

*Review Article*

## **Potential Social Risk Factors for Teenage Pregnancy in Sarawak**

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### **ABSTRACT**

Teenage pregnancy is among the main social issues that involves Sarawak teenagers. Teenage pregnancy may lead to various social, psychological, and physiological effects to the mother and child. Sarawak is one of the states in Malaysia that recorded a substantial number of teenage pregnancy cases. As such, an in-depth understanding of this issue may provide some important inputs for evidence-based sexual and reproductive health prevention programs. Therefore, the aim of this review is to identify the potential underlying social risk factors that might be contributed to teenage pregnancy cases in Sarawak. The literature review had identified at least six social risk factors that might contribute to teenage pregnancy cases in Sarawak. Those social risk factors were rural–urban migration, dysfunctional family relationship, flaws in marriage customary law, alcohol and drug abuse, low awareness on sexual and reproductive health, and pornography. A better understanding of this issue can strengthen the effectiveness of health education strategies toward improving sexual and reproductive health among the Sarawak’s young population.

*Keywords:* Risk factors, Sarawak, social issues, teenage, teenage pregnancy, unwed teenagers

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### **INTRODUCTION**

An understanding of the sexual issues among the Malaysian adolescent population must consider multicultural elements, such as religion, beliefs, and perception on sexuality issues that may significantly contribute in shaping their behavior (Low, 2009). One pertinent issue is teenage pregnancy that

involves girls younger than 19 years who are pregnant, whether married or unmarried (United Nations International Children's Emergency Fund [UNICEF], 2008). The Malaysian Ministry of Health reported that in 2015, there were around 18,000 teenage pregnancies recorded in Sarawak. This was the second highest recorded after Sabah (Fatimah, 2016). Teenage pregnancy may lead to various physiological maturities, such as the significant risk of delivering low-birth-weight babies (Sulaiman et al., 2013) and pregnancy-induced hypertension (Omar et al., 2010). In addition, young mothers' emotional, mental, and social readiness are not fully matured to carry the responsibility of becoming mothers (World Health Organization [WHO], 2014). The contributing factors related to teenage pregnancy are lack of sex education, feeling ashamed to seek contraception services, and that access to contraceptives are hindered because in some countries, it is expensive or illegal to sell to a teenager of a certain age (WHO, 2007).

Therefore, it is important to explore this issue to obtain an in-depth understanding on how teenagers control and decide to be involved in early sexual activities and to plan some relevant prevention activities (Spruijt-Metz, 1999). However, there is still insufficient research done particularly among Sarawak teenagers despite having a substantial number of cases of teenage pregnancies (Ahmad et al., 2014). Furthermore, this less explored research area pertaining to teenage pregnancy in Sarawak has contributed to the shortage of effective

evidence-based preventive and integrative-based programmes by various relevant government agencies and NGOs in tackling these issues toward achieving the sexual and reproductive health needs of Sarawak's young population (Khalaf et al., 2014; Ministry of Health Malaysia [MOH], 2007). If these issues are not effectively prevented, they may raise other bigger social issues, such as suicide, depression, family and financial problems affecting young mothers, their babies and parents (WHO, 2014). This trend is alarming because teenage pregnancy cases in Sarawak occur among teenagers who are supposed to study in secondary school ("Teenage pregnancy", 2017). Therefore, this review aims to identify the potential contributing social risk factors for teenage pregnancy issues in Sarawak.

## METHODS

The literature review includes articles on issues related to teenage pregnancy and its potential contributing social risk factors in Sarawak. The articles chosen that are indexed in PubMed, Scopus, and other related databases were published between 2000 and 2016 and were identified using keywords like "adolescent pregnancy," "teenage pregnancy," "social issues," and "Sarawak." The articles were accessed in January 10, 2017. In total, 12 documents were selected by the authors (first author—a health educationist and second author—a psychologist) for review, on the basis of future research implications pertaining to teenage pregnancy issues in Sarawak (Table 1). The articles covered several studies

conducted by local and foreign universities (4), population surveys conducted by the Ministry of Health Malaysia (2), Sarawak General Hospital (1), the National Population and Family Development Board (LPPKN) (1), National Anti-Drug Agency (1) and unpublished theses by post-graduate students (3). Five studies utilized

quantitative approach while 3 (qualitative), 3 (mixed), and 1 (clinical). This review also encompassed the latest information on teenage pregnancy issues as reported in the Sarawak local newspaper, “The Borneo Post”, which rely on information from a reliable source, for example the Sarawak State Health Department.

Table 1  
*Related studies on social risk factors for teenage pregnancy in Sarawak*

Author (s)	Title	Approach	Findings
Brandah (2017)	Adolescent perception of risky sexual behavior in Kapit, Sarawak.	Qualitative	Perceived risk of other teenagers involvement in risky sexual behavior are due to social media, peer influence, and sexual promiscuity.
LPPKN (2014)	Risk and protective factors affecting the adolescent sexual and reproductive health in Sabah and Sarawak.	Mixed (Qualitative & quantitative)	Prevalence; 3% school-going, 10% among university & 31% among out-of-school respondents involved in premarital sex
Mutalip et al. (2013)	How Severe is Binge Drinking in Malaysia and Who are at Risk?	Quantitative *National survey	Sarawak: Prevalence of current alcohol use was 11.6%. The onset of alcohol drinking 21 years old. Risky drinking was more prevalent among rural drinkers, Bumiputera Sabah and Sarawak, low education and low household income.
Amit et al. (2013)	Demographic factors associated with alcohol use among young men in rural areas of Sarawak.	Quantitative	Alcohol use indicated that Malays tended to decrease alcohol use with age, while Iban respondents tended to increase alcohol use with age.
MOH (2012)	National health and morbidity survey 2012, Malaysia global school-based student health survey 2012.	Quantitative *National survey	Sarawak: Prevalence (students Form 1 - 5):- ever had sex was 8.7%; having at least 2 sexual partners among those who had sex was 2.1% & use of “other birth control methods” during last sexual intercourse among those who had sex was 49.7%.
Muniswaran et al. (2012)	Adolescent pregnancies in Sarawak: the unspoken facts	Clinical study	Adolescents’ birth rates in Sarawak General Hospital (SGH) were 62/1000. One in five of the adolescent’s mothers were below the age of 16, 43.8% were not legally married and 79.2% stopped schooling.
Sebli (2011)	Easy marriage, easy divorce: the flaws in Iban traditional Adat.	Qualitative	Flaws in customary (“adat”) marriage law associated with increased cases of teenage marriages.

Table 1 (continue)

Author (s)	Title	Approach	Findings
Chia (2010)	Prevalence of premarital sex, HIV/AIDS-related knowledge, attitudes, perceived risk, and safe sex intention among students of Politeknik Kuching	Quantitative	Lower prevalence of premarital sex is associated with higher level of knowledge on HIV/AIDS.
Htut (2010)	Prevalence, socio-demographic characteristics and associated medical factors of teenage pregnancy in selected maternal and child health clinics in Kuching.	Quantitative	The lower level of premarital sex was associated with higher level of knowledge on HIV/AIDS, positive attitude toward HIV/AIDS, and higher intention on safe sex.
Hashim et al. (2009)	Inhalant drugs abuse in Kuching district, Sarawak	Mixed (Quantitative & Qualitative)	Main reasons to get involve in inhalant abuse were due to peers influence.
Hew (2003)	The impact of urbanisation on family structure: The experience of Sarawak, Malaysia.	Mixed (Quantitative & Qualitative)	The impact of urbanization and rural-urban migration on family institution:- housewife totally dependent on their husbands financially; abandoned single mothers; children born out of wedlock; and marital fragmentation.
Hew (2001)	Singles, sex, and salaries: the experiences of single Bidayuh women migrants in Kuching.	Qualitative	Sexual promiscuity among rural women migrants working in urban areas.

### Overview of Teenage Pregnancy in Sarawak

**Teenage Pregnancy Case.** According to a report on teenage pregnancy cases by Sarawak State Health Department indicated a decrease from 2,909 cases in 2015 to 2,481 cases in 2016 and out of these figures, 54.1% cases were unwed and 94.3% have dropped out of school (“Teenage pregnancy”, 2017).

**Live Births.** In 2014, the National data on live births among mothers in Sarawak within the age group of 15–19 years were 3,576, while those younger than 15 years were 61, which is ranked second after Sabah (Department of Statistics Malaysia,

2016). At the institutional level, a study (Muniswaran et al., 2012) revealed that 62 per 1,000 live births in Sarawak General Hospital, Kuching were among young girls who were 43.8% unwed. The same study also revealed that the figure was significantly higher than the national indicator.

**Risky Sexual Behavior.** Risky sexual behavior is defined as behavior that increases one’s risk of contracting or infected by sexually transmitted infections (STIs) and experiencing unintended pregnancies (Centers for Disease Control and Prevention [CDC], 2017). Findings from the National Health and Morbidity Survey (NHMS)

indicated that prevalence of having sex among Form 1 to Form 5 students in Sarawak was 8.7%, which was above the national average of 8.3% (MOH, 2012). In the same report, 2.1% of the participants reported having sex, and having at least two sexual partners, while the prevalence for those who had sex by using birth control methods was 49.7%. A more recent survey conducted by the National Population and Family Development Board (LPPKN) had focused on the risk and protective factors affecting the teenagers' sexual and reproductive health in Sarawak. The findings indicated that the early sexual debut was at 15 years old and the prevalence of those who had sex among out-of-school youth were 31%, while for university students were 10% and secondary school students at 3% (LPPKN, 2014).

**Demographic Profile.** Figures based on Sarawak State Health Department indicated that majority of teenage pregnancy cases in Sarawak in 2016 involved around 94.3% and out of this figures, 56.3% involved teenagers aged 10 to 17 years old ("Teenage pregnancy", 2017). According to a report by Sarawak State Health Department, around 73% of teenage pregnancies cases involved their partners who are men aged between 20 and 39 years old ("Most teen", 2016). In terms of localities, report from the Sarawak State Health Department on teenage pregnancy cases showed that the highest was in Kapit (19.6%), followed by Bintulu (11.52%) and Betong (10.9%) ("Teenage pregnancy", 2014). More recently, a report

by the same department on the youngest underage mother in the state was 12 years old from Kapit ("Twelve year old", 2016).

While statistics on teenage pregnancies in Sarawak in 2016 by ethnicity released by the Sarawak State Health Department showed that 52% (1,257 cases) out of 2,481 cases were Iban teenagers, followed by Malays (518 cases) and Bidayuh (209 cases) ("Advocacy programme", 2017). At the divisional/district level, a cross-sectional study among 334 registered teenagers, who attended the antenatal follow-up at three maternal and child health clinics (MCHC) in Kuching, indicated that the majority of the teenage mothers were Malays (42.8%), of which 75.1% were married and the rest were unwed (Htut, 2010).

**Accessibility to Health-care Service.** A study on the prevalence and sociodemographic characteristics of teenage pregnancy in Kuching indicated that the majority of unwed teenage mothers registered late for antenatal care at clinics during the third trimester of their pregnancy (Htut, 2010). Late antenatal care registration meant that teen mothers may miss the opportunities to access antenatal services provided by the government for maternal and child health (MCH) clinics that include health promotions and screenings to diagnose any health problems that might endanger the mothers' lives and their babies (MOH, 2010). Apart from that, post-natal care is also important because the first 6 weeks after birth is critical to the health and survival of a mother and her child, in which lack of care

during this period may result in death or disability as well as missed opportunities to promote healthy behaviors affecting women, newborns, and children (WHO, 2005).

#### **Adverse Outcome of Teenage Pregnancy.**

An unwed pregnancy may lead to an induced abortion, which in the case of ashamed teenagers is likely to seek illegal services that involve greater risks to her life, health, and future fertility (WHO, 1993). Despite the absence of official data regarding the prevalence of induced abortion in Malaysia, the major source of available information is in hospital records of women treated for complications of abortion (Low et al., 2013). Induced abortion is a significant cause of maternal mortality and morbidity in Sarawak and a rare literature on this issue was highlighted in a study on cases of septic induced abortion (performed by untrained and unqualified practitioners) that were referred to Sarawak General Hospital. Around 100 cases were reported with two maternal mortalities (Keng et al., 1982). Out of these cases, 58% were unmarried and 41% were aged between 20 and 25 years. Cases by ethnic groups were Bidayuh (49%), Malays (21%), Chinese (20%), and Iban (9%). The adverse outcome of teenage pregnancy cases in the state were also reflected in the number of baby dumping cases reported, for example, in 2007 (six cases), 2008 (eight cases), 2009 (10 cases), 2010 (11 cases), 2011 (5 cases), and 2016 (10 cases) respectively (Ministry of Social Development and Urbanisation Sarawak, 2015 & “Domestic violence”, 2017).

**Preventive Programme.** In response to these issues, several preventive programmes at the ministerial and state levels were introduced. Among those programmes are the “My Beloved Generation” (*Generasiku Sayang*), which focused on teenage pregnancy using holistic strategies to reduce morbidities, mortalities and improving the quality of life of teenagers. The Sarawak government also introduced OSTPC (One Stop Teenage Pregnancy Committee), a collaboration between various related government agencies and non-governmental organizations (NGOs), to assist out-of-wedlock teenagers who are pregnant (“Kuching specialist”, 2016).

Hence, there is an increasing need to examine these social risk factors that might contribute to teenage pregnancy issues in Sarawak. Evidence show that social risk factors for teenage pregnancy in Malaysia and Sarawak in particular is related to premarital sexual activity, inadequate knowledge about sexual and reproductive health, social and economic inequities, urbanization, cultural and religious expectations (Hayward, 2011; Suan et al., 2015; UNICEF, 2008). Although there are several factors associated with teenage pregnancy in Sarawak, factors such as rural–urban migration, dysfunctional family relationship, flaws in customary law, alcohol and drug abuse, low awareness on sexual and reproductive health knowledge and pornography are prominent.

### Potential Social Risk Factors

**Rural–urban Migration.** A study by Hew (2001) highlighted several urbanization issues in Sarawak’s rural populations that affected their family connectedness in terms of parenting and parenthood. The findings indicated that rural–urban migration that involved single lady migrants from rural areas in Sarawak led them to become unwed mothers in bigger towns in Sarawak and other cities in Peninsular Malaysia. This issue is supported by data recorded that revealed Sarawak has the highest migration rate in Malaysia at 3.7% for the period of 2011–2012 (Department of Statistics Malaysia, 2012b). Poverty is the main reason why rural people migrate to urban areas in search for better opportunity. The poverty incidence rate for Sarawak was 2.5%, which was ranked third after Kelantan (2.7%) and Sabah (8.1%), respectively (Department of Statistic Malaysia, 2012c). This situation is slowly causing disintegration to the family institution among certain segments of rural and urban communities in Sarawak resulting from urbanization and poverty (United Nations Development Programme [UNDP], 2014).

In the same study, the author argued this issue (unwed single lady) was a consequence of village values being trapped in new situations because of the drastic change in values. Most of these young girls ended up working in small-scale industries, supermarkets, at restaurants as kitchen helpers or at entertainment outlets as a waitress. However, social values that dictated courtship behavior in the village

were not enforceable in the urban areas. Thus, these young girls were prone to various risky behaviors that might indulge them to teenage pregnancy such as pre-marital sex, substance use, truancy, and teen prostitution. These social problems were due to the sudden change of parental control that gave young girls in the city the opportunity to find self-expression through romantic love and sexual encounters.

Empirical evidence suggested that this phenomenon, the impact of rural–urban migration on its young population in Sarawak, was a replication of what had occurred in Peninsular Malaysia in the 1970s and 1980s. It involved young rural Malay girls who migrated to big towns to work as low skill laborers at multinational electronic and semiconductor companies in Kuala Lumpur, Penang and Johor Bahru and were called “*minah karan*,” the stigmatizing label that was associated with female factory workers with unregulated sexual behavior (Root, 2006).

### Dysfunctional Family Relationships.

The family institution plays an important role in inculcating good values among their children through good parenting and parenthood. Parental roles are crucial in supporting teenagers to understand positive and healthy sexual development. In two studies that looked into the impact of culture and family institution in Sarawak, Sebli (2011) and Hew (2011) pointed out the negative impact of some traditional culture values (e.g., *bejalai*) to the family institution such as parenting and parenthood, in which

deficits in these two aspects would create other social problems, which the local called *indai blue*.

According to the Iban traditional culture, *bejalai* is defined as an outward migration that involved Iban men searching for better opportunities in other places or to other countries to secure better jobs and stable income. *Indai* means mother in the Iban language and *blue* is the negative connotation of illicit sexual activities. Therefore, *indai blue* refers to cases of married women whose husband is working elsewhere (*bejalai*) and got involved in an illicit relationship with other men. The relationships between these two situations are when the wives go astray with other men because they were neglected by their husbands who are working elsewhere. These “spoilt wives” are the main causes of divorce. This problem is reflected in the substantial number of divorce cases (civil law) in Sarawak with 505 cases in 2005, 2008 (1,330 cases) and 2011 (917 cases) while the divorce cases according to customary law were 255 cases in 2005, 2008 (417 cases) and 2011 (325 cases), respectively (Ministry of Social Development and Urbanisation Sarawak, 2015).

Findings from similar studies in Peninsular Malaysia might predict that the dysfunctional family relationships are associated with the teenager’s involvement in risky behavior, which might lead them to pre-marital sex and teenage pregnancy. The evidence from a study on relationships between family processes and antisocial behavior in Peninsular Malaysia among

240 Malay single mother–adolescent dyads showed that teenagers from urban single-mother families with low functioning and low parenting quality were at a higher risk for engaging in risky behavior (Baharudin et al., 2011). Another study focusing on parental attachment for at-risk children’s antisocial behavior with the sampling comprising of 1,434 secondary school students from the state of Johor revealed that children were at the risk of being involved in antisocial behavior when their parental controls were either absent or ineffective due to the absence of parents at home (Bakar et al., 2015).

#### **Flaws in Marriage Customary Law (*Adat*).**

*Adat* law or customary law in Sarawak plays an important role in regulating social behavior that is accepted by the family institution, community, and society at large toward achieving harmonious inter-personal relations and to facilitate conflict resolution and the maintenance of a cohesive society (Bulan, 2007). Most of the non-Muslim natives in Sarawak comprise three major Dayak races namely the Iban, Bidayuh, and Orang Ulu. At the local level, such as district or riverine tributary, a cluster of villages or longhouses, the customary law is administered by the *penghulu* (local chief) who receives a salary from the state government (Suara Rakyat Malaysia [SUARAM], 2009). However, when compared to the civil marriage law that is well-documented and accepted, flaws in the system and implementation of marriage customary law is prone to exploitation

instead of providing some social norms, sanction, and values on marriage and the family institution.

This situation is highlighted in a study by Hew (2003), which focused on issues pertaining to weakness in the customary law among non-Muslim natives in Sarawak that involved marriage and family institution. Among common occurred cases, is when a young girl is pregnant out of wedlock. Most parents want to avoid negative stigmatization because their daughter was pregnant out of wedlock, and marriage through customary law is the best solution to “certify” or “legalize” the marriage. The marriage is then registered under customary marriage law that requires permission from the *penghulu*. Proper documents are needed if the marriage was solemnized under customary law and want their marriage to register under marriage civil law. However, in some cases, many chose not to do so because to register their marriage under the customary law with civil marriage law might put them against the law, for instance when a man marries an under-aged girl. The problem arises because in some cases, marriage customary law is not recognized under the civil marriage law by the Malaysian Registration Department (“JPN asked”, 2016).

In some cases when a married man gets involved in an illegitimate relationship with a young girl under customary law, he would only be fined for adultery. But under civil marriage law, it is considered statutory rape; however, parents or guardians do not want to charge the perpetrator; instead they insist them to marry otherwise she will

have no husband, while their grandchild will have no father (“Most teen”, 2016). Unlike the Muslim population, there are no authoritative bodies (*Jabatan Agama Islam Sarawak*) that oversee and regulate the non-Muslim population that marry under customary law in Sarawak and these create problems such as no marriage documentation and unavailable records among the non-Muslim population.

In short, instead of discouraging cases of being pregnant out of wedlock through strengthening social norms, sanction, and values on marriage and family institution, the weakness in the customary laws itself indirectly aggravated such problems. This contributes to a plethora of other problems, such as no civil marriage registration, a baby born having difficulties to obtain a birth certificate, baby born out of wedlock registered with their mother’s name instead of father’s name, and not being able to apply for a Malaysian identity card (Child Right Coalition Malaysia, 2012). Other literature also highlighted that early marriages and teenage pregnancy deprive these young girls of education and employment opportunities, imposing on them the burden of household responsibilities at a tender age, leaving them in poor bargaining positions and excluding them from critical decision-making (Asian-Pacific Resources & Research Centre for Women [ARROW], 2014).

**Alcohol and Drug Abuse.** Alcohol and drug abuse are considered a major public health issue due to health and social consequences such as increasing the risk and likelihood of

engaging in unsafe sexual behavior, non-condom use and having multiple sexual partners that may transmit STIs, HIV/AIDS, and unwanted pregnancy (CDC, 2017).

According to a report from the National Health and Morbidity Survey (MOH, 2012) Sarawak recorded the second highest alcohol consumption (19.7%) after Kuala Lumpur (20.3%). In the same survey, it was found that risky drinking was more prominent among the natives of Sarawak and Sabah (Mutalip et al., 2014, 2013). Another related study on alcohol use among young men in rural Sarawak showed that alcohol consumption among the rural Iban men increased with age (Amit et al., 2013). The severity of this problem could relate to a recent case of a young nurse under alcohol influence who was raped and dumped by the roadside in Kapit ("Half naked", 2016).

In another survey on pattern and drug misuse among Malaysian youth, the findings showed that Sarawak has the highest substance and drug misuse index (SDMI) compared to other Malaysian states, which is 1.74 while the mean score for Malaysia is 0.85 (Mohamed et al., 2008). SDMI is a single score consisting of a total of the scores for the weightage and the frequency of substance and drug misuse for all the licit and illicit substance. Another related study (Hashim et al., 2009) revealed that substance abuse (inhalant) among adolescents was a gateway to be involved in other dangerous drugs such as "syabu" and cocaine. Also, in the same study, it was found that teenagers started to be involved in substance abuse at the early age of 9 years. More recently,

it was reported that a teenager as young as 11-years-old was involved with sex-for-drugs in Kuching ("Draw up", 2013). A report from the Sarawak Welfare, Women and Community Wellbeing revealed that between January and June 2016, 216 arrests out of a total of 252 were drug-related cases involving individuals under 18 years in Sarawak ("Police half-year", 2016).

Although most cases of substance abuse in Sarawak involved inhalants, it could get them involved with other dangerous drugs and involvement along with other risky sexual behavior. Evidence from a study on 227 drug dependents methamphetamine and heroin in Kota Kinabalu, Kota Bharu and Kuala Lumpur revealed that the use of methamphetamine caused them to be more obsessed with sex (Isa et al., 2013).

**Low Awareness on Sexual and Reproductive Health.** Awareness on sexual and reproductive health (SRH) is among the vital elements needed to develop a teenager who is sexually healthy. However, awareness on SRH should be translated into behavior change in terms of adopting healthy lifestyles in negotiating with risky sexual behavior (MOH, 2007).

Several studies on sexual and reproductive health knowledge among the young population in Sarawak can be categorized into two parts; studies among general teenagers population and studies that target students in secondary school and colleges/universities. A study on risk and protective factors and risky sexual behavior among general adolescents in Sarawak

by the National Population and Family Development Board (LPPKN) indicated low knowledge on SRH; that only 39.5% have knowledge of how the baby is born and 45.5% know what a womb is (LPPKN, 2014). Findings also showed that friends and peers are the main sources of information about sexual health. In another study on the prevalence of premarital sex among students in one of the technical colleges in Kuching showed that the lower prevalence of premarital sex is related with higher levels of knowledge on HIV/AIDS, positive attitudes toward HIV/AIDS and higher intention on safe sex practice (Chia, 2010).

Furthermore, awareness on SRH among the Sarawak rural younger population is low because it is related to how far they could access primary and secondary school and healthcare services, such as clinics and hospitals (Kiyu et al., 2006). Accessing to better and modern facilities is limited, especially in rural areas. There are two main issues related to this scenario that may contribute to low awareness on SRH. First, the Federation of Reproductive Health Associations, Malaysia (Federation of Reproductive Health Associations Malaysia [FRHAM], 2017) reported that there is an unmet need in terms of teenagers who are not aware of healthcare services provided by the clinics even though the services are available (FRHAM, 2017). Second, lack of modern infrastructure in rural areas contributed to primary–secondary school transition dropouts because primary schools are located in their community but secondary schools are mostly available in towns,

thus there are significant lower schooling completion rates at the secondary level among the rural students compared to the primary level because rural students cannot afford to accommodate transportation cost (Ministry of Education Malaysia, 2014). Thus, lower schooling years in secondary school might reduce their accessibility to sexual and reproductive health education that is taught in secondary schools.

**Pornography.** Pornography influences the adolescent's thought and behavior, and inspire them with inappropriate sexual desires, which for vulnerable teens can become psychologically addictive, leading to sexual disorders (Fung & Zhimin, 2015). Furthermore, teenagers can learn sexual behaviors from observing the behaviors depicted in the sexually explicit material (Owens et al., 2012). Closely related to pornography is online sexual behavior or "sexting" which involves the transmission or sharing of sexually explicit images, text or messages via an electronic device (Houck et al., 2014). Peter and Valkenburg (2006) suggested that this situation was accelerated by three elements: accessibility to the source and channels of information, anonymity due to assessing information online through personal information and communication technology (ICT) gadgets, and affordability with ICT getting cheaper.

In general, 90% of Malaysian school children used the Internet and 83% were susceptible to online dangers due to poor supervision which is based on online behavior among young people in Malaysia

(CyberSafe, 2015). In Sabah and Sarawak, a study focusing on risk and protective factors affecting teenagers indicated that access to pornography material is among the main risk factors associated with premarital sex (LPPKN, 2014). In the same study, the average daily hours spent in a day on the Internet among respondents in Sarawak revealed that social media is the main source in accessing pornographic material. This finding is supported by a more recent qualitative study conducted in Kapit, Sarawak which explored teenagers' perceptions toward teenage pregnancies issues, which showed that informants perceived social media as the main communication channel in sexual promiscuity relations among friends (Brandah, 2017).

Based on the aforementioned discussion, there is a potential risk that access to pornography among Sarawak teenagers may lead to involvement in risky sexual behavior because evidence from other international studies on pornography and online sexual behavior indicated its associations with risky sexual behavior. In the United States, a study among 420 participants from five urban public middle schools in Rhode Island on online sexual behavior and pornography among at-risk teenagers showed that sexting was associated with higher rates of engaging in a variety of sexual behaviors, and sharing photos (pornography) was associated with higher rates of sexual activity than sending text messages only (Houck et al., 2014). While another related study in the United States, Youth Risk Behaviour Survey among

Los Angeles high schools on "sexting" and sexual health indicated that teenagers who did "sexting" themselves were more likely to report being sexually active (Rice et al., 2012).

## DISCUSSION

The prevalence of teenage pregnancy in Sarawak was among the highest in Malaysia and there is a possibility that the data only accounts for cases reported in the state government clinics and hospitals. This figure may not describe the actual magnitude of the problem because unreported cases of pregnant teenagers that are not registered in government clinics and hospitals may be bigger if the numbers combined with the actual reported cases of teenage pregnancy. This may be due to psychological factors such as shame, guilt, and stigmatizing from peers and community. Thus, these possibilities must be taken into account in describing the prevalence of teenage pregnancy in Sarawak.

There seem to be some similarities and differences in terms of contributing social risk factors for teen pregnancy in Sarawak and other states in Peninsular Malaysia. A similar study on risk and protective factors showed that sexual activity among Malaysian adolescents aged 18 to 19 years was positively associated with pornographic viewing (Awaluddin et al., 2015) and evidence from a study on drug abuse indicated an association between using methamphetamine and sexual activities (Isa et al., 2013).

However, some contributing sociocultural factors such as weakness in marriage customary law or “*adat*” laws and “*bejalai*” culture on teenage pregnancy are unique to Sarawak. Any attempt to describe teenage pregnancy issues in Sarawak should take into account the social determinants of health in the state – poverty, social and economic inequities, urbanization, poor living, and cultural and religious expectations (ARROW, 2014 & UNICEF, 2008). Hence, preventive and rehabilitative programs implemented by various stakeholders must end this so-called vicious circle—the daughters of young, married or unwed, and uneducated mothers are also likely to drop out of school and get married early in the future (“Advocacy programme”, 2017).

Any intervention program to tackle premarital sex and teenage pregnancy among teenagers in Sarawak also must look into other related health issues such as STIs and HIV/AIDS. Among the contributing factors such as premarital sex and substance abuse are major risk behaviors toward HIV/AIDS (MOH, 2011). For instance, HIV/AIDS cases in Sarawak had doubled up in the past 10 years, from 3.5 per 100,000 in 2003 to 7.5 per 100,000 in 2013 and also recorded the highest syphilis cases (176 cases) in Malaysia (Department of Statistics Malaysia, 2012a). Although Sarawak is not considered to be in a crisis stage pertaining to the AIDS epidemic, there is a need to pay attention to the illness to avoid any outbreak or epidemic (Chong, 2007). Baer (2007) pointed out that among urban health issue

that will have serious repercussions in the rural areas in Sarawak is STIs and HIV/AIDS. With the high level of labor mobility in the state, the fear is that such urban health issues will become problems in the rural areas as well. Therefore, addressing sexual and reproductive health issues might not only reduce teenage pregnancy cases but also HIV/AIDS cases as well.

However, studies pertaining to teenage pregnancy and other social issues related to sexual behavior among teenagers in Sarawak are limited because this area of research is considered sensitive to the local community (Low, 2009). Furthermore, most of these issues are reported in the local newspaper such as “The Borneo Post” which is less credible compared to those articles that were published in peer-reviewed journal. However, this problem is also resulted in lack of quality studies related to teenage pregnancies issues that were published in local or international medical journal (Suan et al., 2015). This might contribute to a lack of input to strengthen the evidence-based health education strategies in inculcating positive sexual health among the young population (Noar & Zimmerman, 2005). Hence, there exists an unmet need in investigating this issue in the future.

## CONCLUSION

In conclusion, there are various social risk factors that may contribute to teenage pregnancy issues in Sarawak. However, some aspects of the problem remained less explored and this needs some in-depth investigation to get a better understanding

of the root cause of the problem. A better understanding of these issues can strengthen the effectiveness of health education strategies toward improving sexual and reproductive health among the Sarawak's young population.

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