ORIGINAL ARTICLE

# Knowledge, utilization and barriers to primary care services for sexual and reproductive health among adolescents in secondary schools in Selangor, Malaysia

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**Abstract**

Early sexual debut, partner violence, pregnancy and sexually transmitted infections contribute to negative health outcomes among adolescents. While the primary care clinics offer accessible sexual and reproductive health (SRH) services to adolescents, it is uncertain whether adolescents are aware of and utilize these services. This study aimed to examine Malaysian adolescents' knowledge, utilization and barriers to primary care services for SRH. A cross-sectional survey was conducted from August to November 2011 among adolescent from five randomly selected schools in Selangor, Malaysia. A self-administered questionnaire was used to assess their knowledge, attitudes, sexual behaviors and utilization of SRH services. A total of 680 adolescents participated in the study. One in ten of the adolescents were aware of the availability of SRH services, and only 6.9% of them had ever visited a primary care clinic for SRH. About 75% of them felt uncomfortable going to a primary care clinic for SRH services. Knowledge and utilization of primary care clinics for SRH among adolescents in Malaysia is poor.

## Introduction

In Malaysia, primary care doctors are accessible to most of the population, including adolescents.[1] The Ministry of Health (MOH), Malaysia developed the National Adolescent Health Policy in 2001 and the National Adolescent Health Plan of Action 2006-2020 in 2007.2 Health care services, including SRH services, were made available with widespread access to adolescents in all primary, secondary and tertiary health care facilities in Malaysia (United Nations, 2012).[2] MOH has also been advocating for the provision of SRH services for adolescents, regardless of their marital status.2 Besides the health care facilities under MOH, another source of SRH health services for young people is the Kafe@teen Adolescent Centre run by National Population and Family Development Board under the auspices of the Ministry of Women, Family and Community Development.[3] In addition, there is the Federation of Family Planning Associations of Malaysia, which is a nongovernmental organization that has branches nationwide and provides on-site as well as outreach reproductive health services.[4] However, it is unclear if adolescents are aware of these services, especially as they pertain to SRH. Several studies in Malaysia have found that adolescents underutilize health service for other health matters.[5-7] A cross-sectional study done in 2006 and 2011 among secondary schools students in Malaysia showed that 69.4% and 76% of them had dysmenorrhea, respectively.[5,7] However, the percentage of secondary school students seeking medical consultations is still low despite showing an incremental from 11.1% in 2006 to 14.8% in 2011.[5,7] Another cross-sectional study on 1092 adolescent females from 94 school in Kuala Lumpur found that 80.7% of these females experienced one or more affective symptoms and 83.6% experienced somatic symptoms in the pre-menstrual phase.6 Similarly, only 10.3% of these adolescent girls consulted their doctors.[6] However, these figures could be due to symptoms not requiring a doctor's consultation, self-care and using alternative treatments.

Utilization of health facilities is a direct outcome measure of health care interventions, and an increase in health service utilization has been associated with better health outcomes.[8,9] Sexual activity is common among adolescents, and the sexual behaviors they engage in put them at risk for contracting sexually transmitted diseases as well as experiencing unwanted pregnancies, the complications of high-risk pregnancies and unsafe abortions.[10-12] SRH

among adolescents and their demands for health services are related to the level of their awareness, and better knowledge of SRH improves adolescents' acceptance and utilization of health services.[8] Several other complex factors that influence the health service utilization of adolescents include their social-cultural influences, perceived needs, access to health services and provider barriers.[13-15] In many instances, adolescents do not reveal their SRH problems and tend not to use the healthcare services they actually need.[5] This behavior may be due to inadequate information, limited access to financial resources or negative attitudes of health workers.[14] Studies have found that the most effective way to improve healthcare utilization is to remove provider barriers through improving timeliness, privacy, confidentiality, comprehensiveness and continuity of care.[14] A qualitative exploration among adolescents undertaken in order to understanding their SRH needs showed that there are gaps in addressing SRH issues.[16] Adolescents experience many SRH issues and lack of support. They have poor health-seeking behavior, and this exploration emphasized the need for adolescent-friendly healthcare services.[16]

To date, there has been no study published in Malaysia that determines adolescents' knowledge and utilization of primary care services for SRH. Therefore, this study aimed to determine this information. The secondary outcome of this study is an examination of the barriers to utilization of SRH services.

**Methods**

This cross-sectional study was carried out among Form Four students in secondary schools in a district in Selangor, Malaysia from August to November 2011. Five out of 70 available publicly-funded secondary schools were randomly selected. Using the Open Epi calculator, the calculation of the total sample size was made based on clustered random sampling with a confidence level of 95% and an estimated 80% prevalence of knowledge concerning SRH, which came from a pilot study of 66 Form Four students.[17] The sample size was then doubled to allow a comparative analysis between male and female participants. An additional 20% was built in to take into consideration potential non-responders, giving rise to a total sample size of 600. The sample was then stratified according to the total number of students in each school.

This study utilized a questionnaire developed by the United Nation's Population Fund (UNFPA) to assess knowledge of, attitudes concerning and utilization of SRH services.18 It consists of various domains, including knowledge and utilization of SRH services, factors involved in repeat usage of or refusal to use SRH services, personal experiences involving SRH services and sexual behaviors. The content of the questionnaire was validated by three family medicine specialists. The questionnaire also underwent forward and backward translation from English to the Bahasa Malaysia language with the help of qualified translators. The researchers who are fluent in both English and Bahasa Malaysia languages then reviewed the translated version. The questionnaires were pilot tested on 66 Form Four students at one of the schools for face validity and modified to suit local use. The data were analyzed using SPSS version 19.

Analysis was done on available data for each item. Statistical analyses were carried out using the Chi-square test for categorical data followed by the forward selection approach to binary logistic regression in order to identify independent predictors. In other words, nominal variables ($p < 0.1$) identified by the Chi-square test were tested further using binary logistic regression analysis to look for significant associations between the independent variables and the dependent variable. The first dependent variable examined was knowledge of SRH services, defined as being aware of the availability of places or clinics to visit to talk or find out about SRH-related topics in their communities. The independent variables in this case consisted of gender, head of household, health decision maker, religion, race, the ability to read, the ability to write, smoking, alcohol consumption, gambling and drug abuse. The other dependent variable examined was the utilization of SRH, defined as visiting any health facilities or clinics for SRH services in the past year. The independent variables in this case consisted of gender, head of household, health decision maker, religion, race, ability to read, ability to write, smoking, alcohol consumption, gambling, drug abuse, knowledge of SRH services and sexual activity.

Ethics approval for this study was obtained from the University Malaya Research Ethics Committee (reference number 848.6). Permission was granted by the Ministry of

Education Malaysia (Educational Planning and Research Unit) and the State Education Department of Selangor to conduct the study at selected schools. At the school level, separate permission was obtained from each head teacher before the study was conducted. Parents went through the participant information sheet and provided written consent one week before data collection.

## RESULTS

*Sociodemographic characteristics*

The response rate for this study was 79% (n=680/866). Reasons for not responding were failure to provide parental consent and not present during the data collection day. The participants' socio-demographic characteristics are shown in Table 1.

**Table 1.** Sociodemographic characteristics at one month after motor vehicle accident

| Characteristics | Number | % |
|---|---|---|
| *Age (n=678)* | | |
| 15 | 93 | 13.7 |
| 16 | 515 | 76.0 |
| 17 | 69 | 10.1 |
| 18 | 1 | 0.2 |
| *Gender (n=678)* | | |
| Male | 214 | 31.6 |
| Female | 464 | 68.4 |
| *Ethnic group (n=678)* | | |
| Malay | 323 | 47.6 |
| Chinese | 222 | 32.7 |
| Indian | 115 | 17.0 |
| Other | 18 | 2.7 |
| *Religion (n=678)* | | |
| Muslim | 334 | 49.2 |
| Buddhist | 172 | 25.4 |
| Hindus | 94 | 13.9 |
| Christian | 65 | 9.6 |
| Others | 13 | 1.9 |
| *Head of household (n=671)* | | |
| Myself | 6 | 0.9 |
| Father | 579 | 86.3 |
| Mother | 62 | 9.2 |
| Others | 24 | 3.6 |
| *Health decision maker (n=665)* | | |
| Myself | 100 | 15.0 |
| Father | 58 | 8.7 |
| Mother | 212 | 31.9 |
| Both father and mother | 282 | 42.4 |
| Others | 13 | 2.0 |
| *Ability to read (n=679)* | | |
| No difficulties | 585 | 86.2 |
| Reading difficulties | 94 | 13.8 |
| *Ability to write* | | |
| No difficulties | 589 | 87.6 |
| Writing difficulties | 83 | 12.4 |

*Knowledge of SRH services*

Only 10.8% (n=73) reported having knowledge concerning the availability of SRH services. There were significant associations between the knowledge of SRH service availability and the variables head of household (p=0.001), health decision maker (p=0.005), and religion (p=0.0021) (Table 2). Gender, race, the ability to read, the ability to write, smoking, drinking alcohol, gambling and sexual activity were not significantly related to knowledge of SRH services.

**Table 2:** Sociodemographic characteristics associated with the knowledge of SRH service availability

| Characteristic | Knowledge of SRH services | | Chi-square value | P value[a] |
|---|---|---|---|---|
| | Yes n (%) | No n (%) | | |
| *Head of household (n=678)* | | | | |
| Father | 56 (8.3) | 521 (76.8) | 13.097 | 0.001* |
| Mother | 6 (0.9) | 56 (8.3) | | |
| Other | 11 (1.6) | 28 | | |
| *Health decision maker (n=663)* | 70.7 ± 11.3 | (4.1) | | |
| Adolescent | 19 (2.9) | 81(12.2) | 12.808 | 0.005* |
| Father | 1(0.2) | 56 (8.4) | | |
| Mother | 21(3.2) | 190 (28.7) | | |
| Other | 28(4.2) | 267 (40.2) | | |
| *Religion (n=678)* | | | | |
| Muslim | 35 (5.2) | 297 (43.8) | 11.527 | 0.021* |
| Christian | 9 (1.3) | 56 (8.3) | | |
| Buddhist | 19 (2.8) | 153 (22.6) | | |
| Hindu | 5 (0.7) | 89 (13.1) | | |
| Other | 5(0.7) | 10 (1.5) | | |

[a] Chi-square test
* P value< 0.05

However, only the health decision maker was significantly associated with knowledge after adjusting for confounders using logistic regression. Adolescents who make their own health decisions were more likely to be aware of the availability of SRH services compared to when the decision makers were their parents (OR: 2.00; 95% CI: 1.021 to 3.911; p=0.043) (**Table 3**).

**Table 3:** Association between knowledge of availability of SRH services and adolescent health decision maker established by binary logistic regression.

| Factor | B | SE | OR | 95% CI | P value |
|---|---|---|---|---|---|
| *Health decision maker (n=663)* | | | | | |
| Self | 0.692 | 0.343 | 1.999 | 1.021-3.911 | 0.043* |
| Father | -1.725 | 1.032 | 0.178 | 0.024-1.346 | 0.095 |
| Mother | 0.068 | 0.317 | 1.070 | 0.575-1.992 | 0.830 |
| Others | R | - | - | - | . |

* P value< 0.05
R Reference category

*Utilization of sexual and reproductive health services*

Only 6.9% (n=40/583) of the adolescents had ever visited health facilities for SRH in the past year, and 6.5% (n=38/583) would like to have done so but thought that the service was not available. Gender, ability to read, ability to write, drinking alcohol, drug abuse, knowledge of SRH services and sexual activity were found to be associated with utilization of services (**Table 4**). Head of household, health decision maker, religion, race, smoking and gambling were not significantly associated with the utilization of SRH services.

**Table 4:** Associations between service utilization and sociodemographic characteristics, knowledge of SRH services and sexual activity

| Characteristic | Utilization of service | | Chi-square | P value |
|---|---|---|---|---|
| | Yes | No | | |
| *Gender (n=583)* | | | | |
| | 19 (3.3) | 161 (27.6) | 5.562 | 0.018* |
| | 21 (3.6) | 382 | | |
| *Ability to read (n=583)* | | | | |
| Yes | 29 (5.0) | 482 (82.7) | 9.106 | 0.003* |
| No | 11(0.2) | 61 (10.4) | | |
| *Ability to write (n=583)* | | | | |
| Yes | 31(5.3) | 485 (83.2) | 5.116 | 0.024* |
| No | 9 (1.5) | 58 (10.0) | | |
| *Drinking alcohol drinking (n=546)* | | | | |
| Yes | 9 (1.6) | 60 (11.0) | 4.514 | 0.034* |
| No | 29 (5.3) | 448 (82.1) | | |
| *Drug abuse (n=530)* | | | | |
| Yes | 3 (0.6) | 8 (1.5) | 7.442 | 0.006* |
| No | 33 (6.2) | 486 (91.7) | | |
| *Aware of SRH services (n=582)* | | | | |
| Yes | 16 (2.7) | 46 (8.0) | 38.866 | <0.001* |
| No | 24 (4.1) | 496 (85.2) | | |
| *Sexual activity (n=557)* | | | | |
| Yes | 6 (10.8) | 16 (2.9) | 16.407 | <0.001* |
| No | 30 (5.4) | 505 (90.7) | | |

[a] Chi-square test
* P value< 0.05

Analysis using logistic regression found that adolescents with knowledge of SRH services was significantly more likely to utilize the services as compared to the others (OR: 7.83; 95% CI: 3.36 to 18.21; p<0.001) (Table 5).

**Table 5:** Association between service utilization and knowledge of SRH services using binary logistic regression..

| Factor | B | SE | OR | 95% CI | P value |
|---|---|---|---|---|---|
| *Knowledge of SRH services* | | | | | |
| Yes | 2.057 | 0.431 | 7.825 | 3.362-18.211 | <0.001* |
| No | R | - | - | - | - |

R Reference category
* P value< 0.05

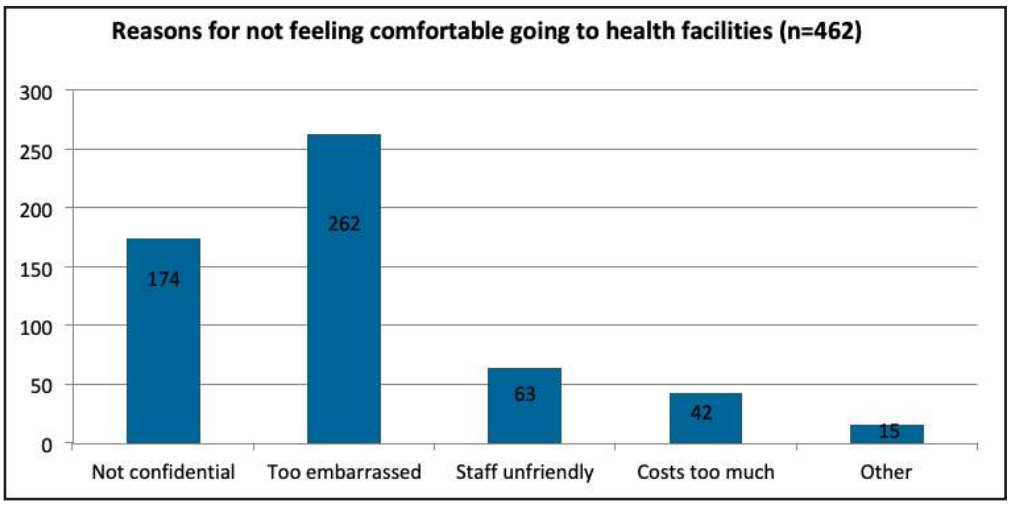
*Barriers to SRH service utilization*

A total of 639 responded to the question regarding barriers to visiting SRH facilities. Almost three-quarters (72.3 %; n=462/639) felt uncomfortable going to health facilities for issues related to SRH. In particular, 56.7% (n=262/462) felt 'too embarrassed' to do so, 37.7% (n=174/462) were worried about confidentiality, 13.6% (n=63/462) felt that the health staff was unfriendly, 9.1% (n=42/462) were concerned about high costs and 3.2% (n=15/462) has various other reasons for avoiding SRH facilities (**Figure 1**).

## Discussion

It is a public health concern that most of the adolescents in this study did not have knowledge on the SRH services within their community. Although the findings were different from findings in the UK and US, similar low levels of SRH service knowledge have been reported in other Asian countries such as Thailand, Sri Lanka and Hong Kong.[19-23] Adolescent knowledge of SRH services was strongly associated with the utilization of the services. Those who were aware of the availability of the SRH services

**Figure 1:** Reasons given by participants for not feeling comfortable going to health facilities for sexual and reproductive health services




were eight times more likely to utilize those services than those who were not aware of the availability. Lack of awareness among participating adolescents might be a reflection of their poor knowledge and reasons for the poor knowledge require further exploration.[22] In addition, adolescents who make their own decisions regarding their health were two times more likely to be aware of the availability of SRH services compared to the rest of the adolescents in this study, suggesting that adolescents should be encouraged to take part in making decisions concerning their own health.

The World Health Organization's conceptual framework model mentioned the need to increase adolescent awareness and build their knowledge of SRH services in order to increase utilization.[8] Improving the rate of service utilization is associated with better SRH-related outcomes.[9]

The percentage of adolescents who visited health services for SRH in this study was extremely low (6.9%), lower even than the findings of previous local studies, in which up to 15% of adolescents were seeking medical consultations for sexual and reproductive health problems.[5-7] This difference could be due to the difference in baseline characteristic since the previous studies only included female participants.

This study also found that 6.5 % of the participating adolescents reported wanting to visit health services for SRH, but that services or facilities were not available. The lack of access to SRH services may be one of the important barriers to service utilization among these adolescents. This finding was similar to that of a study done in Sri Lanka, which reported that the lack of availability of services was one of the important barriers to the utilization of health services for SRH.[22]

Embarrassment and confidentiality were found to be important barriers to the utilization of primary care services for SRH. Studies in Sri Lanka and Hong Kong also found confidentiality to be a main barrier to the utilization of health services for SRH, but embarrassment was not considered to be a main barrier.[22,23] However, a study done in Thailand found that stigmatization, inadequate confidentiality and negative attitudes on the part of health care providers were barriers to the utilization of health services for SRH.[20] The observed differences between these studies (including the present study) could be related to cultural differences, especially since sex remains a sensitive topic in some communities. Previous studies in Canada and the US found that an adolescent's perceived need for SRH services was an important reason for health service utilization.[13,15] Our study, however, did not explore if a lack of perceived need could be a reason for poor service utilization in Malaysia. Therefore, further exploration of perceived needs for SRH services is needed.

About three-quarters of the adolescents in this study were not comfortable going to health facilities for SRH services, and the most common reason reported for this uncomfortable feeling was being embarrassed. More than half of the adolescents who have not visited health facilities for SRH

stated that they were embarrassed to go to the facilities, suggesting that sexually-related topics are still sensitive within our culture. This attitude might be rooted in the taboos surrounding the discussion of sex in Malaysian communities.[24,25] In addition, negative news in the mass media linking sex to prostitution, abandoned infants, sexual violence, drug abuse, and various other psycho-social issues has been reported to affect the public's perception of sex.[24,25] Further exploration of the reasons for feeling embarrassed is needed and perceptions regarding sexually-related topics should be discussed properly with adolescents. Schools, the mass media, communities, guardians, and health care workers should play their appropriate roles when dealing with this issue. SRH should be addressed in such a way that it is part of regular, overall health, and problems in this area should not be stigmatized.

Lack of confidentiality was another important reason for adolescents to not feel comfortable visiting health facilities for SRH services in this study. About 38% of adolescents who have not visited health facilities for SRH stated that they worry about confidentiality. Adolescents should be informed that they are entitled to confidential services, and this information should be delivered as part of any SRH educational materials. In addition, health personnel should be informed that adolescents have the right to receive confidential services.[14] Further, they should receive training concerning being more sensitive and not being judgmental. Confidentiality in consultations, the provision of gender-specific adolescent clinics, choice of staff by gender, and free services are all guaranteed at the facility level via government policies.[21]

Unfriendly staff in health facilities and cost were two other significant barriers for adolescents in terms of accessing health facilities in this study. Efforts to tackle these two issues should be made, as either of these two factors could prevent an adolescent from accessing their SRH even if they wished to do so. Improvements could be made by observing and providing counseling to problematic staff.[21] Training should emphasize non-judgmental attitudes, cultural issues and sensitivity towards adolescents' problems.[21] In terms of medical cost, adolescents attending school receive free treatment at public health facilities in Malaysia but not at private health facilities. Relevant policies should be formulated to ensure that cost is not a barrier to SRH services for adolescents.

A small percentage of adolescents in this study responded that they wanted to avail themselves of SRH services, but the services or health facilities were not available. This result might imply that either the SRH services were not provided by the health facilities available to the adolescents or that the SRH services were not widely known to the community. Therefore, more research on provider-level barriers needs to be conducted in a local context to look for potential barriers. Doing so is important, as adolescent SRH depends on service utilization, and service utilization depends on two important factors, i.e., supply and demand. Provider-level barriers affect the supply of services and thus limit overall utilization and outcomes.[20]

**Conclusion**

Adolescents' knowledge of the availability of primary care services for SRH and their utilization of such services were extremely low in this study. This result is most likely due to barriers related to the sensitive nature of SRH, healthcare providers' attitudes and the availability of such services. This study highlights the importance of, and urgency in, empowering adolescents through SRH education and engaging healthcare professionals in providing SRH services that are sensitive to the needs of adolescents.

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