One possible explanation for the high prevalence rate of CSA experience among female respondents in this study could be attributed by the female vulnerability (Humphrey & White, 2000; MacMillan et al., 2013). Females in many societies are referred to as sensitive and gentle, whereas males are known for their aggressiveness, dominant decision-making and competitiveness (Sugihara & Katsurada, 2000). It is due to the female vulnerability that makes females gain freedom much later than males and most of their activities are usually scrutinized by their parents (Choo & Dunne, 2011).

The low prevalence of CSA experience found among male respondents in this study can possibly be attributed by issues related to gender perspectives. Many studies has shown that male victims have a problem to disclose their sexual abuse experiences compared to female victims (Frias & Erviti, 2014; Mohler-Kuo et al., 2014; Pereda, Guilera, Forns, & Gómez-Benito, 2009; Wihbey, 2011). Reporting an experience of sexual victimization can undermine the concepts of masculinity in a man (Pereda, Guilera, Forns, & Benito, 2009) and can be considered as 'un-manly' (Malkovich & Jaffe, 2010). According to a study by Homma et al. (2012), it is an individualistic desire of many men to keep childhood sexual experiences a secret so that they do not get stigmatized or looked at as feminine or a gay (Homma et al., 2012).

Ethnicity and CSA experience was found to be significantly associated in this study. Almost 50% Indians, 41% Malays and 32.4% Chinese reported CSA experience. This finding is in contrast with an earlier study conducted in Malaysia (Amar et al., 1996) where it was found that Chinese minorities had the highest risk of CSA in contrast to all other ethnic groups. Until today there is no supporting evidence in previous literature to explain the significantly higher proportion of Indian respondents who experienced CSA in this study. However, one possible explanation for this finding could be due to the cultural factors in a particular ethnic group that contributes to the disclosure of CSA (Fontes & Plummer, 2010). There is a possibility that some cultures may prevent an individual from disclosing any experience of CSA. There are a few Western studies that have found ethnicity to be significantly associated with CSA experience (Okur & Leontien, 2015; Ullman & FIlipas, 2005; Wyatt et al., 2002). According to Okur et al. (2015) a study in Netherlands between four non-western ethnic minority groups (Surinamese, Turkish, Moroccan and Dutch Antillean) and the native Dutch showed a significant association between the ethnic groups and CSA experience (Okur & Leontien, 2015). The Moroccans reported a significantly higher rate of CSA

and the Dutch Antilleans reported a significantly lower rate of CSA compared to the Dutch (Okur & Leontien, 2015). Similarly, another study in California among a sample of Latina, European American and African American women, showed that African American women more likely to report CSA experience in comparison to all other ethnic groups studied (Wyatt et al., 2002). Therefore, future research is needed to examine the in-depth association between cultural aspects of different ethnic groups in Malaysia and CSA experience.

Although in the analysis, religion and educational background of degree was significantly associated with CSA experience, there is no published literature that has demonstrated similar findings as this.

5.1.2 Types of CSA experience

More than one-third (38.3%) of the study respondents in the current study reported having experienced at least one type of sexual abuse before age 18. The most common CSA experience reported was 'forced into sexual talk'. Higher proportion of females reported most of the CSA experience compared to males. Only 'Forced to have anal intercourse' was higher among male respondents compared to female respondents. Among all the non-contact CSA experience most of the respondents had experienced 'Forced into sexual talk', followed by 'Witnessed somebody masturbate', 'Forced to watch sexual pornography on videos/magazines/photos', 'Forced to pose naked' and 'Forced to watch sexual scenes'. In relation to the contact type of CSA experience, majority of the respondents reported to have 'Experienced someone touched/fondled with their genitals/breast'. The occurrence of penetrative CSA among respondents in the current study was 11.8% for vaginal intercourse and 7.1% for anal intercourse. Although there were many respondents who reported having experienced at least one type of CSA, the prevalence of penetrative CSA was lower compared to all other types

of CSA experience reported in the current study. The rationale behind this finding has not been investigated further. However, it can be postulated that the reason for this finding could have been attributed by the conservative cultural practises of the Malaysian society. According to Kamaruddin et al. (2000), barriers to reporting sexual abuse include societal discrimination against people who have been sexually abused and cultural taboos in relation to 'losing face'(Kamaruddin, 2000). Moreover, it has been documented that a considerably lower prevalence of penetrative CSA can be found among communities that are conservative and sensitive to sexual issues (Chen et al., 2004). For instance, in China it is believed that children and adolescents do not and should not have sexual experiences (Chen et al., 2004).

From the high rates of CSA experience reported by the study respondents in this study, it can be concluded that young adults be given additional assistance for early screening of sexual abuse histories. Secondly, it is crucial that greater public awareness and services towards prevention of CSA be given to all affected children and families.

5.1.3 Knowledge of HIV, Knowledge of sexual and reproductive health and Health belief.

The study results revealed that the knowledge of HIV among university students was moderate. The total mean score of knowledge of HIV was 8.7 out of 16 points. However, there is a need to improve the misconceptions among the study respondents. For example, about half the proportion of the respondents believed that they could get HIV if they had anal or oral sex with anyone. For those who were unaware that an infected HIV person does not show serious signs and symptoms will be at a higher risk of contracting HIV because their partners appeared to be healthy. The results also showed that almost two-thirds of the study respondents believed that taking a HIV test one week after having sex with an infected person will reveal their HIV status. There

was a significant gender difference in knowledge of HIV with males having more knowledge on HIV than females in this study. This finding is consistent with a study conducted by Li et al. (2004) in China (Li, Lin, & Gao, 2004). A significant difference in mean scores was also seen among the different ethnicities in this study where Chinese scored the highest for HIV knowledge followed by Indians and Malays.

With regard to knowledge of sexual and reproductive health, the total mean score indicated from the data was 4.5 out of 10 points. This shows that there is inadequate awareness on knowledge of sexual and reproductive health among the study subjects. Many respondents in the current study were unaware that a woman could get pregnant at any time of the month even on her periods and that the use of contraceptive pills/ morning after pills is more effective the earlier it is taken after sex. The issue of limited awareness on sexual and reproductive health among Malaysian adolescents can be linked to religion and cultural norms (Mustapa, Ismail, Mohamad, & Ibrahim, 2015). One of the possible reasons could be because Malaysia is a conservative country with predominantly Muslims. The present study showed a significant difference in the total mean score for gender, age and ethnicity. Male respondents in this study had a higher total mean score for knowledge of sexual and reproductive health compared to females. This finding is in contrast with that conducted by Rahman et al. (2011) among school students, where female students revealed a significantly higher mean score for knowledge of sexual and reproductive health compared to males students (Rahman et al., 2011). In this study, respondents aged 25 and above had the highest total mean score for knowledge of sexual and reproductive health compared to respondents of other age groups. With relation to ethnicity, Chinese respondents had the highest total mean score among all other ethnic groups. Although Malaysia is a multi-ethnic country, addressing sexual and reproductive health among adolescent group can be challenging (L. Wong, 2012). From the results of this study, the authors conclude that educational efforts have

to be implemented by targeting the population with poor sexual and reproductive health knowledge. Firstly, essential sexual and reproductive health education has to be provided in all secondary schools. Secondly, health providers have to be trained with good knowledge, attitudes and counselling skills to acknowledge young people and create awareness on sexual and reproductive health. Non-governmental organizations should play a role in providing sexual and reproductive health services by drawing experiences and practises to inform national standards of service delivery to government facilities. Parents and community leaders are also needed to create an environment for sexual and reproductive health.

Among all the HBM constructs examined in this study, majority of the respondents perceived it to be serious if they did not use a condom and got pregnant, impregnated their partner or acquired a STD. This finding probably indicates that a large majority of the study respondents were aware of the health risks related to not using a condom during sexual intercourse. Slightly more than half of the study respondents agreed that they were not susceptible to pregnancy, impregnating their partner or acquiring a STD. Their perception towards susceptibility was determined by having sexual intercourse during the safe period of the menstrual cycle or practising withdrawal method to avoid from pregnancy. Pregnancy occurs when sexual intercourse happens during the fertile period of the woman's menstrual cycle. Many of them also believed that having sex with a person whom they trusted will not put them at risk of contracting HIV. Respondents who perceived and agreed that condom reduced pleasure might have been reporting based on their experience. The perception about condom use and reduced sexual pleasure has been reported in previous literature (Newton et al., 2014; Njau et al., 2013; Randolph et al., 2007). Using condoms not only hinder the sexual pleasure but is believed to reduce sensitivity (Randolph et al., 2007). The fact that condom reduce pleasure could have contributed to the perceived self-efficacy

where slightly more than half of the study respondents were sure that they will use a condom during sex to avoid from pregnancy or STD.

5.1.4 Significant socio-demographic characteristics of knowledge of HIV and knowledge of sexual and reproductive health

It is interesting to note that male respondents in the present study have been significantly knowledgeable with regard to knowledge of HIV compared to females. This finding is in contrast with a study in Malaysia by Wong et al. (2008),that revealed females had a better HIV knowledge compared to males (L. Wong, Chin, & Low, 2008). In fact many other studies (Folasayo, Oluwasegun, Samsudin, & SAudi, 2017; Samkange_Zeeb, Mikolajczyk, & Zeeb, 2013) conducted in different countries have shown findings that are in agreement with that of Wong et al (2008) in Malaysia. One possible reason for males having a better HIV knowledge compared to females in this study can be explained by the male's right to dominate females. According to Burgoya et al. (2008), gender differences that always favour males could result in females being poorly educated, dependent on men for their social and economic spheres, culturally imposed taboos; all of which contributes to females being less informed on the domain of HIV knowledge (Burgoya & Drummond, 2008). This study also showed that respondents who were Chinese by ethnicity and Buddhist by religion significantly had a higher HIV knowledge compared to respondents of other ethnic groups and religion. The significant association between ethnicity and religion with knowledge of HIV was also demonstrated in previous literature (L. Wong et al., 2008; Zulkifli & Wong, 2002). This statistically significant association with Chinese being the highest proportion to score 6-18 for knowledge of HIV can possibly be explained by the different levels of HIV education received by different ethnic groups of people according to culture practised. Although discussions about sex may be a taboo among the Chinese

community, the authors view that the higher levels of education and internet usage among the Chinese respondents in this study might have resulted in their HIV knowledge being higher than respondents from all other ethnic groups. HIV knowledge in the current study also appeared to vary with other socio-demographic characteristics with the highest knowledge among undergraduate year 5, Health Science educational background of degree and having 3 or less number of siblings. Similar findings were reported in an earlier study (Folasayo et al., 2017) which also found higher knowledge of HIV among students from health science educational background of degree. According to Folasayo et al. (2017), health science students were 6 times more likely to have a good knowledge on HIV compared to the non-health science students and this could be explained by the compulsory sexual health topics that have been included in their curricula (Folasayo et al., 2017).

Overall, 64.5% (n=893) of study respondents achieved a score of 0-5 for knowledge of sexual and reproductive health. Age, gender, ethnicity, religion, current educational level, educational background of degree and residential areas were significantly associated with knowledge of sexual and reproductive health. A significantly larger proportion of younger respondents (19-21 years) scored 0-5 for knowledge of sexual and reproductive health. This finding could probably imply that younger respondents are less experienced in life and may not have been exposed to basic information on sexual and reproductive health as compared to older respondents. As age increases the exposure for sexual and reproductive related issues also increases (Abajobir & Seme, 2014). Furthermore, the authors view that there might be a possibility of sexual literacy varying across different ethnic groups. A high proportion of Malay respondents in the present study scored 0-5 for knowledge of sexual and reproductive health showing that they achieved a relatively low score compared to other ethnic groups. Although there is no supporting literature to explain this significant

association, the authors of this study believe that this finding could have been attributed by the influence of religion and cultural background of different ethnic groups. There is a possibility that Malay families could have been were more conservative and rarely shared or discussed issues on sexual and reproductive health with their children. The shame and fear that their children may indulge in early sexual relationships might be reasons for parents to avoid communicating sexual issues with them. Attempts should therefore be made to increase the awareness of parents, families and community on the need and importance of communicating and talking about sexual and reproductive health. A considerable large number of undergraduate year 1, 2 and 3 scored 0-5 for knowledge on sexual and reproductive health. It also implies that younger respondents had poorer knowledge on sexual and reproductive health compared to older respondents.

5.1.5 Significant socio-demographic characteristics of health beliefs

The study findings have clearly suggested that ethnicity, religion and family household income were significant factors for perceived severity item 1. A considerable large percentage of Malays and Muslim respondents in this study perceived it to be serious if they ever got pregnant or impregnated their partner because of not using a condom during sexual intercourse. The authors view that the reason for this finding could be attributed by the important role played by ethnicity and religion on safe sex practises such as condom use. There are some religious groups that believe the use of condoms should only be among married people for the purpose of contraception and not as protection against sexually transmitted infections or HIV/AIDS (Kavinya, 2009). This is probably because, condom use is believed to encourage adultery and promote early age of sexual intercourse (Kavinya, 2009). Contrastingly, another study in Ghana revealed that religiosity did not affect condom use (Badasu, Kwankye, Sanuade, & El-

Adas, 2016). About two-fifths of the study respondents who reported 'serious' for perceived severity item 1 fell in the category of household income of less than RM 2000. From the author's point of view, one possible explanation for this finding could have been that respondents from low financial status might have been more aware of the financial implication they will face if they got pregnant or had impregnated their sexual partner. Furthermore, in a low household income status, most of them would not have wanted to be committed to additional expenses.

A vast majority (94.3%, n=1305) of study respondents perceived that it was 'serious' if they contracted a STD because of not using a condom during sexual intercourse (perceived severity item 2). Among all the socio-demographic characteristics, ethnicity and number of siblings were significantly associated with perceived severity item 2. With relation to number of siblings, a significantly large proportion of respondents who reported to have 4 and more siblings had reported 'serious' for perceived severity item 2. Unfortunately, there is no literature that supports this finding. However, the authors in this study believe that having more siblings can probably help increase awareness on STD and importance of using condom during sexual intercourse among the study respondents. In most situations parents fail to discuss sexual issues with their children, therefore, in such cases siblings can act as a better source for sharing and gaining such information. Older siblings should play an important role in discussing sexual issues and safer sex practises with their younger siblings.

With relation to perceived susceptibility item 1, most of the study respondents perceived that they had a little chance of getting pregnant or impregnating their partner because if they had sexual intercourse it would only be during the infertile period or they would practise withdrawal method. This perception revealed to be significantly higher among respondents who were 'Others' by ethnicity, Hindus, undergraduate year

2 and who reported a household income of less than RM 2000. It could possibly mean that respondents from ethnic group 'Others' were most aware on the methods of prevention from pregnancy or impregnating their partner compared to all other ethnic minorities that participated in this study. This finding may also reflect on the teachings regarding sexual issues among this group. Data from this study showed that undergraduate year 2 students made up the majority by proportions among those who reported 'agree' for perceived susceptibility item 1. However, there is no literature that supports this finding. A household income of less than RM 2000 was found to be significantly associated with perceived susceptibility item 1. There are reasons to believe that this result probably implies that respondents from a low household income did not want to spend on condoms although using condom was a way to practise safe sex. Due to their financial constraint, many of them would have relied on having sexual intercourse during the infertile period of the woman or practise withdrawal method so that they did not get pregnant or impregnate their partner to save cost.

More than two-thirds from the overall study sample reported 'agree' for perceived susceptibility item 2 (perceived to be not susceptible to STDs even if they did not use a condom). Similar findings were demonstrated in another study conducted by Ethier et al. (2003) among adolescent women (Ethier, Kershaw, Niccolai, Lewis, & Ickovics, 2003). In the present study, ethnicity, religion, educational background of degree and family structure were significantly associated with perceived susceptibility item 2. With regard to ethnicity and religion, the largest percentage of respondents who reported 'agree' for perceived susceptibility item 2 was Indians (77.0%) and Hindus (75.0%). The authors in this study conclude that this finding can probably be explained by the characteristics of Indians and Hindu respondents in this study. There is a possibility that this group of respondents might have perceived that if they used a condom during sexual intercourse, it will give their partner a wrong impression that they have more

than one sexual partner. Moreover, condom use has been perceived to be associated with sexual promiscuity (Newton et al., 2014). Secondly, the authors view that in a strong or steady sexual relationship, using a condom may disrupt the existing trust between the sexual partners. It is not wrong for an individual to have suspicion on their partner for STD or sexual promiscuity if they used a condom during their sexual encounter. Most respondents from Engineering and Technology background of degree reported 'agree' for perceived susceptibility item 2 compared to respondents from all other educational background of degree. Based on author's opinion, this finding could probably be related to the HIV knowledge that was reported by this group of students in this study. Their knowledge on HIV probably increased their awareness on ways of contracting STDs. Therefore, authors in this study believe that respondents from Engineering and Technology educational background of degree preferred not to use a condom during sexual encounters because they had rather have sexual intercourse with the person they trusted. A significantly greater percentage of respondents (69.8%) who reported to have single parent or both parents deceased perceived that they will not get a STD if they did not use a condom because they would only have sexual intercourse with someone they trust is clean. This probably implies that the element of trust with regard to sexual relationship was stronger among respondents with single parent or both parents deceased compared to those with two biological parents. From the authors point, being with a single parent or both parents deceased might have been a form of teaching to children on the advantages of monogamy so that they only have one sexual partner that they trust and not have multiple sexual partners.

Among all socio-demographic characteristics, age, gender, ethnicity, religion, family household income and residential area were significantly associated with perceived barrier item 1. Compared to respondents of all age groups, those between ages 19 and 21 were the most to perceive that condom makes sex un-pleasurable.

However, there is no evidence to support this finding. This study also indicated that a greater percentage of male respondents believed that condom reduced pleasure compared to the females. This finding is consistent with another study (Randolph et al., 2007) that revealed men highly valued unprotected sex and believed that condom reduced pleasure more than women. More than 50% of respondents who reported family household income of less than RM2000 and RM2001- RM4000 perceived condom use reduced sexual pleasure. Un-pleasurable sex may not be the primary cause for this group of respondents to not use condom during sexual intercourse. However, the cost and the trouble of getting the condom might possibly be the main reasons for respondents with lower household income to reject condom use. Only 53% of study respondents from urban residential area reported 'agree' for perceived barrier item 1 compared to 61.2% of them from rural residential area. This finding is in line with a study in Delhi that reported how rural participants perceived condom not only reduced sexual pleasure but was difficult to use, associated with un-naturality and religious non-acceptance (Meena, Verma, Kishore, & Krishnan, 2015).

Overall, about 70% of study respondents reported 'disagree' for perceived barrier item 2. In other words most of them did not feel it was wrong to talk about condom use with their partner during sex. The authors in this study view that this finding probably implies that most respondents might have been well-read about safe sex practises and wanted to be open about condom use to their sexual partners. Ethnicity, religion, family structure and residential area were among the socio-demographic characteristics that were significantly associated with perceived barrier item 2 in this study.

Self-efficacy towards condom use is defined as the belief that one is capable and likely of using a condom during sexual activity (Farmer & Meston, 2006). With regard to perceived self-efficacy item 1 about 50% of the study respondents reported 'sure' and 'unsure'. Age, gender, ethnicity, religion and number of siblings were significantly

associated with perceived self-efficacy item 1 in the present study. A greater proportion of respondents aged 25 and above were sure that they would always use a condom during sex to avoid from pregnancy or impregnating their partner compared to older respondents. Although more than 50% of the respondents aged 25 and above scored (0-5) for knowledge of sexual and reproductive health this finding may probably imply that their awareness on condom use during sexual intercourse is regarded as a preventive measure from pregnancy. Secondly, all respondents who were 25 and above in this study were single and it is more likely this age group of respondents might have already been in a sexual relationship with a boyfriend or girlfriend. Therefore, it is likely that most of them would have used a condom because they would not have wanted to take responsibility on a pregnancy or impregnating their partner. Furthermore, premarital pregnancy before a marriage can lead to social stigma, isolation and blame among the community. Between genders, males (66.5%) reported a higher perceived self-efficacy item 1 compared to females (46.7%). From this finding authors in this study viewed that males might have been more likely to use a condom probably because they feared of getting their partner pregnant. The changing generational and the cultural value regarding condom use and sexuality may have contributed to the significant association between perceived self-efficacy item 1 with ethnicity and religion found in the present study. Although certain ethnic groups may be more conservative than others it may be difficult to explain the large proportion of Chinese respondents in this study who reported 'sure' for always using a condom to avoid from pregnancy. Nevertheless, it has been revealed by Zhao et al. (2012) that self-efficacy towards condom use may be affected by the different health behaviours in different groups of people (Zhao et al., 2012).

Findings from this study showed that gender, ethnicity, religion, educational background of degree and number of siblings were significantly associated with

perceived self-efficacy item 2. A significantly large proportion of male respondents reported 'sure' for always using a condom during sex to avoid from getting any STD compared to female respondents. This shows that males might have had a better knowledge on STD compared to females. Furthermore, this finding may be attributed by the higher percentage of male respondents who scored 8-16 for knowledge on HIV in this study in contrast to females. Based on author's opinion, male respondents would have used a condom during their sexual encounter since in most situations males held the power to decide and control condom use over females.

5.1.6 Prevalence, significant socio-demographic characteristics and other factors associated with unprotected sex during first sexual intercourse (RSB 1)

The present study provided information on the prevalence rate of the three independent variables of risky sexual behaviours (unprotected sex during first sexual intercourse, unprotected sex throughout subsequent sexual intercourse and multiple sexual partners) investigated. Among all the study respondents in University of Malaya, 55.2% of respondents who reported ever had sex did not use a condom during the first sexual intercourse. As observed in an earlier study in Malaysia, it was noted by Zulkifli et al. (2000) that 72% of adolescents in Malaysia did not use condom during their first sexual encounter (Zulkifli & Low, 2000). Although the study population in the study by Zulkifli et al. (2000) were not of the same age group as the respondents in the current study, there is a possibility that condom use during first sexual intercourse might have improved over the years. Despite the improvement in safe sexual practises, the prevalence rate in the present study for unprotected sex during first sexual intercourse is high. The high prevalence rate of having unprotected sex during first sexual intercourse is consistent with a study conducted in Cameroon among secondary school students (Tarkang, 2014). Evidence showed that 60% of the school students did not use a

condom during the first sexual encounter (Tarkang, 2014). The high prevalence rate of unprotected sex during first sexual intercourse among respondents in the present study could indicate that risky sexual behaviours are widely practised amongst the study respondents. Such behaviours can be of great concern to the future generation. Poor knowledge and awareness on the importance of condom use among the university students could be a possible reason. Although some students might have some understanding on condom use and its role on the protection against HIV/AIDS, STDs and unintended pregnancies, their understanding on condom reducing sexual pleasure (Chakrapani, Newman, Shunmugam, & Dubrow, 2010; Oduro, 2012; Tadesse et al., 2013) and its accessibility could have been one of the main reasons for them to not use a condom during their first sexual encounters. In Malaysia, the Ministry of Health encourages and provides free condoms to married couples for the purpose of family planning or prevention against sexually transmitted diseases. The condoms are readily distributed at government health clinics and hospitals. However, youths and adolescents on the other hand do not have the opportunity of getting free condoms from these facilities as premarital sex is not favoured by the Malaysian society. Premarital sex is culturally forbidden and adolescents who engage in such behaviours are perceived as misbehaving. Therefore, in such situations adolescents can choose to buy condoms from outside stores or pharmacies as it is easily available. However, the embarrassment of being identified or looked at differently while purchasing a condom could prevent adolescents from doing so. In addition, studies have found that issues in relation to trust or refusal by sexual partner are factors that contribute to no condom use during first sexual intercourse (Tumwesigye, Ingham, & Holmes, 2013). Following a study by Tucker et al. (2012) it was found that condom use was significantly less likely among participants with steady sex partners and especially if a relationship was monogamous (Tucker, Ryan, Golinelli, & Munjas, 2012). Similar results have been reported in other

studies (Kiene, Barta, & Tennen, 2009; Lansky, Thomas, & Earp, 1998; Mmari et al., 2013). A study in Uganda reported that females with casual sexual partners (i.e. friend or boyfriend) tended to have higher odds of reporting condom use during first sexual intercourse (Mmari et al., 2013). Therefore, authors in this study view that condom use during first sexual encounter among the study respondents could probably be attributed by the relationship with their partners (whether casual or steady). Evidence from literature indicate that elements of trust and confidence from a steady relationship contributes to the risks of not using condom during sexual intercourse (Lansky et al., 1998). In such cases, it is possible that some youths or young adults misjudge their partners and underestimate the risks taken towards getting HIV/STIs (Tucker et al., 2012). However, the study by Tucker et al. (2012) did not identify reasons for not using a condom during first sexual intercourse. It would be noteworthy to collect data on this information in future studies (Tucker et al., 2012). The current study also shows that there are still unsolved issues in the knowledge of condom use and practise of safe sex among the university students. To overcome this problem, well organized information, education and communication efforts on safe sex practises need to be implemented in schools to overcome the behavioural change among adolescents. Although development of sexuality starts from intrauterine life and continues through infancy, childhood, adolescence and adulthood, adolescence is a phase where transition of the major developments of sexuality takes place (S. Kar, Choudhry, & Singh, 2015). Furthermore, youths and adolescents are in a developmental stage which explains their vulnerability in experimenting new things (Sumter, Bokhorst, Steinberg, & Westenberg, 2009). Therefore, it is important to tackle this group at the earlier age before they risk themselves to various psychological and health problems. The present study showed no significant association between any of the socio-demographic characteristics and having unprotected sex during first sexual intercourse.

This study contributes to the first Malaysian research that explored the association between CSA experience and risky sexual behaviours among university undergraduate students. The multivariate analysis of this study showed that CSA experience was significantly associated with having unprotected sex during first sexual intercourse. This finding is consistent with a few other studies (Homma et al., 2012; McAndrew & Teitelman, 2008; Teixeira & Taquette, 2010). A study by Steel et al. (2005) revealed that this association has been mediated by psychological symptoms and disorders (Steel & Herlitz, 2005). A history of sexual abuse during childhood can disturb a child's mind by disrupting the psychological development, behavioural, social function (Niu et al., 2010) and sexual constructions and relationships in adulthood (Mullen, Martin, Anderson, & Romans, 1994). As a result, those who have reported sexual abuse as a child may exhibit sexual avoidance later in life and may lead to sexual deviancy (Fleming et al., 1997). Childhood and adolescence is the stage when one's personality is shaped. According to Robert et al. (2003), the psychological trauma faced by most children from CSA experience could contribute to sexual vulnerability consequences to unsafe sex practises in adulthood (T. Roberts et al., 2003). Furthermore, engaging in sexual risk taking behaviours has been reported to be a way most victims cope with their psychological distress following the experience of CSA (D Finkelhor & Brown, 1985). This explanation was supported by Raghavan et al. (2004) in a study conducted in United States. In order to reduce emotional distress and to calm their minds, many participants reported to be involved in excessive alcohol and drugs consumption as a way to escape from recalling their traumatized experience (Raghavan, Bogart, & Elliot, 2004). Alcohol and drugs are known to impair judgement and reduce the ability of an individual to escape from dangerous behaviours like risky sex (Raghavan et al., 2004). The substances disrupt the communication system of the brain, changing the way it processes information. In normal situations, the brain functions to release

neurotransmitters (brain chemicals) that enable information to be communicated between the human body and the brain. Under the influence of substances like alcohol and drugs, the brain releases neurotransmitters that impair this judgement.

With regard to CSA, the current study showed that respondents who did not report CSA experience were more likely to have unprotected sex during their first sexual intercourse. This finding does not concur with evidence from previous literature. However, the authors in this study believe that not having reported an experience of CSA can be related to unpreparedness to unsafe sex practises during sexual intercourse. Many respondents who had not experienced CSA might have been unaware of the negative consequences and dangerous situations that they could be in if protection was not used during sexual intercourse. In other words, an experience of CSA is more likely to put victims at a second thought of using a condom during sex. Additionally, a CSA experience does not give freedom to a victim to express their sexual feelings and pleasure even to their lifetime partner but being afraid of a sexual intimacy possibly increases the chances of them to use a protection during sexual intercourse.

A history of family violence was found to be significantly associated with having unprotected sex during first sexual intercourse in the present study. Respondents who reported having witnessed family violence was almost four times more likely to have unprotected sex during first sexual intercourse. In previous literature, no significant association between family violence and unprotected sexual intercourse during first sexual intercourse has been found like in the analysis of this study. Few studies have documented significant association between family violence and risky sexual behaviours in general not describing the type of risky sex involved (Elliot et al., 2002; Teixeira & Taquette, 2010). A study by Elliot et al. (2002) confirmed that an experience of family violence made an individual feel unworthy and undesirable to the family (Elliot et al., 2002). Earlier studies have indicated that violence witnessed between

parents or any other family members can lead to long-lasting psychological and emotional trauma (Hughes, 1998). In addition, violence has also been found to give rise to feelings of powerlessness thus undermining one's self-esteem (Hughes, 1998) making an individual compel for better desires outside their homes (Teixeira & Taquette, 2010). Therefore, authors in this study view that such desires may be related to engaging in risky sexual behaviours like having unprotected sex or having more than one sexual partner.

Studies have found that individuals who consume alcohol are more likely to initiate sexual intercourse (Tura et al., 2012) and acknowledge the practice of unsafe sex (Hingson et al., 2003). Compared to the general population, studies conducted among a sample of youth have showed alcohol to be a strong predictor for condom use behaviour (Tucker et al., 2012). Among the three different substances (cigarette, alcohol and drugs) studied in this study, only alcohol consumption was found to be significantly associated with unprotected sex during first sexual intercourse. This finding is in accordance with results from previous literature (Hingson et al., 2003). According to Hingson et al. (2003) the odds of college students who reported unprotected sex were two times higher among those who consumed alcohol in contrast to those who did not consume alcohol (Hingson et al., 2003). One explanation for this might have been due to the disinhibiting effects of alcohol that impairs an individual's decision-making and ability to use a condom during sexual intercourse (Tucker et al., 2012). Secondly, having unprotected sex under the influence of alcohol was found to be attributed by an individual's personality trait which is often referred to as sensation seeking (C. Kalichman, Simbayi, Jooste, & Cain, 2006). Sensation seeking is characterized by an individual's interest to seek for complex and intense experiences which could bring about physical, social, legal and financial risks (C. Kalichman et al., 2006). Complex experiences in this context can be referred to sexual behaviours like having unprotected

sex or having more than one sexual partner. Another possible explanation for this finding is respondents who consumed alcohol might have been less fearful towards contracting STIs, HIV infection or having an unplanned pregnancy if they engaged in unprotected sex (Hingson et al., 2003). Alcohol is a substance which is known to disturb the normal function of the brain activity bringing about loss of control in the behaviour (Mlunde et al., 2012). This can be explained further by the alcohol myopia theory (Steele & Joseph, 1990) which is a cognitive physiological theory. According to the alcohol myopia theory, alcohol narrows the perceptual and cognitive function in a person resulting in an impaired decision making (Brakefield et al., 2012; Elkington et al., 2011; Steele & Joseph, 1990). Under the influence of alcohol, an individual is capable of focusing on salient situational cues of sexual initiation and ignoring the peripheral one, making them less likely to identify potential dangers such as STIs or unintended pregnancies (Steele & Joseph, 1990). Therefore, authors in the present study view that this theory clearly describes how impaired decision making towards condom use could have possibly increased the likelihood of study respondents to practise unprotected sex during sexual intercourse. Furthermore, people who consume alcohol till their intoxicated may be more likely to use their drinking as an excuse for not using a condom and engaging in risky sex behaviours (Hingson et al., 2003). According to Jessor et al. (1977), the alcohol consumption itself may not lead to unprotected sex practise but the underlying problem behaviour syndrome (Jessor & Jessor, 1977). From the author's point of view, problem behaviour syndrome in this context can probably mean that respondents who regularly consumed substances (showing symptoms of drug dependency) might have been less likely to use a condom during sex and more prone for other deviant behaviours. This fact was supported by a study in Washington, indicating with each additional drug dependency symptom among substance users, the likelihood of using a condom reduced by 1.3 times (S. Bailey, Camlin, & Ennett, 1998).

Unfortunately in this study, information on the frequency and quantity of alcohol consumption was not collected from the study respondents. Efforts to reduce alcohol consumption among young adults and educating them to practise safe sex by increasing the use of condoms can help lower the risks of STIs, HIV and unplanned pregnancy. Therefore, programs to encourage condom use should be implemented focusing on ways to help young adults have positive attitudes towards condom use besides developing their skills to negotiate the use of condom in different situations irrespective of relationship characteristics.

5.1.7 Prevalence, significant socio-demographic characteristics and other factors associated with unprotected sex throughout subsequent sexual intercourse (RSB 2)

The prevalence of unprotected sex during subsequent sexual intercourse was 57.4%. Every respondent who reported to have had unprotected sex during the first sexual intercourse had reported unprotected sex throughout subsequent sexual intercourse. The high rates of unprotected sex throughout subsequent sexual intercourse reported in this study is consistent with previous literature (Kogan, Brody, & Chen, 2010; Tarkang, 2014). For example, 62.6% of participants from a sample of sexually active African American young adults reported did not use condom during their subsequent sexual encounters (Kogan et al., 2010). There is evidence that reveals condom use during first sexual encounter increases the likelihood of condom use during the subsequent sexual encounters (Tarkang, 2013). This finding by Tarkang et al (2013) might possibly explain why majority of the respondents in the present study did not report condom use during first sexual intercourse and also in their subsequent sexual encounters (Tarkang, 2013). This shows that more efforts are needed to promote the practise of safe sex among youths and young adults. Implementing condom social

marketing programmes can be one of the beneficial methods to educate the public and reduce the figures of unprotected sex.

All socio-demographic characteristics of respondents were not significantly associated with having unprotected sex throughout subsequent sexual intercourse. Among all who reported unprotected sex throughout subsequent sexual intercourse, a vast majority of study respondents were between 19-24 years. The authors in this study, view that this result could possibly be due to the knowledge difference on disease transmission and prevention of HIV/AIDS or STDs. Older respondents might have been more aware and well-informed about the risks if they did not use a condom and had unprotected sex. On the other hand, younger respondents are more likely to experiment with unprotected sexual activities although being aware of the consequences. A similar finding was reported in another study (Exavery et al., 2011). Therefore, it is important to encourage and promote the use of condoms among young adults and adolescents.

Findings from this study revealed that having peers who used condom during sexual intercourse, who believed condom reduced pleasure and who had multiple sexual partners was significantly associated with unprotected sex throughout subsequent sexual intercourse. Respondents who reported to have peers who used condom during sexual intercourse were more likely to have unprotected sex throughout subsequent sexual intercourse. However, there is no supporting evidence to explain this finding. Additionally this study, showed that the odds of having unprotected sex throughout subsequent sexual intercourse was higher among respondents who had peers who believed condom reduced pleasure compared to those who did not have peers who believed condom reduced pleasure. Furthermore, respondents who reported to have peers who had multiple sexual partners were three times more likely to have unprotected sex throughout subsequent sexual intercourse compared to respondents who reported did not have peers who had multiple sexual partners. This result is being

supported by findings in previous literature showing how peers have a significant influence on young people's sexual behaviour (Cherie & Berhane, 2012; Gardner & Steinberg, 2005). With relation to peer influence, the authors in this study view that peers might possibly give encouragement to follow and try out new things. In relation to risk taking behaviours, adolescents and young adults seldom carry out an activity alone. Adolescents and young adults are also more likely to take sexual risks and evaluate risky sexual behaviours positively when they are with peers in contrast to when they are by themselves (Gardner & Steinberg, 2005). This suggests that adolescents and young adults do not only share knowledge on their studies but also share and engage in sexual risk behaviours with their peers (Mutinta, 2014). Acting independently under the influence of peers is what they are probably more likely to do. According to Elliot at al. (2002), peer pressure is needed to carry out a group action in order to form a group identity that results in their risky sexual activities because most of them have limited abilities when it comes to psychosocial functioning such as self-reliance (Elliot et al., 2002). In Michigan, a study by Elkington et al. (2011) confirmed that adolescents who perceived their peers engaged in risky sexual behaviours were more likely to adopt similar risky behaviours (Elkington et al., 2011). Despite having reported more than one encounter of sexual intercourse respondents in the present study were less likely to take precautions in using condom and practising safer sex. From the author's opinion, one possible explanation for this finding could be due to the limited time available for decision making on condom use during sexual intercourse. In most situations, the decision to use a condom has to be instant. Trying to make a quick decision in the heat of the moment could have been difficult for most respondents as they might have wanted to revert to their peers for supportive decisions on condom use. This result shows that less emphasis has been given on social and peer-related factors which may be associated with the having unprotected sex throughout subsequent sexual intercourse.

Interventions should focus on peer education programme establishing positive peer attitudes to practise safer sexual behaviours by increasing condom use among young adults.

This study used the HBM construct to determine how HBM constructs might explain condom use. This study found evidence of significant association between perceived susceptibility item 1 and unprotected sex throughout subsequent sexual intercourse. Respondents who reported 'agree' for perceived susceptibility item 1(that they had little chance that they could get pregnant or impregnate their partner if they did not use a condom during sex because if they had sex they will have intercourse during the infertile days or will practise withdrawal method) were 1.5 times more likely to have unprotected throughout subsequent sexual intercourse compared to their counterparts. This finding possibly points out that although most of the study respondents were aware that having sexual intercourse during the safe period and practising withdrawal methods helped to prevent pregnancy, they were less aware on the possibility of contracting a STI from their partner if they did not use a condom. From this finding, authors in this study viewed that the knowledge on condom use and protection against STI/AIDS might have been poor in this group of people. Therefore, efforts on creating awareness of contracting STI/AIDS and active condom use should be implemented among youths and young adults. At the same time, it is also important to focus on the correct methods of condom use and the facts that condoms may not be 100% safe because of human error and manufacturing defects. It must be made aware that the use of condom is defeated if it is used incorrectly, reused, used inconsistently, used when intoxicated (under alcohol or drug influence) or has manufacturing defects that can lead to breakage or bursting when in use. Additionally, the multiple logistic regression model in the present study, showed a significant association between perceived barrier item 1 and unprotected sex throughout subsequent sexual intercourse. Perceived barrier item 1 was

indicated by respondent's perception that condom use reduced sexual pleasure. A large proportion of respondents (63%) who agreed that condom use reduced pleasure had reported to have unprotected sex throughout subsequent sexual intercourse. The likelihood of respondents having unprotected sex throughout subsequent sexual intercourse was two times higher among those who reported 'agree' for condom use reduced pleasure compared to those who reported 'disagree' on condom use reduced pleasure. Similar results were reported following a study in Tanzania (Njau et al., 2013). The study (Njau et al., 2013) showed that participants with a higher perceived barrier towards condom use were less likely to use condom during subsequent sexual encounters compared to those who had reported a lower perceived barriers towards condom use. Such an observation may be attributed by the fact that perceived barriers towards condom use often correlated with lesser condom use (Lawonyin & Kanthula, 2010). Sexual pleasure plays an important role during human sexual activity. In relation to sexual pleasure and condom use a few studies have shown that sexual intimacy is much enjoyed without using a condom (Ingham, 2005; Mash, Mash, & Villiers, 2010; Newton et al., 2014). The reduced pleasure experienced from condom use is a robust predictor for most individuals to not want to use a condom (Norton, Bogart, & Cecil, 2005). Following a study by Mehra et al. (2014), it was documented that reduced pleasure experienced from using a condom was significantly associated with inconsistent condom use during sexual intercourse (Mehra, Ostergren, Ekman, & Agardh, 2014). On the other hand, if using a condom was perceived to be pleasurable, then it was more likely for some to use a condom during sex. Condoms interpose a mechanical barrier between sex partners, limiting physical contact, reducing tactile sensation and attenuating heat transduction all of which reduces sexual pleasure (Randolph et al., 2007). With relation to gender perspectives, evidence shows that males usually refused condom use because it is believed to make sex un-pleasurable and less

romantic whereas females felt that besides it being difficult to use it caused physical discomfort when their partners used it (Newton et al., 2014). In addition, there are also beliefs that condom use delayed the time of ejaculation and interfered with the comfort of some people (Newton et al., 2014). Varga et al. (1997) had stated that males are in power when it comes to decision making for condom use and females are forced to follow the desires of their males partners in most situations (Varga, 1997). A study in South Africa reported that condom use was not only believed to reduce sexual pleasure but its use was thought to be related to diminished sexual intimacy, waste sperms and associated with loss of virility (Mash et al., 2010). With regard to issues on intimacy and trust, earlier researches have noted that condom use is associated with casual sex and not used in a relationship with true love (Reddy, Meyer-Weitz, & Van den Borne, 1999). The aim of using a condom during sexual play has been well understood by most people to protect against STIs and unplanned pregnancies. However, inconsistent condom use can give an impression that a person is sexually promiscuous. The current findings show that more than half of the sample who reported to have ever had sex practised unprotected sex throughout subsequent sexual intercourse. These behaviours could possibly increase the risk of these students from contracting diseases like STIs, HIV or unplanned pregnancies. Therefore, newer prevention programmes have to be developed to promote consistent condom use among university students. These programmes should emphasis on changing beliefs about condom use and their interaction with sexual pleasure among young adults.

5.1.8 Prevalence, significant socio-demographic characteristics and other factors associated with multiple sexual partners (RSB 3)

In this representative sample of university students, the experience of having more than one sexual partner was not uncommon. According to the findings, it was found that

57.4% of respondents who reported ever had sex reported to have multiple sexual partners. This finding is in agreement with previous studies (Potdar & Mmari, 2011; Wilson & Sathiyasusuman, 2015). The high rates of having multiple sexual partners found in the current study have been viewed by the researcher to be attributable to age group of respondents recruited. A large majority of study respondents were youth and based on evidence, youths usually interact closely with peers and these interactions are known to create a sense of intimacy resulting in romantic and sexual relationships (Dessie et al., 2014). Another possible explanation for the high rates of multiple sexual partners in the current study could be due to the sample population of unmarried respondents. Researches have emphasized that unmarried individuals are more likely to seek sexual satisfaction from peers at any time because they do not have a legal sexual partner (Nguyen, Hoang, & Pham, 2001). Therefore, having more than one sexual partner is not rare among unmarried individuals. Comparatively, Peterson et al. (1993) had reported that married individuals were more likely to stay in a monogamous relationship compared to unmarried individuals (Peterson et al., 1993). The study revealed that among a sample of 4,600 heterosexuals the likelihood of single respondents reporting to have two or more sexual partners was five times more as compared to those who were married (Peterson et al., 1993). Similar findings were also identified among a sample of reproductive aged women in Russia, where unmarried women were nine times more likely to report having multiple sexual partners in comparison to married women (Regushevskaya et al., 2008). One possible reason for students to engage in multiple sexual partners could be attributed by the insufficient interventions done to highlight the risks of having two or more sexual partners among adolescents. Thus, intensive counselling and behavioural interventions have to be geared among those who have met the definition of having multiple sexual partners. The media should also play a role in broad-casting and promoting the benefits of long term

monogamous relationships and why is it preferred against having concurrent partnerships. This could probably help to curb the high numbers of individuals with multiple sexual partners.

Respondents who reported a family household income of RM 2,001 - RM 4,000 were significantly more likely to report multiple sexual partners compared to those who reported a family household income of more than RM 4,000. A few previous study (Dodoo, Zulu, & Ezeh, 2007; C. Kabiru, Beguy, Undie, & Zulu, 2010; Wilson & Sathiyasusuman, 2015) have reported similar findings. From this finding authors in this study view that the economic status of a family could possibly be an important factor for sexual involvement and having multiple sexual partners among university students (Mutinta, 2014). An earlier study by Mutinta et al. (2012) had reported poverty to be significantly associated with risky sexual practises such as having multiple sexual partners (Mutinta & Karmalyn, 2012). Another study conducted by Rosenberg et al. (1994) indicated that women of lower household income group were four times more likely to report multiple sexual partners compared to women from a higher household income group (Rosenberg et al., 1994). The authors in this study conclude that one possible reason for this could be due to the poor understanding and knowledge of sexual and reproductive health among the respondents from low household income group. Poor levels on sexual and reproductive health knowledge may result in lack of awareness on the negative health consequences from having more than one sexual partner. The link between family household income and multiple sexual partners has also been reported by Abeid et al. (2014). The study indicated that Tanzanian women from lower household income engaged in multiple sexual partners (prostitution) for the means of financial support (Abeid et al., 2014). It was not uncommon for poor parents to send their daughters for prostitution so that they would bring back more money to feed the family (Abeid et al., 2014). Furthermore, there are also reports that demonstrate

engaging in multiple sexual partners is an effort to survive against poverty (Borne, 2005).

The present study showed a significant association between respondents living in urban residential areas and multiple sexual partners. The odds of having multiple sexual partner was 2.7 times higher among respondents who reported living in urban residential area compared to those living in rural residential area. Similar results were observed in another study conducted in India (Sivaram, Johnson, Bentley, & Srikrishnan, 2007). As observed in previous studies, the increased exposure to freedom with a liberal environment in urban settings could influence sexual risk taking behaviours such as having more than one sexual partner (Choudhry et al., 2014). Most urban areas are known for their easy availability of commercial sex and liquor which could place young adults in an extremely sociable environment (Sivaram et al., 2007). Secondly, media may also be a probable factor in describing the association between living in urban residential areas and having multiple sexual partners. According to Folayan et al. (2015), people living in urban areas may be more exposed to sexually explicit media and henceforth more likely to engage in risky sexual practises such as having more than one sexual partner (Folayan et al., 2015). Although it might be difficult to interpret this association in the current study, future research should be conducted to further examine urban upbringing and environment factors on sexual behaviours among young adults.

This study indicated the likelihood of respondents who reported CSA experience were more likely to have multiple sexual partners compared to those who did not report CSA experience. This result is in accordance with findings from previous studies (Agardh et al., 2011; Homma et al., 2012). Based on this finding, authors in this study view that the high rates of having multiple sexual partners can be reduced by initiating sexual abuse prevention methods. Firstly, clinicians have to be alert when screening

people with sexual abuse histories during their clinical practise. Sexual abuse victims have to be identified and provided with adequate sexual health education as a strategy to reduce their chances of engaging in multiple sexual partners. Secondly, educational programmes implemented have to target on increasing knowledge and skills and promoting changes to attitudes of people.

The analysis in this study showed that parental monitoring was significantly associated with having multiple sexual partners. The likelihood of study respondents to have multiple sexual partners was three times higher among those who reported 'No' for parental monitoring compared to those who reported 'Yes' for parental monitoring. This finding is in agreement with a few earlier studies that reported high levels of parental monitoring to be protective against having multiple sexual partners (Hutchinson & Wood, 2007; Newman, Harrison, Dashiff, & Davies, 2008; Okigbo, Kabiru, Mumah, & Mojola, 2015; Potdar & Mmari, 2011). A qualitative study by Tura et al. (2012) reported that lack of parental monitoring to be significantly associated with having multiple sexual partners (Tura et al., 2012). According to Tura et al. (2012), respondents perceived that being free from family control without proper parental monitoring resulted in adolescence early initiation of sexual intercourse which further resulted in them to engage with multiple sexual partners over time (Tura et al., 2012). Parents are primary socializing agents who have significant influence on their children's behaviour (Cherie & Berhane, 2012).

In Malaysia, parents play an important role in their children's lives because most young individuals live with their parents until they get married. Marriage usually determines an individual's independence among the Malaysian community. Comparatively in Western countries, young adults are left alone to live independently once they have finished school. The presence of good parental monitoring on the other hand has been found to be related to greater self-esteem (Parker & Baenson, 2004) as it

emotionally evaluates an individual's attitude towards themselves. Therefore, the authors in this study believe that individuals are more likely to act responsibly and not have multiple sexual partners in the presence of good parental monitoring. Another important perspective of good parental monitoring is to enlighten and improve the knowledge of sexual and reproductive health among young adults (Dessie et al., 2014). Good parental monitoring may be a way to overcome attention seeking attitudes in some of them. Adolescents who are closely monitored by their parents may feel that they are overly cared and loved by their parents compared to those who get lesser attention from their parents (Mlunde et al., 2012). Going through good parental monitoring may possibly refrain most young adults from having multiple sexual partners so that they do not disappoint their parents. On the other hand, some of them may be afraid of getting punished if they contracted undesirable diseases like STIs, HIV/AIDS from having multiple sexual partners. Parental monitoring being a protective factor to multiple sexual partners should be given more emphasis considering that poor parental monitoring increases the odds of having more than one sexual partner among university students in this study. This could be explained by the independent self-belief and freedom that young adults enjoy, resulting in them to be responsible for their personal decision about sex (Oluwatosin & Adediwura, 2010). To reduce this risk, community organizations have to step in to provide proper mentoring and guidance to young adults who lack parental monitoring. Parents could also be taught about the positive impacts of monitoring their children and their children's friends to overcome the problem of increase multiple sexual partnerships.

A surprising finding was revealed when family violence was taken into account in the multivariate model of this study. Witnessing family violence was found to be inversely associated with having multiple sexual partners. Respondents who reported 'No' for family violence were found to be four times more likely to have multiple

sexual partners compared to respondents who reported 'Yes' for family violence. A few studies have shown that witnessing family violence increases the risk of having multiple sexual partners (Elliot et al., 2002; Potdar & Mmari, 2011). Unfortunately, there are no significant reports in the literature of the association between family violence and having multiple sexual partners which happened to be the case in the present study. Therefore, it will be useful to conduct future research to find an explanation for this association.

Cigarette smokers in this study were two times more likely to have multiple sexual partners in contrast to respondents who did not smoke cigarettes. This finding is in accordance with a study among university students in Nairobi (Othieno, Okoth, & Peltzer, 2015). Although this significant finding is in line with several other literatures (Cavazos-Rehg, Krauss, Spitznagel, & Shootman, 2010; Doku, 2012; Guo et al., 2002) there is no clear explanation on how cigarette smoking increases the risk of one having multiple sexual partners. Most studies have illustrated on how alcohol and drugs impair judgement resulting in an individual's poor decision-making (Steel & Herlitz, 2005). However, some drugs may be consumed in the form of cigarette smoking whereas others may be consumed orally or injected. The information on whether the respondents had ever smoked drugs was not specifically asked in the online survey of this study. Therefore, the authors in this study view that there might have been a possibility that study respondents could have overlooked the fact of reporting having ever smoked drugs. There might have been some respondents who consumed drugs in the form of cigarette smoking and reported to have only smoked cigarettes. Based on author's opinion, another explanation for this association between cigarette smoking and multiple sexual partners could possibly be related to the social competence of an individual creating opportunities for sexual contact and having more than one sexual partner. Finding a sexual partner to initiate sexual activity requires a favourable social

capital and skill (Guo et al., 2002). At the same time cigarette smoking, alcohol and drugs are commonly used substances in most social gatherings. Consuming these substances improves mood, reduces self-consciousness and enhances social skills. Therefore, it is possible that most respondents in this study who smoked cigarettes might have also consumed alcohol or drugs increasing their risk of engaging with multiple sexual partners.

Findings from this study showed a significant association between having peers who used condom during sexual intercourse and multiple sexual partners. However, there is no significant report from previous studies to support this finding. This finding could be indicative of peer influence on the respondents (Cherie & Berhane, 2012). Respondents in the current study who reported to have peers who used condoms during their sexual encounters might have had a better knowledge on safe sex practises compared to those who did not have peers who used condom during their sexual encounters. The awareness on condom use and safe sex taught to the study respondents by their peers might have made them more likely to have multiple sexual partners because they would have perceived their sexual behaviours to be safe. Another possible explanation for this finding could be that peers who used condoms during sex might have also been involved in having multiple sexual partners. Unfortunately, this study did not gather information on having peers who practised protected sex with condom use and had multiple sexual partners. From this finding it can be concluded that study respondents might have been influenced by their peers to engage in similar risky sexual behaviour that they practised; in this case having multiple sexual partners.

Among all variables of HBM, only perceived severity item 2 was significantly associated with having multiple sexual partners in the multiple logistic regression model. Respondents who reported 'Not Serious' for contracting a STI/HIV because they did not use a condom during sexual intercourse were nine times more likely to report

multiple sexual partners compared to those who reported 'Serious' for contracting a STI/HIV if they did not use a condom during sexual intercourse. So far, no research has found similar findings as shown in this study. However, the reason for this association can be explained by the poor knowledge on sexual and reproductive health and HIV among the study respondents. Respondents who lacked knowledge on sexual and reproductive health might have been less likely to use a condom during their sexual encounters (L. Wong, 2012). This is probably because they did not know how to use or where to obtain condoms from. One study conducted in Malaysia suggests that levels of HIV knowledge among university students is positively correlated with sexual behaviours (Jahanfar, Lye, & Rampal, 2010). As the student's awareness on HIV knowledge increased they were more likely to use condom and practise safe sex (Jahanfar et al., 2010).

5.1.9 Strengths and limitations

This study has a few strengths. The right of a respondent's privacy in this study was well respected by the researcher. Respondents were not required to reveal their personal identification when they answered the online survey. They were also guaranteed of their anonymity and confidentiality during the course of data collection so that they shared information regarding themselves on the sensitive issues discussed in this study. The anonymous nature of the study may have enhanced the willingness of respondents to answer the sensitive questions in the online survey.

The cross-sectional study design conducted here through the Google consumer online survey was a quick and possible way to reach all respondents of the target population. Every undergraduate student in University of Malaya has been assigned with a '*Siswamail*' which is an internal email system created by the university. Therefore, every undergraduate student in the University had an equal chance of

participating in the current study. The online survey was not only an easy method for respondents to answer the survey but it also ensured a smaller marginal error during the period of data collection. This is because respondents entered their responses directly into the system which allowed the researcher to view and analyse the data at any time.

Despite its strengths, this study has a number of limitations that must be considered. One of the primary limitations of this study relies on the sampling method. Study respondents were recruited based on a convenience sampling and this could have resulted in selection bias. Therefore, there is a possibility that samples may not have been representatives of the population. Secondly, all received data from the online survey are based on respondent's self- reported information. The self-reporting data may be subject to under- and/or over reporting biases (McCree et al., 2003). Questions on CSA experience and risky sexual behaviours can be very sensitive to an individual, especially among unmarried young adults which makes up the group of people who participated in the present study. Some of the respondents would have under-reported their shameful experiences or socially undesirable behaviour to avoid fear and stigmatization from society as sex is still looked at as a taboo subject in Malaysia. Furthermore, this study cannot determine a respondent's exaggeration on their CSA experiences reported. Chances of respondents over-reporting in order to make their situation look worst off can be a possibility. Thirdly, the history of CSA experience asked is based on retrograde memory of respondents. It is likely that some respondents may not have recalled the CSA experience simply because they were too young to remember it when it occurred or would have forgotten the incident. This can result in recall bias of respondents to report on their CSA experience.

Fourthly, the method of obtaining the data collection based on an online survey might have motivated more individuals with a childhood experience of sexual abuse to respond. Respondents might have felt it to be the best way to share their experiences as

the survey was subjected to volunteers as long as they comply to all the inclusion criteria and were guaranteed of confidentiality and anonymity.

The outcome measure on having multiple sexual partners was determined based on a very general criteria. Respondents who reported to have more than one sexual partner were identified as to have multiple sexual partners. However, these respondents were not asked to distinguish the type of relationship they were in. There is a possibility that respondents might have had more than one sexual partner but all of which might have been a sequential monogamous relationship and not a simultaneous casual relationship.

Lastly, the Google consumer online survey used for data collection in this study did not determine IP addresses of computers that respondents used when answering the online survey. Therefore, if there were respondents other than those from the target group of this study who answered the online survey, it would not have been possible for the system to detect such situations. The reason for not creating an online survey system that identified the IP address of a computer was because many undergraduate students did not have their own personal computer and relied on using the computers in the computer lab to check their mails. Furthermore, respondents would not have had the equal chance of participating and answering the online survey if IP addresses of the computer used was identified because many respondents used the same computer as another respondent.

5.2 Qualitative study

5.2.1 General perceptions on sexual abuse

Findings from this study suggest that different ethnic minorities in Malaysia perceived sexual abuse differently. The majority of participants in the present study perceived sexual abuse as a forceful act without the victim's consent. More than half of this group who held this perception on sexual abuse were Indians. With regard to the terms direct and indirect sexual abuse, only three participants had ever heard about it. The rest of the study participants were more inclined to classifying sexual abuse according to physical, verbal and visual forms.

Many participants indicated that the word sex is better understood compared to the word abuse. The belief that sexual intercourse had to happen during any experience of sexual abuse was a misconception among many participants in this study. It was voiced out by most of them that if vaginal or anal intercourse did not happen, the act was not considered as sexual abuse. Many Malays and Chinese held this misconception. Similar results on the misconceptions of sexual abuse were also reported by Mathoma et al.(2006) following a study conducted in Botswana and Swaziland (Mathoma et al., 2006). The present study indicated that Indian participants were more accurate in their opinions and perception on physical forms of sexual abuse in comparison to all other ethnic groups studied.

Malays were more likely to perceive whistling, staring and sexual teasing as forms of sexual abuse. They described such behaviours to be outlawed in the Islamic religion. This implies that Malay participants gave greater importance to their religion henceforth practising more conservative attitudes. Chinese and Indians on the other hand disagreed to whistling and staring to be forms of sexual abuse. They were more broad minded and perceived such behaviours as types of sexual harassment instead of sexual abuse simply because these actions were harmless.

The qualitative phase in the study contributes to the different racial and ethnic perceptions of sexual abuse by the study participants. It also provides information on the socio-cultural influences within the context of sexual abuse. Although this study determined how different ethnic groups perceived sexual abuse differently, the findings may not be generalizable. Future research on this topic is recommended so that the findings can be related to a larger population. Secondly, the difference in perception of sexual abuse among different ethnicities has to be assessed more rigorously in future studies. When addressing this issue, the impact of culture and its influence on perceiving sexual abuse has to be explored in-depth. This could possibly give a better understanding on the racial influence and how advancements on health education and promotion may be conducted to enhance knowledge of public from different ethnic groups on sexual abuse.

In the past two decades, the invention of internet and mobile phones has resulted in an important method of communication among most people (Mohler-Kuo et al., 2014). Smartphones have now overtaken the usage of earlier mobile systems. This is because these gadgets have a number of distinguishing features as compared to the previously designed mobiles. This advancement in technology has kept many adolescents and young adults occupied during their leisure time instead of watching television (Mohler-Kuo et al., 2014). Sexting is a common activity today which enables sending many sexually explicit images and messages via mobile phones or other electronic devices (Mitchell, Finkelhor, & Jones, 2012). Many Chinese participants gave their concerns on sexting during the interview. They perceived that the increasing number of sexting cases among youths has to be confronted by many educators, public health authorities and law enforcements so that young people can be instructed on the wrongfulness of such behaviours. Participants in this study also felt that given the psychological risks of sexting, it is important that adolescents, parents and school

administrators understand the consequences of this behaviour. Following a study in United States, it was found that 20% of teenagers reported to have sent explicit images of themselves to peers and strangers (Strassberg & Ryan, 2012). Another study conducted by the security software firm McAfee in the United States documented that 49% of adults used their smart phones to send photos, videos and messages with sexual content, about 50% of them had saved such text in their phone memory, a vast majority of 77% sent these sexual content to significant others while another 16% sent it to strangers (Kerr, 2014). This finding reflects an important aspect of instructing young people that possessing such explicit images of themselves or others via sexting is a criminal offence (Mitchell et al., 2012). Alternatively, images received have to be deleted and not saved or forwarded to others for entertainment.

Authors in this study view that parents should play an important role in trying to overcome the problem faced with sexting. Parents have to be responsible for setting limits and monitoring the social media usage in their children. Explaining and educating children on the consequences of sexting can result in a health home environment. Serious emotional, psychology and spiritual risk with sexting has to be made aware. It is important to create awareness on the reality that sexually explicit photos are captured, stored and shared among hundreds of people out there. Therefore, children or teens need not be provided a cell phone with a camera. Parents should emphasize phone privileges based of proven maturity of their children.

5.2.2 Perpetrators of sexual abuse

With relation to perpetrators of sexual abuse most of the participants in the current study perceived that males often perpetrated sexual abuse compared to females. This finding is in accordance with previous literature (Aboul-Hagag & Hamed, 2012; Tyler & Cauce, 2002). Males tend to be over-represented as sexual abuse perpetrators (Peter,

2009). A study by Jewkes et al. (2011) in South Africa showed that men felt no guilt towards perpetrating a sexual act (Jewkes et al., 2011). This could possibly be due to the inequitable views, adversarial and hostile ideas that men hold about women. Perpetrators have been described as always willing to have sex (Frias & Erviti, 2014). In many conservative societies women are supposed to follow and submit to all wishes of men whether the man is their father or husband (Abeid et al., 2014). As far as sex or rape is concern, such violence against a woman demonstrates the strength of male power. This is where gender inequalities promote a man's superiority over women (Jewkes, 2002). It is common for male perpetrators in many situations to identify themselves as having a heterosexual consensual relationship with a woman following the event of sexual abuse (Jewkes et al., 2011). Therefore, in such situations it becomes unquestionable to investigate the existence of sexual abuse in the relationship.

In this study, many participants highlighted the age difference between perpetrator and victim to be an important factor. Most participants believed that sexual abuse perpetrators are usually older than the victim. This finding is being supported by previous research (Tyler & Cauce, 2002). Participants in this study perceived that older perpetrators easily gain trust from victims. Additionally, there were a few participants in the present study who acknowledged the possibilities of juvenile perpetrators (child perpetrators). One study in Switzerland revealed that among a sample of ninth grade students, more than 50% of females and more than 70% of male respondents reported to have been sexually abused by a juvenile perpetrator (Mohler-Kuo et al., 2014). The frequent reports of juvenile perpetrators are found to be an emerging trend among sexual abuse cases today (Mohler-Kuo et al., 2014). In addition, having a history of sexual victimization has been found to be related to the characteristics of juvenile perpetrator (Finklehor et al., 2009). For instance, witnessing or experiencing sexual abuse may be a risk factor for perpetrating sexual abuse later in life. Many movies

broadcasted on television today display love making and sexual scenes. These exposures can possess a negative impact on the minds of children and young adults who watch it (Abeid et al., 2014). There is a possibility that these young individuals might want to be curious to try out such activities viewed in movies with other children their age.

This study found that Malays and Indians were more likely to perceive sexual abuse as an act that was commonly perpetrated by a known person than an unknown person. Study participants classified a known perpetrator to be a peer or a relative to the victim and an unknown perpetrator to be a stranger. It was believed that perpetrators who are biologically related to the victim might have had a stronger bond and relationship in contrast to friends. Furthermore, a strong relationship is thought to be associated with trust. In many cases individuals are sexually abused by perpetrators whom they know, trust and love (Csorba et al., 2005). This close bond allows a perpetrator to take advantage on a victim's needs by carrying out sexual abuse through inducement, fraud and other means (Niu et al., 2010). This finding correlates with the findings of two other studies conducted in Mexico and Hungary (Csorba et al., 2005; Frias & Erviti, 2014). Similarly a prevalence study in Malaysia showed that of all the sexual abuse perpetrators reported, 71.4% of sexual abuse perpetrators were known to the victims (Singh, Yiing, & Nurani, 1996). There are many conservative communities in Malaysia that believe sexual intercourse between a husband and wife is always consented from the day of marriage. This culture is practised among most communities in Malaysia and is in accordance with another study in Mexico (Lira et al., 1999). According to Lira et al. (1999), Mexican women who rejected a husband's request for sex not only failed to perform the religious duty as a wife but also blocked her husband's ability to perform his as well (Lira et al., 1999). Additionally, sexual abuse by peers is often overlooked (Timmerman & Pauline, 2014). This is because in most

situations sexual abuse by peers is looked at as an exploratory adolescent behaviour which goes hand in hand with bullying and intimidation (Timmerman & Pauline, 2014). However, Chinese participants in this study felt that it was common for peers to perpetrate sexual abuse. In relation to the Chinese culture, they felt that most of them were closer and had a stronger bond with their peers compared to any family member.

This study indicates that the occurrence of sexual abuse could be connected to power and intention. Based on the perceptions of study participants in this study, it was found that individuals who are more empowered and those who hold a higher pose in an institution or society are more prone to perpetrate sexual abuse. Due to such situations sexual abuse victims are more likely to feel powerless to escape from performing sexual acts with the perpetrator (Young et al., 1997).

High risk behaviours have been found to be associated with perpetrating sexual abuse (Abeid et al., 2014). For instance, individuals who engage in high risk behaviours such as alcohol or drug consumption might be more likely to commit sexual abuse. A focus group discussion conducted among a Tanzanian community documented that alcohol and drug abuse were the factors that predicted the occurrence of rape (Abeid et al., 2014). Findings from the current study showed that participants perceived high risk behaviours such as alcohol consumption and drug intake increased an individual's desire to have sex and it can result in sexual abuse. The use of alcohol and drugs interfere with one's ability to make a positive decision about sexual integrity (Brakefield et al., 2012). Therefore, it is important that any decision regarding sex has to be made with a free mind set and not under the influence of alcohol and drugs. Alcohol and drugs impair the judgement of a person resulting in poor realization and negative actions that may be committed on victims (Brakefield et al., 2012; Seth et al., 2011).

Adequate public education on sexual abuse prevention and management strategies has to be provided. The community has to be made aware on the various characteristics

of a sexual abuse perpetrator. Stakeholders with specialized knowledge regarding sexual offending and offenders have to be approached. Prevention programmes addressing issues in relation to sexual abuse perpetrators has to be emphasized not only to the general population but also to students in schools in view that young individuals are often targets for sexual abuse. Another possible recommendation is to implement an electronic sexual abuse perpetrator registry. Besides identifying re-offenders this registry should be able to prevent further sexual abuse crimes from happening by deterring existing and future perpetrators.

5.2.3 Sexual abuse victims

With relation to sexual abuse victims, many study participants mentioned that gender of a victim is the main factor that contributes to sexual abuse. It was believed that being a female increased the likelihood of an individual for sexual abuse. Female vulnerability was a great concern among most study participants. This finding is consistent with a few previous studies (Aboul-Hagag & Hamed, 2012; Andrew, Corry, Slade, Issakidis, & Sawanston, 2004; MacMillan et al., 2013; Y. Song et al., 2014). Although sexual abuse among males is not rare, there are many people who believe in the traditional thinking that sexual abuse is associated with female victims (Y. Song et al., 2014). Malay participants in this study held more conservative opinions as compared to the Indian and Chinese. Malays perceived that individuals who dressed up sexily were more prone to sexual abuse or rape. A similar finding indicating the association between wearing revealing outfits and the proneness for sexual abuse was confirmed in an earlier study (Mathoma et al., 2006). Women who dressed in mini-skirts and tight pants are presumed to induce sexual excitement among the males and stimulate sexual ideas (Lira et al., 1999). Participants in this study also revealed concerns on enforcing the use of the appropriate dress codes to the right places and for

the right occasions. However, this study reveals the existence of judgmental and prejudicial attitudes towards victims of sexual crimes.

Many participants in this study perceived that children and younger individuals are more likely to get sexually abused because of their innocence. Having an innocent behaviour is believed to pose an advantage to any perpetrator to perpetrate the act of sexual abuse (Abeid et al., 2014). Furthermore, most perpetrators hang on to the fact that children and younger individuals do not disclose their sexual abuse experience to anyone (J. Foster & Hagedorn, 2014). There could be a possibility that many sexual abuse victims might have assumed that nobody will believe them if they shared their experience with anyone. Another possible explanation for this could be because victims cared deeply for their perpetrator especially if the perpetrator was related or known to them (J. Foster & Hagedorn, 2014). There is a possibility that victims might have been fearful of getting into trouble if they told others about the sexual abuse experienced. At the same time victims would not have wanted to scar the image of the perpetrator. Additionally, sharing their sexual abuse experience with their parents may not have seemed important to them. Another issue that can probably make children and younger individuals more likely for sexual abuse is the insufficient knowledge and awareness on sexual abuse. There are many of them who are not able to identify a sexual abuse experienced as right or wrong.

Overly sociable and talkative behaviours can probably be linked with sexually abused. Individuals with such behaviours tend to give others an impression that they are easy going. Furthermore, in many sociable events alcohol is commonly used. The use of alcohol may not necessarily be related to rape but it is used as a tool by many perpetrators to identify their victims as drunk. In many situations perpetrators encourage the victim to consume alcohol so that they easily lose self-control and remain helpless

under the influence of alcohol. At the same time any sexual abuse convicted on the victim will not be remembered.

The event of sexual abuse has been found to be predisposed by a few environmental factors. Private, dark and quiet environments often favour the act of sexual abuse (Abeid et al., 2014). In this study, participants were more inclined to believe that quiet and dark environments with lesser people around favoured the act of sexual abuse. According to them such surroundings gave perpetrators more privacy to sexually abuse the victims. Participants perceived that perpetrators build confidence when they are assured of no interruption from any outside sources while preying on the victim.

The study also indicates that majority of participants perceived that individuals from broken families are more likely to become sexual abuse victims. Participants believed that victims brought up in such environments might be more vulnerable to opportunistic perpetrators because of the emotional distress they undergo. This finding coincides with a study conducted among homeless and runaway adolescents (Tyler & Cauce, 2002). According to the authors of that study, individuals from families with familial structural changes following parent's separation, divorce, remarriage or the presents of parent's boyfriend or girlfriend have been found to be more likely for sexual abuse (Tyler & Cauce, 2002). A broken family undergoes numerous transitions with movements of different adults coming in and out of the household. These changes can possibly create an unpleasant environment for children or adolescents to be brought up. Comparatively, there is literature that has reported sexual abuse to result in a nuclear family to break (R. Roberts, O'Connor, Dunn, & Golding, 2004). Robert et al. (2004) revealed that sexual abuse survivors are more likely to be living in a non-traditional family that is with a single mother or step family after the experience of sexual abuse (R. Roberts et al., 2004).

Individuals with medical conditions such as Down's syndrome, retardation and disability have been perceived to be easy targets for sexual abuse. Participants believed that victims with such conditions will not be able to recognise sexual abuse as right or wrong. In addition, it has been reported that sexual abuse victims are less fortunate due to their poor communication skills which explains why they will not be able to provide detailed information on the sexual abuse experienced (Johnson, 2004). A much earlier study by Young et al. (1997) in United States, confirmed the risk of sexual abuse among disabled women (Young et al., 1997). The study (Young et al., 1997) indicated that women with disabilities were found to be at risk for sexual abuse because of their increased exposure to institutions, medical care setting and dehumanization as compared to those without disabilities. A similar finding on the risk of sexual abuse in disabled was reported by Skarbek et al. (2009) among a sample of school children (Skarbek et al., 2009). According to Skarbek et al. (2009), physical, emotional and cognitive disabilities were found to increase one's likelihood for sexual abuse by three times in disabled children compared to the non-disabled children (Skarbek et al., 2009).

CSA prevention efforts have to be focused on by giving adequate sexual education. Primary targets have to be children, families, teachers, youth service workers and others who may be in the position to intervene. Sexual abuse victims have to learn to identify themselves as having been sexually abused or not. School-based educational programs have to be conducted to teach children on the skills on how to identify dangerous situations, refuse an abuser's approach, break off an interaction and seek help. Additionally, sexual abuse prevention programs can also be conducted to increase disclosures and reduce self-blame among the sexual abuse victims.

5.2.4 Sexual abuse information

There are many sources from which information about sexual abuse can be gained. The current study indicated that most Malay and Indian participants gained knowledge on sexual abuse from their family members. These participants noted that their mothers played an important role in discussing and teaching them about sexual issues especially upon reaching puberty. Chinese participants on the other hand, reported to have heard and gained information on sexual abuse from their peers instead. In Malaysia, Chinese families are never open to discussions about sexual issues. It is unlikely for a Chinese family to talk about sex in front of their children. Any discussion about sex is highly viewed as a taboo among the Chinese community. These results are consistent with findings from previous research in Nigeria that sexual issues are sensitive (Oluwatosin & Adediwura, 2010). It was reported that very low percentages of parents provide information on sex to their children (Oluwatosin & Adediwura, 2010).

There is a possibility that sexual knowledge gained among adolescents and young adults may be influenced by the media or the types of entertainments shown on television programmes. For example, movies shown on television nowadays do not censor romance and sex scenes. Furthermore, war or animation movies have subliminal sex scenes splattered all over them. Parents who watch such programmes indirectly expose their young children to sexual components broadcasted making it easy for them to get to know about sex. These programmes may not be educational to the children. However, there is a possibility that being exposed to such programmes may convey ideas in their minds to be curios and experiment the same things seen. This may probably result in young children to get involved in sexual activities at an early age.

The human mind is coded by newer technologies in today's modern world. The advanced technology invented does reflect the urbanization of a country. For example, the invention of internet and its usage has grown tremendously to reach over half of the

world's population. Many people around the world have become digital natives and have greatly opted for online reading. Among all the ethnic minorities in this study, Chinese participants reported that they preferred browsing and reading online articles more than reading books or newspapers to gain information on sexual abuse. In contrast, Indians and Malays expressed their interest in reading from printed materials like books, magazines and newspapers to gain information on sexual abuse..

Most of the Malay and Indian participants in the current study favoured that sex education among children has to be taught to them by their parents or family members. A similar finding was documented in another study that reported major emphases has to be placed by families and parents to educate their children on sex and fight against sexual abuse (Mathoma et al., 2006). One reason for this might be due to the inadequate and less understandable sex education given in schools. A study in Uganda indicated that school teachers usually never gave detailed explanations on sexuality during the sex education classes (Muhanguzi & Ninsiima, 2011). Instead teachers rushed through the syllabus because they believed that the students may get spoilt if they knew more about sex (Muhanguzi & Ninsiima, 2011). The authors in this study view that school teachers might have limited their discussions during sex education classes probably because they felt embarrassed or lacked knowledge. However, Chinese participants in this study perceived that schools should be more responsible for sex education than parents or family members. One possible explanation for this could probably be due to the forbidden sexual discussion among most Chinese families. Chinese families believe that discussions about sexual issues may influence their children into practising premarital sex. While there are studies that suggest open and frequent communication about sex in a family is associated with children not having sex or postponing sexual debut (Leland & Barth, 1993). Young adults represent a sexually active group. Targeting a larger group of young adults to make wise decisions on sexual behaviours will be easier by

conducting school based sexual education programme (McCave, 2007). Following this study (McCave, 2007), it was noted that parent-child communication on sexual issues may result in an increase curiosity for further experimentation. The discovering of new ideas may always trigger children or young individuals into imitating new things. There are some cultural taboos which have made sex education among young individuals in Malaysia difficult. For instance, the negative perception of certain families that sex education will result in early engagement of sexual behaviours resulting in a higher risk for poor sexual health. In Myanmar, one study has indicated that sexual and reproductive health information from mass media is believed to increase sexual activity among youths although it was more significant in males than females (Zaw et al., 2013). In agreement with earlier findings in Alabama, almost 83% of parents indicated that schools should include sex education in their curriculum (Millner, Mulekar, & Turrens, 2015). According to Millner et al. (2015), topics on sex education given in schools should include the importance of using condom, birth control pills, where to get them and how to get tested for HIV and other STDs (Millner et al., 2015). Following another study in Ethiopia, students and teachers had perceived that the content of school sex education has to vary between what is being taught in primary schools and secondary schools (Fentahun, Assefa, Alemseged, & Ambaw, 2012). It is crucial that the content of sex education be based on the mental maturation of students. Likewise, similar educational programs in Malaysia have to be implemented. From this study we can conclude that proper school sex education is one of the solutions to tackle sexual abuse victimization. By creating sufficient awareness among youths and young adults, the number of sexual abuse cases can be reduced markedly.

CHAPTER 6: CONCLUSION

The findings of this study suggested that CSA is a common social problem in Malaysia. The study provides information on the prevalence and socio-demographic characteristics of CSA experience among undergraduate students in University of Malaya. It also assessed the association between CSA experience and risky sexual behaviours among this sample. The prevalence rate of CSA experience reported in this study was high. It was found that CSA experience occurred commonly among females and the Malay ethnic group. From the uni-variate analysis, CSA experience was found to be significantly associated with unprotected sex during first sexual intercourse (RSB 1) and having multiple sexual partners (RSB 3). However, in the multiple logistic regression analysis CSA experience was only significantly associated with unprotected sex during first sexual intercourse (RSB 1).CSA experience was not associated with having unprotected sex throughout subsequent sexual intercourse (RSB 2) and having multiple sexual partners (RSB 3). Further effort in implementing appropriate prevention and interventions are needed to reduce the prevalence of CSA experience. The ultimate goal of interventions for sexual abuse victims should be to amend the developmental disruption caused by CSA experience. Programmes should aim to prevent the engagement of risky sexual behaviours among young adults who have a history of CSA. From this study it is important that universities and local health bodies work together to identify risky sexual behaviours among young adults with particular focus to behaviour change communication. Young adults should be educated on the safe sex behaviours with emphasis on condom use and also how to improve their confidence towards acquiring and using condoms during sexual encounters. Furthermore, condom promotion campaigns should emphasize on the pleasure enhancing aspects of using a condom during sexual intercourse.

It is clear that sexual abuse is a very sensitive topic and is a significant problem faced by the Malaysian community. From the qualitative phase of this study it can be concluded that the Malaysian population is a multi-ethnic population and that each ethnic group had a different perception on sexual abuse. Among all ethnic groups, Malays were found to be more conservative compared to Chinese and Indians. Most Malays held religious opinions with relation to the general perceptions, victims and perpetrators of sexual abuse. Chinese on the whole were more open-minded in their perceptions towards most aspects of sexual abuse. Although Chinese participants were more open minded, majority of them noted that sex related conversations were considered sensitive and a taboo among their family members. Most of them had gained their knowledge on sexual abuse from peers. This phase of the study will be useful in providing an insight to improve education about sexual abuse to cater for the ethnic diversity in opinion. Firstly, the poor understanding of Malaysian youth perceptions on sexual abuse has to be addressed. Secondly, findings can be used to develop new public service campaigns to reduce sexual abuse in our community. Extensive future research in identifying sexual abuse is needed to also help improve public understanding on sexual abuse. Greater public awareness of sexual abuse and the nature of the perpetrators should help to reduce the problem.

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LIST OF PUBLICATIONS AND PAPERS PRESENTED

Publications

1) Journal: Woman's International Studies Forum

Title: A qualitative study to explore understanding and perception of sexual abuse among undergraduate students of different ethnicities.

Articles under review

1) Journal : Family Medicine and Community Health Journal

Title: The association between child sexual abuse (CSA) and unprotected sex among undergraduate students.