Original Research Article

Utilization and associated factors of sexual and reproductive health services among adolescents of Kathmandu district, Nepal

Sushma Pokhrel1*, Susmita Nepal1, Prajita Mali1, Sweekhya Baskota1, Richa Aryal1, Alisha Thapa1, Vidya Chaudhary1, Nabina Malla2

1Department of Public Health, Om Health Campus, Purbanchal University, Nepal
2Geruwa Rural Awareness, Bardiya, Nepal

ABSTRACT

Background: There seems to be huge differences in availability and utilization of Sexual and Reproductive Health information and services despite of taking decisive step by Government of Nepal. The main aim of the study is to access the utilization and factors associated with SRH services among adolescents.

Methods: This cross-sectional descriptive study was carried out among 406 adolescent students of grade 11 and 12 which were taken as census in selected higher secondary schools of Kathmandu District through simple random sampling technique. The utilization of SRH services was assessed by semi-structured validated and pretested questionnaire which includes socio-demographic, utilization of sexual health and reproductive health (SRH) services and sexual behaviours. Data were entered and analyzed in SPSS version 20 where Chi-square tests is done to identify the associated factors with utilization SRH services utilization.

Results: Overall utilization in last 12 months was 17.2% and was found to be strongly associated with availability of services within 30 minutes of walking distance \((p \text{ value}=0.001)\), interaction with parents \((p\text{-value}: 0.02)\) and with sexually being active within 12 months \((p\text{ value}=0.001)\). Utilization of SRH services was slightly higher among females \((19.8\%)\) compared to males \((15.3\%)\). Most utilized services were services related to menstrual problems and family planning including ECP. This study concludes that fear of family and society hinders the utilization of SRH services.

Conclusions: As adolescent fear to talk and seek for the services, due to the social cultural norms and stigma attached to SRH services, utilization among adolescent of selected colleges in Kathmandu is low.

Keywords: Adolescence, Sexual and reproductive health, Utilization, Health service

INTRODUCTION

Adolescence refers to the transition period between the age 10 and 19 years or transition from childhood to adulthood which is characterized by physical, cognitive, behavioral, physiological and social changes. Physical transition/changes comprises of voice, appearance and sexual activeness. Psychological transition/changes comprise of individual thinking. Social transition/changes where they begin to give some thought about their rights. Behavioral transition/changes comprises of sentimental sentiments, mood swings, self-consciousness and cognitive transition/changes where they question authority and express their personal opinions.

According to WHO, sexual health is defined as “a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of...
disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable sexual experience, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled.\textsuperscript{2} The International conference on population and development (ICPD) 1994 defined reproductive health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity in all matters concerning the reproductive system and to its functions and processes. Reproductive health therefore implies the people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Implicit in this last condition are the right of men and women to be told and to possess access to safe, effective, affordable and acceptable methods of family planning of their choice, also other methods of their choice for regulation of fertility which aren’t against the law, and therefore the right of access to appropriate health-care services that will enable women to go safely through pregnancy and childbirth and provide couples with the best chance of having a healthy infant” (ICPD 1994).\textsuperscript{2}

Amid this transition period, adolescent begins to characterized and clarify sexual values and begins to undertake with sexual behavior regularly which increases the prospect of STIs, HIV/AIDS and unwanted pregnancy.\textsuperscript{1} Adolescence specific issues and rising grown-up clutters can incorporate sexual activity, menstrual issues, and mental and behavioural well-being issues.\textsuperscript{3} Youthful regenerative well-being may be considered as imperative components of worldwide 4 and it should be a key intercession that encourages a sound move from childhood to adulthood.\textsuperscript{5} ASRH is one in all the basic components of reproductive well-being program in Nepal. Different variables like early marriage, gender disparity, social status, social standards and convention decide adolescents assess to sexual and reproductive health information and accessible sexual and reproductive health services.\textsuperscript{2} In Nepal, adolescent confront a variety of challenges counting harmful sexual orientation standards and values or home like early marriage, dowry, peer pressure, limited participation within family, community and national level.\textsuperscript{6}

Sexual activity is normal during this age group in line with census 2001; there are 100 ethnic and caste groups. As a multi-cultural and multi-ethnic community, its different cultures and castes have their own standards, values and tradition that play a significant role in unsafe sexual practices.\textsuperscript{7} In Nepal, current rates of HIV infection, pregnancy and unsafe abortion are on the rising, while sexual and reproductive health education and services are given.\textsuperscript{8}

The main aim of this study was to access the utilization and associated factors of SRH services among adolescent of selected higher secondary schools of Kathmandu.

**METHODS**

**Study design, study population and sample size**

The purposively selected location was Kathmandu city as ASRH program has already been established and implemented here which means this survey can be used as an assessment of gap between availability and utilization of services and can be used as baseline for determining factors associated with utilization of health services.\textsuperscript{9} This is a cross sectional descriptive study was carried out to assess the utilization and associated factors of Kathmandu district. The study was conducted from August 2019 to September 2019.

The study participants were both male and female students pursuing their studies in higher secondary schools of Kathmandu city.

The inclusion criteria were any adolescents aged 10-19 years, willing to participate with the knowledge of English and Nepali language.

Similarly, exclusion criteria were students aged above 20 years and those who did not gave consent.

**Sample size**

At 95\% confidence interval (CI) and allowable error 5\%, prevalence was taken as 50\%.

Here, C.I. \( (z) = 95\% = 1.96, \) Error \( (d) = 5\% = 0.05, \) Prevalence \( (p) = 50\% \) and \( q = 1-p = 0.5. \)

So, Sample size \( = \frac{z^2pq}{d^2} \)

\[ = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2} \]  \hspace{1cm} (1)

\[ = 384 + 10\% \text{ non-response rate} \]

\[ = 422 \]

Therefore, the total sample size was 422 while consent of only 406 students was obtained.

**Questionnaire development**

In this study, socio-demographic characteristics, utilization of SRH services and sexual activity related information were investigated. The questionnaire was adapted from previously conducted study.\textsuperscript{3} Required modifications were made to the original questionnaire such as sequence to the question and the students being
sexually active were asked to complete an additional section. Questionnaire was pretested among 40 participants of similar age, background and grade level in higher secondary school of Bhaktapur district, Nepal.

**Ethical approval, institutional permission, and participant consent procedures**

Ethical approval was obtained from Nepal Health Research Council (NHRC) Reg. No. 370/2019 to conduct this study and approval for data collection was obtained from college authority meeting all inclusion and exclusion criteria. Signed informed consent was obtained from all participants prior to data collection.

**Variables and measurements**

In this study, the dependent variable was whether a participant had ever utilized SRH services which were measured through the dichotomous response i.e. yes or no. And further the positive response was validated with question on the types of SRH services utilized which includes family planning, sexually transmitted infection (STI), voluntary counselling test (VCT) for HIV/AIDS, services related to menstrual problems. Independent variables in this study include socio-demographic variables (such as age, gender, marital status, ethnicity, religion, living arrangement, and interaction with parents); health facility related variables (such as perceived availability of services, perceived sexual preference).

**Data analysis**

After the collection of data, it was checked thoroughly, edited and coded into different categories. Data were then entered and analyzed in IBM Statistical Package for Social Sciences (SPSS) version 20. Data was organized and presented by applying principles of descriptive statistics. Univariate analysis was done and presented through frequency and percentage.

Bivariate analysis was done using chi-square test to assess the association between dependent and independent variable and logistic regression using odds ratio to analyze the relationship of an outcome.

**RESULTS**

**Response rate**

A total of 422 questionnaire were circulated of which 16 questionnaires were excluded as the participant didn’t provide consent for the participation. Therefore, the final response rate was 96.2% (406/422).

Table 1 shows that the socio-demographic characteristics of the respondents. Out of 406 respondents, the majority of population i.e. 95.6% was found to be between age group 16-19 years. More than half of respondent were male i.e. 56.4%. Among the total population, half of the populations were Brahmin/Chhetri followed by 38.6% Janajati, 3.5% Madhesi and 3% Dalit. Majority of the population was Hindu (80.5%). Almost all the respondent’s father was found to be literate i.e. 96%. The majority of the respondent’s mothers were literate i.e. 86.9%. Majority of respondent’s father were found engaged in business i.e. 44.8%, 13.1% was found to be in foreign employment, 18.2% was found to involved in formal employment, 17% in agriculture and 6.9 were daily laborer. Majority of respondent’s mother were housewife i.e. 58.4%, 11.6% involved in agriculture, 15.5 in business, 2.7% and 2% in daily labor and foreign employment respectively. That most of the respondent was living with parents i.e. 65.7%, while 22.7% lives with relatives, 8.9% lives alone and 2.7 in school dormitory. Respondent having close interaction with parents were 47.8%, 43.6% have neutral interaction and 8.6% of them have distinct interaction.

**Utilization of SRH services**

The overall utilization of SRH services in the last 12 months was 17.2%. Utilization of SRH services was slightly higher among females i.e.19.8% than in male in i.e. 15.3% (Figure 1).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
</tr>
<tr>
<td>13-15</td>
<td>18 (4.4)</td>
</tr>
<tr>
<td>16-19</td>
<td>388 (95.6)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1: Proportion of utilization of SRH services.
Characteristics | N (%)  
--- | ---  
Male | 229 (56.4)  
Female | 177 (43.6)  
Religion |  
Hindu | 327 (80.5)  
Muslim | 4 (1)  
Buddhist | 53 (13.1)  
Christian | 20 (4.9)  
Others (kirat) | 2 (0.5)  
Ethnicity |  
Brahmin/Chhetri | 223 (54.9)  
Dalit | 12 (3)  
Janajati | 157 (38.6)  
Madhesi | 14 (3.5)  
Educational status of father |  
Illiterate | 16 (4)  
Literate | 63 (15)  
Primary-higher secondary | 262 (65)  
Bachelor and above | 65 (16)  
Educational status of mother |  
Illiterate | 53 (13.1)  
Literate | 109 (26.8)  
Primary-higher secondary | 217 (53.4)  
Bachelor and above | 27 (6.7)  
Occupation of father |  
Formal employment | 74 (18.2)  
Agriculture | 69 (17)  
Daily labourer | 28 (6.9)  
Foreign employment | 53 (13.1)  
Business | 182 (44.8)  
Occupation of mother |  
Formal employment | 40 (9.8)  
Foreign employment | 8 (2)  
Agriculture | 47 (11.6)  
Daily labourer | 11 (2.7)  
Housewife | 237 (58.4)  
Business | 63 (15.5)  
Living arrangement |  
With parents | 267 (65.7)  
With relatives | 92 (22.7)  
School dormitory | 177 (2.7)  
Alone | 194 (8.9)  
Perceived interaction with parents |  
Distinct | 35 (8.6)  
Neutral | 177 (43.6)  
Close | 194 (47.8)  

Utilization as per types of services

Table 2 shows proportion of utilization as per services. The students who had utilized SRH services in last 12 months were asked about their most recent utilized services. Half of the students had obtained services related to menstrual problems, 44.3% had utilized services related to family planning including ECP, 4.3% and 1.4% had utilized voluntary counselling and STI diagnosis and treatment respectively.

Table 3 shows barriers for services utilization. The students who responded for not utilizing any SRH services were asked for the reason. Majority of student didn’t feel the need (69.7%), while 19.2% students didn’t utilize due to fear of society and family members, 6.9%
and 6.2% due to lack of sufficient information and due to cost respectively.

Table 2: Proportion of utilization as per services.

<table>
<thead>
<tr>
<th>Utilization as per types of services</th>
<th>Frequency (n=70)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family planning including ECP (condom, pills, IUCD, Depo)</td>
<td>31</td>
<td>44.3</td>
</tr>
<tr>
<td>Voluntary counseling for STI</td>
<td>3</td>
<td>4.3</td>
</tr>
<tr>
<td>STI diagnosis and treatment</td>
<td>1</td>
<td>1.4</td>
</tr>
<tr>
<td>Menstrual Problems</td>
<td>35</td>
<td>50</td>
</tr>
</tbody>
</table>

Bivariate analysis was done with the aim of identifying associated factors with service utilization. In bivariate analysis, respondent’s interaction with parents was found to be associated with utilization of SRH services (p value: 0.02). Respondents having distinct interaction with their parents were 2 times more likely to utilize SRH services than the respondent having close interaction (OR: 2.424) (Table 4).

Table 3: Barriers for services utilization.

<table>
<thead>
<tr>
<th>Barriers for services utilization*</th>
<th>Frequency (n=336)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>No need</td>
<td>285</td>
<td>69.7</td>
</tr>
<tr>
<td>Fear of society and family members</td>
<td>78</td>
<td>19.2</td>
</tr>
<tr>
<td>Lack of sufficient information</td>
<td>28</td>
<td>6.9</td>
</tr>
<tr>
<td>Due to cost</td>
<td>25</td>
<td>6.2</td>
</tr>
</tbody>
</table>

*Multiple responses

Table 4: Bivariate analysis between utilization of SRH services and different variables.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Utilization of SRH services</th>
<th>P value</th>
<th>OR (CI 95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes, N (%)</td>
<td>No, N (%)</td>
<td></td>
</tr>
<tr>
<td>Age category</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13-15 yrs</td>
<td>3 (16.7)</td>
<td>15 (83.3)</td>
<td>0.947</td>
</tr>
<tr>
<td>16-19 yrs</td>
<td>67 (17.3)</td>
<td>321 (82.8)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>35 (15.3)</td>
<td>194 (84.7)</td>
<td>0.235</td>
</tr>
<tr>
<td>Female</td>
<td>35 (19.8)</td>
<td>142 (80.2)</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brahmin</td>
<td>40 (17.9)</td>
<td>183 (82.1)</td>
<td>0.682</td>
</tr>
<tr>
<td>Non-Brahmin</td>
<td>30 (16.4)</td>
<td>153 (83.6)</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hindu</td>
<td>60 (85.7)</td>
<td>267 (79.5)</td>
<td>0.23</td>
</tr>
<tr>
<td>Non-Hindu</td>
<td>10 (14.3)</td>
<td>69 (20.5)</td>
<td></td>
</tr>
<tr>
<td>Father’s educational status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>4 (25)</td>
<td>12 (75)</td>
<td>0.402</td>
</tr>
<tr>
<td>Literate</td>
<td>66 (67.2)</td>
<td>324 (83.1)</td>
<td></td>
</tr>
<tr>
<td>Mother’s educational status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>6 (11.3)</td>
<td>47 (88.7)</td>
<td>0.221</td>
</tr>
<tr>
<td>Literate</td>
<td>64 (18.1)</td>
<td>289 (81.9)</td>
<td></td>
</tr>
<tr>
<td>Current living status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Living with parents</td>
<td>44 (10.8)</td>
<td>223 (54.9)</td>
<td>0.573</td>
</tr>
<tr>
<td>Living with other than parents</td>
<td>26 (18.7)</td>
<td>113 (81.3)</td>
<td></td>
</tr>
<tr>
<td>Father’s occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid</td>
<td>61 (18.1)</td>
<td>276 (81.9)</td>
<td>0.311</td>
</tr>
<tr>
<td>Unpaid</td>
<td>9 (11.9)</td>
<td>60 (57.1)</td>
<td></td>
</tr>
<tr>
<td>Mother’s occupation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paid</td>
<td>24 (19.7)</td>
<td>98 (80.3)</td>
<td>0.395</td>
</tr>
<tr>
<td>Unpaid</td>
<td>46 (16.2)</td>
<td>238 (82.8)</td>
<td></td>
</tr>
<tr>
<td>Interaction with parents</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distinct</td>
<td>11 (31.4)</td>
<td>24 (68.6)</td>
<td>0.02*</td>
</tr>
<tr>
<td>Close</td>
<td>59 (15.9)</td>
<td>312 (84.1)</td>
<td></td>
</tr>
<tr>
<td>Availability of SRH Services within 30 minutes of walking distance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>54 (22.9)</td>
<td>182 (77.1)</td>
<td>0.001*</td>
</tr>
<tr>
<td>No</td>
<td>16 (9.4)</td>
<td>154 (90.6)</td>
<td></td>
</tr>
<tr>
<td>Sexually active in 12 months</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>34 (9.9)</td>
<td>309 (90.1)</td>
<td>0.001*</td>
</tr>
<tr>
<td>No</td>
<td>36 (57.1)</td>
<td>27 (42.9)</td>
<td></td>
</tr>
</tbody>
</table>
Utilization of SRH services was also influenced by availability of services within 30 minutes of walking distance (p-value: 0.001). Respondent were 2 times more likely to utilize the services if it was available within 30 minutes of walking distance (OR: 2.856).

There was significant association between sexually being active within last 12 months and service utilization (p value: 0.001).

The enabling factors such as age, gender, religion, ethnicity, father’s and mother’s occupation, living status, father’s and mother’s education status seems to have no statistically significant association.

**DISCUSSION**

Various studies show that adolescents are concerned about the mental, emotional and behavioral aspects of sexual and reproductive development. Despite the development of policies, strategies and programs aiming the promotion of SRH of adolescents by GoN, current health programs don’t seem to be fully addressing these problems as they’re not being enforced as they’re imagined to be as mentioned in those policy papers. Not prioritizing their sexual and reproductive health along with the social and cultural factors associated with the SRH (such as gender inequality or inappropriate environment to speak freely regarding SRH problems among adolescent) are major reason that hinders the health seeking behavior and service utilization. Peer education program, inclusion of comprehensive sexuality education in the school curriculum are few smart initiatives in Nepalese SRH programs. The world expertise shows that to deal with the problems of adolescent it’s necessary to develop the programs that specialize in school and peer groups.

Mid-term evaluation report of Nepal adolescent Sexual and reproductive Health published in 2013 conclude that health staff training of SRH services, however, it’s tough to deliver effective and quality services due to the limited number of trained staff.

Various literatures show that Nepalese adolescents trust their peer groups regarding their SRH issues and seek support and suggestions. As Nepal adolescent sexual and reproductive health program conducted GoN do not have any components which involve adolescents in the development and implementation of the programs. We can learn from the experiences and practices of FPAN, IPAS, UNFPA and other organizations, “practices of involving adolescents in SRH program, and can make outstanding progress in utilization of SRH services.”

The main focus of this study was to assess the utilization of sexual and reproductive health services by adolescents aged 10-19 years. SRH service utilization in this study was slightly lower (17.2%) than similar study conducted in Ethiopia (21.5%) 15 and Tanzania (75%) 16 while slightly higher than similar study conducted by Kennedy et al in Vanuata in 2013 (12.6%) and Kiran Bam in 2015 (9.2%).

The respondents who had utilized SRH services were asked about their most recent utilization. Majority of respondent had sought service related to menstrual problems and 44.9% had obtained family planning including ECP which is different compare to the study conducted in Bhaktapur by Kiran Bam in 2015 (one third i.e. 32.3% had obtained ECP and 29% had obtained service related to menstrual problems). 3,17

In this study availability of services within 30 minutes of walking distance, being sexually active within 12 months and respondent’s interaction with parents were found significantly associated with the services utilization which was similar with study conducted in Bhaktapur by Bam in (association was found to be between distance and being sexually active within 12 months) and contradict with the study conducted in Ethiopia in 2014 by Abajobir et al (association was found to be with age and knowledge). 15

In the present study, fear of society and family members was identified as the barrier for services utilization in contrast to the similar study in which lack of confidentiality was described as a barrier to SRH services utilization.3,8,17-19

Access to sexual and reproductive information is often hindered due to social cultural taboos associated with sexual health as there are limited program addressing the social and cultural issues. Despite the inclusion of comprehensive sexuality education in the school curriculum in Nepal teachers are unable to teach content effectively because they feel reluctant and shy due to social norms and values. This leads to limit addressing accessibility to sexual and reproductive services. Social norms and cultural values related to sex and sexuality in Nepal are often linked with dirt, badness or immorality that hinders adolescent from discussing and seeking sexual and reproductive health information and services respectively. Contraceptives uses among Nepalese adolescents are often affected by unacceptability of pre-marital sex. However, the study conducted in Pokhara by Nirajan et al shows a high rate of contraceptive use among adolescents which is quite opposite to other studies without explanation.

This study serves as the baseline for mainstreaming the utilization of services by focusing on normality of social norms related to sexual and reproductive information and utilization.

**CONCLUSION**

This descriptive study among adolescent population in Kathmandu city reveals a very low level of service utilization as well as several barriers. Fear of society and...
family members was identified as the key barriers to SRH service utilization. Hence, the college authority and government along with parents should be aware of the health impact adolescents might have due to wrong practices or sexual behaviour. So, the concerned authorities should focus on creating the appropriate environment where adolescents can talk about their sexual and reproductive needs, issues and queries. The concerned authorities should take initiatives so that students can identify their needs and problems which ultimately lead to increase in utilization of SRH services and reduce the rate of unmet needs and associated factors.

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