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Factors Associated With Utilization Of Adolescent-Friendly Health Services In Sunsari District Of Nepal

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Abstract

Objectives: Adolescent friendly health services are the tailored health services for adolescents in a friendly environment where adolescents can easily and comfortably access and enjoy sexual and reproductive health services. Utilization of such services helps to address sexual and reproductive health problems faced by adolescents and the status of adolescent sexual and reproductive health (SRH) in Nepal is alarming. However, limited studies have been conducted on utilization of Adolescent Friendly Health Services and its associated factors among school adolescents. Thus, this study was carried out to assess the factors associated with utilization of adolescent friendly health services in Sunsari district of Nepal.

Methods: This study was a descriptive, cross-sectional study carried out among 502 secondary school adolescents of grade 9 and 10 studying either in public or private schools of Inaruwa Municipality Sunsari District, Nepal. Single stage cluster sampling was followed in this study. Data was collected through administration of pre-tested semi-structured questionnaire during the period of January to March, 2022.

Results : Regarding socio-demographic characteristics, majority of the participants were female (56.2%) compared to male (43.8%). Mean age of the participants was 15 years with standard deviation of 1.359 years and most (92.8%) of them followed Hinduism. More than half of the participants (54.0%) belonged to Madhesi ethnicity and most (61.0%) of them were from nuclear family. Likewise, majority (90.6%) of the adolescents were unmarried whereas 5.6 % were in relationship. More than three-fourth of the participants (79.5%) were staying with their parents. Most participants (53.2%) reported having very close relationship with their family. Similarly, majority (70.9%) of the adolescents had not seenthe logo of adolescent friendly health services but three fourth (75.5%) of them had heardabout adolescent friendly health services. Only 38.5% of participants were known about the availability of adolescent friendly health institution in their locality and more than three fourth (79.9%) of participants said that the time required to reach health facility wasless than 30 minutes. Less than one fourth (24.1%) of the participants had felt needs for sexual and reproductive health services. The utilization of adolescent friendly health services among adolescents was low i.e., 14.5% (CI: 0.115-0.176) and more than half (54.8%) of them had used counselling services. Regards of preference, 44.4% of the participants stated that they preferred private health facilities and most of them (79.3%) preferred the health facility nearby their residence.

Conclusion: Based on the findings of the study, different intervention programs could be conducted to increase the awareness about adolescent friendly health services among adolescents which may increase its utilization.

Key words: Utilization, Adolescent-friendly, Health services, Sunsari District, Nepal

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INTRODUCTION

Adolescence is defined as the period of life spanning the ages between 10 and 19 years. Adolescence is a period of rapid growth and development in an individual undergoing many physical, sexual, psychological and social changes from childhood to adulthood. This is the phase where an individual faces many opportunities as well as challenges (1). Adolescents constitutes 16% of the world's population (2). Adolescents are facing many health challenges across the globe. Here, adolescent specific problems include sexual problems, menstrual problems, and mental and behavioral health problems. In terms of policy implications, adolescent health has become a priority on global agenda. Every woman every child global strategy for woman's, children's, and adolescents' health (2016-2030) launched at Sustainable Development Summit in 2015 has added a focus on adolescents to address their rights and needs (3). The demographic situation of South-East Asia Region shows about 350 million total population of adolescents (1). The total fertility rate in the South East Asia contributed by 15–19-year-old girls varies from 5% to 20% among member countries. To respond the sexual and reproductive health needs of adolescents of this region, all countries have implemented Adolescent Friendly Health Services along with the development of national standards (4). According to Census of Nepal, 2011 adolescent population comprises about one fourth (24.19 %) of the total population (5). Although the legal age at marriage is 20, the rate of child marriage in Nepal is still high (6). The age specific fertility rate in the 15-19 age group is 88 births per 1,000 women and 17% of women age 15-19 have begun childbearing (7). Nepal has shown its commitment towards adolescent health being a signatory to International Convention on Population and Development (ICPD) Program of Action. Several policy implications like National Adolescent Sexual and Reproductive Health Strategy (2000; revised 2018) and Implementation guideline for ASRH (2007; revised 2011) have been documented. In 2010, Family Health Division developed the National Adolescent Sexual and Reproductive Health Program. This was followed by the development of National Adolescent Friendly Health Services (AFHS) standards and actions (8). These efforts of the government aim to promote the access and utilization of AFHS and contributes towards the achievement of the target set by Sustainable Development Goals (SDG 3.7) of universal access to sexual and reproductive health care services by 2030. By the Fiscal Year 2073/74 total 1134 health facilities from 70 districts are adolescent friendly (9).

Adolescent Friendly Health Services are not a separate or additional service but tailored health services for adolescents with friendly environment and condition where they can easily and comfortably access and enjoy ASRH services like general ASRH counselling services, family planning services, obstetrics services, general health services, abortion services, GBV related services, treatment of reproductive tract infection, STI and HIV. According to ASRH Implementation guideline 2011, for the health facility to be adolescent friendly it should incorporate the characteristics like convenient service time, convenient location of health facility (for new health facility), adequate space including waiting space, maintenance of privacy, welcoming environment, availability of IEC/BCC materials and trained health service provider (10). The sexual and reproductive health of adolescents is important for the development of a country, demographically, socially, economically and politically. So, the utilization of adolescent friendly sexual and reproductive health services could prevent poor sexual and reproductive health outcomes among adolescents (11, 12). Adolescents face several sexual and reproductive health challenges such as early

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pregnancy and childhood, difficulties accessing contraception and safe abortion, and high rates of HIV and STIs across the world. Such challenges are further aggravated by restricted delivery of youth-friendly information and services (13). The scenario of South-East Asia Region, shows the existence of sexual and reproductive health problems among adolescents like pregnancy complications, STI and HIV/AIDS despite some progress made in the region. The demand for the contraception among 15–19-year-old girl is greater than 50% in all countries in the region except India and Timor-Leste (4, 14).

In Nepal, adolescents and youth are facing various health challenges like unintended pregnancy, early childbearing (17% in 15-19 years girls), high unmet need of family planning (32% in married girls aged 15-19 years) where only 15% of currently married women age 15-19 use a modern method of contraception despite having knowledge about contraceptives (7). The situation is worse for those adolescents who are unaware about these issues. 12% of people who are living with HIV in Nepal are young, between the ages 15-24 years (15). These contexts show there still exist a huge demand for ASRH services among adolescents, yet its utilization is low. The data on utilization of AFHS from all implemented districts i.e., 70 districts have not been compiled but the raw data shows that it's utilization as 34% (16). There is an existence of avoidable and unjust differences in access and utilization of Adolescent Friendly Sexual and Reproductive Health Services among adolescents as, such services are dependent on various factors including demographic, economic, school, socio-cultural and health system factors (17). Today's younger generation are in the complicated transition towards modernization at traditional controlled society. Therefore, despite the availability of Adolescent Friendly Health Services, many adolescents hesitate to go to seek those services (18). Though the demand generation intervention on ASRH program has been carried out by National Health Education Information and Communication Center (NHEICC) and Family Welfare Division such as establishment of Adolescent Friendly Information Corners and Comprehensive Sexuality Education in schools but such interventions from direct health service providers has not been satisfactory. So, many adolescents are still unaware of the provision of AFHS at nearby adolescent friendly health institutions (6, 19). So, despite the commitments made, there still exists obstacles for the universal access and utilization of AFHS. Due to the lack of information about sexual health services among young people they are devoid of getting those services thus could not enjoy their rights (15).

Several studies have been conducted to find out the factors associated with the utilization of AFHS in different parts of the world and in some part of Nepal. Few studies have been performed in our country regarding the utilization of AFHS and its associated factors among school adolescents. Further researches are required to get more insight about the factors associated with utilization of AFHS among school adolescents. So, this study could be a help by providing additional evidence on this topic. Adolescent friendly sexual and reproductive health services help in self-determined usage of sexual and reproductive health services and helps to meet sexual and reproductive health needs of adolescents (14). National adolescent sexual and reproductive health is one of the priority programs of Family Welfare Division, Department of Health Services (6). National Health Policy (2014) and NHSS-IP (2016- 2021) has envisioned to make all the health facilities adolescent friendly to ensure universal access to ASRH services (9).

Adolescents are considered as low health risk group individuals and do not incorporate under child health intervention program and often unreached to the health programs that are focused for adults,

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especially sexual and reproductive health services. So, the utilization of SRH services by adolescents' lags behind which results in poorer sexual and reproductive health in the later stage of their life. So, factual data on the knowledge regarding AFHS and its utilization among adolescents is very important for the health planners as well as health service providers to understand their needs and address barriers in utilization of AFHS. AFHS has a close coordination with school in generating awareness about sexual and reproductive health thorough establishing Adolescent Friendly Information Corner (AFIC) in schools (10). Therefore, this is a rational behind conducting this study among school going adolescents.

Less information about utilization status of AFHS and the factors affecting it among school students limits the understanding of what works best to strengthen those services for them. Thus, this study will help to generate the evidence about utilization status of AFHS as well as address the knowledge gap in the paradigm of adolescent's awareness about the available AFHS and their perceived SRH needs. The findings of this study are useful for the local health authority and stakeholders as it provides information about AFHS among school adolescents and help the local authority to eliminate the hindrances faced by adolescents while seeking sexual and reproductive health services. This study aims to assess the factors associated with utilization of adolescent friendly health services in Sunsari district of Nepal.

METHOD

The study was conducted in the Secondary Level Schools (Public and Private) of Inaruwa Municipality of Sunsari District of Province no. 1, Nepal. Adolescent Sexual and Reproductive Health Program has been implemented in this district since 2011/12 A.D. where, out of 52 health institutions, 13 of them are currently providing Adolescent Friendly Health Services. Two adolescent friendly government health facilities are located in Inaruwa Municipality; Sunsari District Hospital and Inaruwa Health Post.

The study design was descriptive cross-sectional study. A cross sectional study aims at finding out the prevalence of a phenomenon or situation by taking a cross-section of population at a time of study. Descriptive study is a study used to describe the characteristics of a population or phenomenon being studied (Figure 1).

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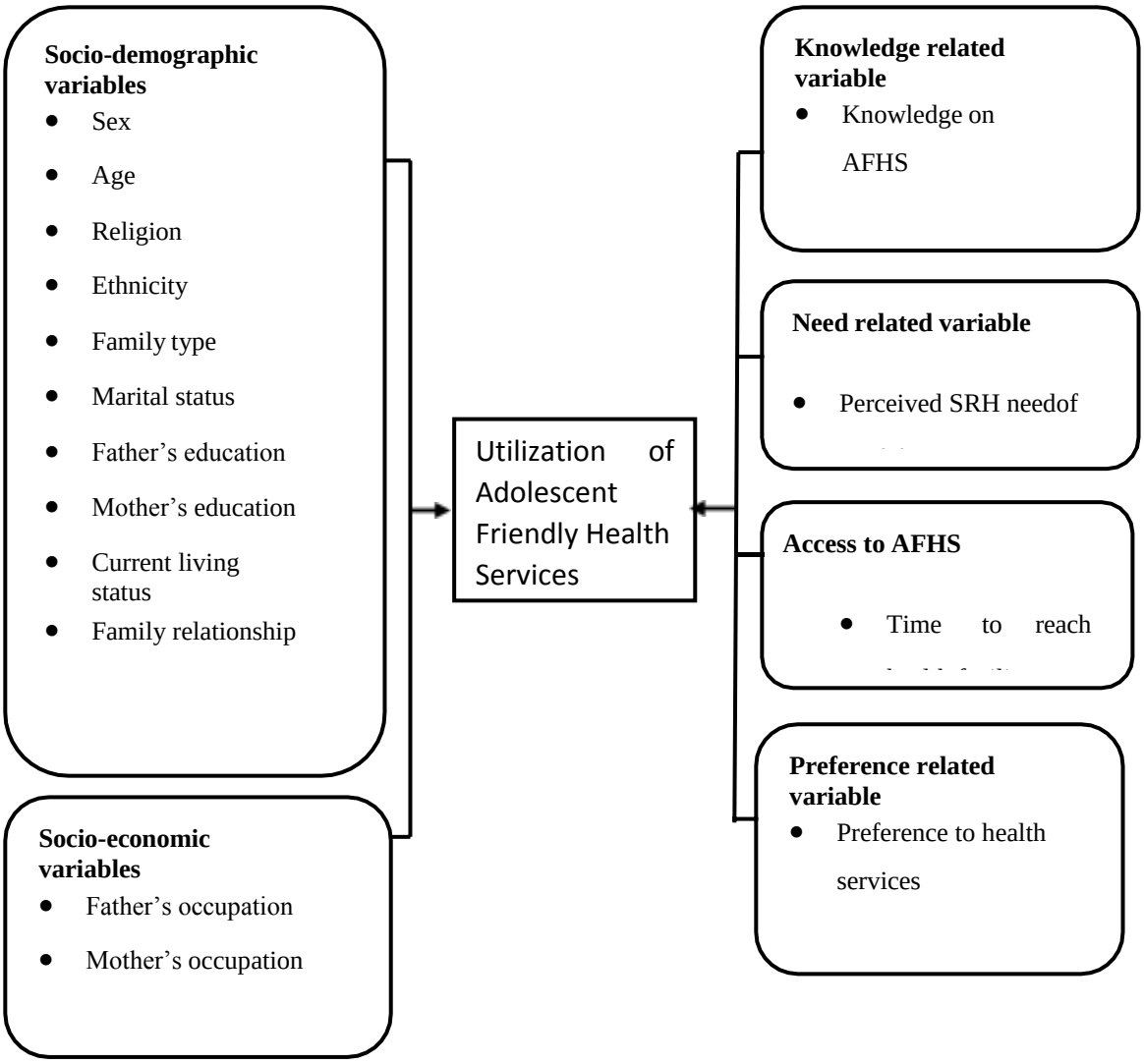

Figure 1: Conceptual framework of studied variables

This is a school-based study done to find out the utilization status of Adolescent Friendly Health Services among secondary school adolescents. Both qualitative and quantitative research method was used in this study. The study population were adolescents studying in grade 9 and 10 in Secondary Schools (public and private) of Inaruwa municipality of Sunsari district. Each student studying in grade 9 and 10 either in public or private school who were selected from sampling was taken as a study unit. The required sample size was calculated by using the following formula: Sample size for infinite population (n0) = Z2pq/d2 (Cochran, 1963) (30), where, Z = standard normal deviate i.e., 1.96 resembling to the 95% confidence level p = Proportion of school going adolescent who uses AFHS = 34% = 0.34 (adapted from the study conducted by GIZ in four AFS implemented district in 2011 A.D) (16) q = proportion of school going adolescents who did not use the AFHS = 1-p = 1- 0.34 = 0.66, d = degree of precision i.e., 5 % = 0.05. Sample size (n0) = (1.96)2×0.34×0.66 (0.05)2 = 344.8 rounded up to 345

Both qualitative and quantitative research method was used in this study. Data was collected through administering self-administered questionnaire. The study population were adolescents studying in grade 9 and 10 in Secondary Schools (public and private) of Inaruwa municipality of Sunsari district. Each student studying in grade 9 and 10 either in public or private

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school who were selected from sampling was taken as a study unit. Sample size for finite population (n) = n0/(1+n0/N), where, total population of students of grade 9 and 10 (N)=2520, on calculation, sample size (n) = 303.45 rounded up to 304, multiplying by design effect to adjust the variance arising from cluster design. Sample size (n) = 304×1.5 = 456, addressing 10% non-response rate, actual sample size was 502. Thus, the final sample size of this study was 502. Single stage cluster sampling was used in the study. Inrauwa Municipality was selected purposively for the study (Figure 2). List of 25 Secondary Schools of Inaruwa Municipality was obtained from Municipal Education Section, Inaruwa Municipality. According to Municipal Education Section, average of students of grade 9 and 10 was 55. As two classes (9 and 10) per school had to be taken, 502/ (55 × 2) = 4.56≈ 5, it was required to select 5 schools to meet the calculated sample size of 502. Then, 5 schools (3 public schools and 2 private schools) were selected through simple random sampling by lottery method from the list of schools. Each school was taken as a cluster and all the students of grade (9 and 10) from each selected school were eligible to participate in the study. The data collection period was from January to March, 2022.

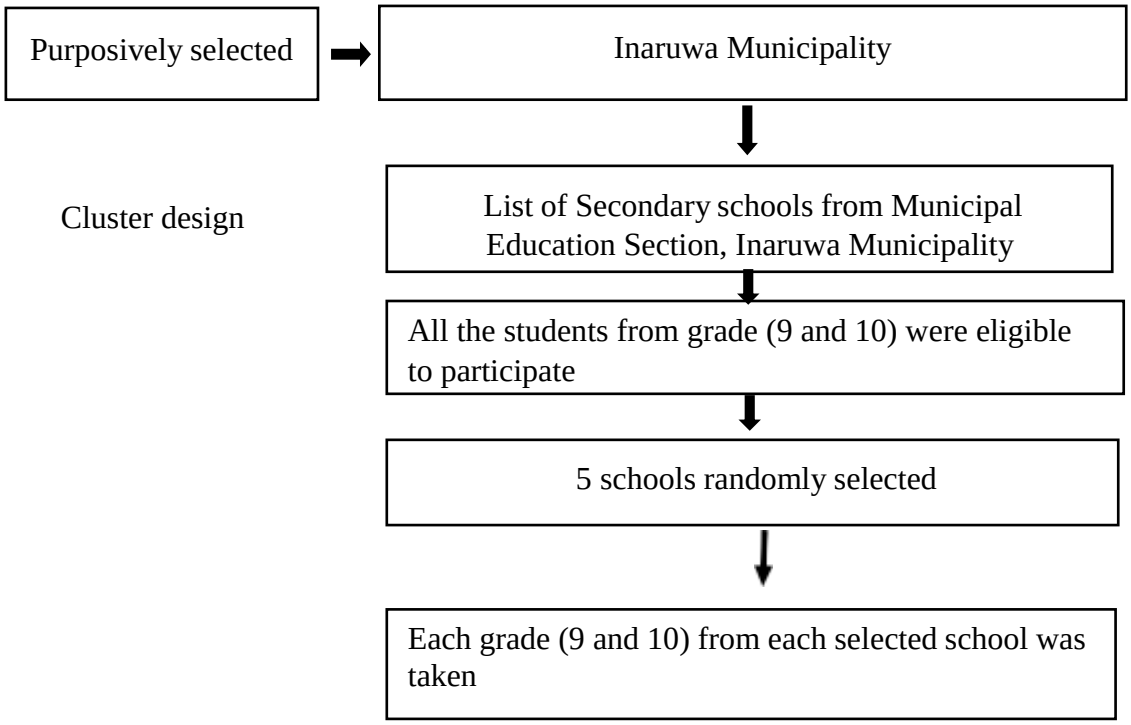

Figure 2: Sampling flow

Data was collected through administering self-administered questionnaire. Self-administered (semi-structured) questionnaire in both Nepali and English language was used. The questionnaire contained six sections i.e., socio-demographic and economic characteristic, knowledge of AFHS related information, access to AFHS related information, perceived SRH need related information, utilization of AFHS related information and preference of health services related information. Approval was obtained from Inaruwa Municipality for conducting the research and collect data from secondary schools' students of Inaruwa Municipality. Permission was taken from school administration of sampled school before collecting data. Written parental consent was taken from the parents of the study

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participants through parental consent form prior to data collection. Informed written consent was taken from each participant and purpose of the study was clearly explained before collecting the data. Participants were informed properly about the questionnaire and its filling procedure. Only two students were kept in a bench to prevent the discussions. Pretesting was done in 52 adolescents of grade 9 and 10 of a Secondary School of Inaruwa Municipality. Necessary modification was done in the skip pattern and rephrasing of the question, to enhance the appropriateness of the meaning it communicates.

Collected data was reviewed for completeness and consistency on the same day of data collection. Data was cleaned and edited before data entry. Categories were built from the answers of open-ended questions and coded before data entry. After this, the data was entered by using EpiDataV3.1 and exported to IBM SPSS version 20 for analysis. It was carried out as per the research objectives, in two phases i.e., univariate and bivariate analysis. Univariate analysis was done by calculating number and percentage of each category of all dependent and independent variables. Mean and standard deviation of continuous variable was calculated. Different independent variables were re-categorized before carrying out bivariate analysis. The association of different independent variables with dependent variable was examined by cross tabulation using SPSS version 20. Chi-square test (Pearson, Continuity correction) was applied to test the significance of association between independent and dependent variables. If p value was less than 0.05 at 95% Confidence Interval, then the association between dependent and independent variables was considered as statistically significant. Variables in this study has been taken identified from relevant literatures for content validity. Validated questionnaire was adapted from a previous study entitled "Perceived Sexual and Reproductive Health Needs and Service Utilization among Higher Secondary School Students in Urban Nepal" and modified according to the objective of researcher's study under the guidance of research supervisor (26). Tools were validated and finalized after pre-testing in a selected school, which was not incorporated in the final sample. Reliability was ensured by the use of pretested tools. The purpose of the study was made clear to participants before data collection and clear instructions were given to the participants regarding the proper and honest filling of the questionnaire. Researcher herself was involved in the whole data collection process, analysis and interpretation to avoid inter variation in the research process.

RESULTS

Socio-demographic characteristics of participants

Majority of the participants of this study were female (56.2%) compared to male (43.8%). Most of the participants belonged to late adolescent category accounting 70.9% (Table 1). Mean age of the participants was 15 years with the standard deviation of 1.359 years. Out of the total participants, 56.8% were studying in grade nine and 43.2% were studying in grade ten. Majority of the participants followed Hinduism (92.8%) followed by Islam/Muslim (5.8%). More than half of the participants (54.0%) belonged to Madhesi ethnicity and rest of half of participants belonged to Janajati (14.9%), Dalit (11.0%), Brahmin (8.8%), other (6.2%) and Chhetri (5.2%). Majority of the participants (61.0%) were from nuclear family while 36.5% were from joint family. 90.6% of the participants were unmarried whereas 5.6 % were in relationship and 3.6% were married. Parents' education level was categorized into different levels. Here, 21.9% of participants' father had completed secondary level, 19.1% had completed primary level whereas 16.9% were illiterate. In case of participants' mother, majority (36.1%) of them were illiterate. More than three-fourth of the

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participants (79.5%) were staying with their parents. Most participants (53.2%) reported having very close relationship with their family (Table 2).

Table 1: Socio-demographic characteristics of participants

Characteristics	Number	Percentage
Sex		
Female	**282**	**56.2**
Male	220	43.8
Age		
Early adolescence (10-14 years)	146	29.1
Late adolescence (15-19 years)	**356**	**70.9**
Mean age ± S.D.	**15 ± 1.359 years**	
Grade		
Nine	**285**	**56.8**
Ten	217	43.2
Religion		
Hinduism	**466**	**92.8**
Islam/Muslim	29	5.8
Buddhism	3	0.6
Christianity	3	0.6
Other	1	0.2
Ethnicity		
Madhesi	**271**	**54.0**
Janajati	75	14.9
Dalit	55	11.0
Brahmin	44	8.8
Chhetri	26	5.2
Other	31	6.2
Type of family		
Nuclear	**306**	**61.0**
Joint	183	36.5
Extended	13	2.6

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Table 2: Socio-demographic characteristics of participants

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Socio-economic characteristics of participants

The socio- economic characteristics included occupation of participant's parents; the major occupation of participant's father was agriculture (33.3%) followed by self-employed/business (26.5%) (Table 3). Similarly, majority of the participants' mother (76.9%) were housewife followed by self-employed/business (9.8%) and agriculture (6.6%).

Table 3: Socio-economic characteristics of participants

Characteristics	Number	Percentage
Occupation of Father		
Agriculture	**167**	**33.3**
Self-employed/Business	133	26.5
Daily Labor	76	15.1
Foreign country employment	64	12.7
Service	59	11.8
Unemployed	3	0.6
Occupation of mother		
Housewife	**386**	**76.9**
Self-employed/Business	49	9.8
Agriculture	33	6.6
Service	21	4.2
Daily Labor	10	2.0
Foreign country employment	3	0.6

Knowledge on Adolescent Friendly Health Services related information

Among total participants, only 29.1% of participants had seen a logo of AFHS. Among them who had seen the logo of AFHS, only 3.4% gave the proper meaning of logo. About three four (75.5%) of adolescents had heard about AFHS. Among those who had heard about AFHS, the major source of information was teacher (67.5%). Most (63.3%) participants were aware about family planning services followed by general health services (40.9%) as AFHS (Table 4).

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Table 4: Knowledge on AFHS related information

Characteristics	Number	Percentage
Logo of AFHS (n=502)		
Seen before	146	29.1
Proper meaning of logo of AFHS (n=146)		
Given	5	3.4
Heard about AFHS (n=502)		
Yes	379	75.5
Source of information (n= 379)		
Teachers	**256**	**67.5**
Health Institution	45	11.9
Radio/TV	29	7.7
Friends	21	5.5
Newspaper	20	5.3
FCHVs	8	2.1
Knowledge of AFHS* (n= 379)		
Family planning services	**240**	**63.3**
General health services	155	40.9
Treatment of STIs/STDs	150	39.6
VCT for HIV	136	35.9
Antenatal services	135	35.6
General information/counselling	130	34.3
Safe abortion services	105	27.7
Safe delivery services	92	24.3
GBV related services	83	21.9

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Access to Adolescent Friendly Health Services related information

Access to Adolescent Friendly Health Services related information included the information about availability and time required reaching health facility which is shown in Table 5. Access to AFHS related information like known about availability of Adolescent Friendly Health Institution was perceived from only those participants who had heard about AFHS. Only 38.5% of participants were known about availability of Adolescent Friendly Health Institution in their locality. Similarly, more than three fourth (79.9%) participants reported that the time required to reach health facility was less than 30 minutes.

Table 5: Access to AFHS related information

Characteristics	Number	Percentage
Known about availability of Adolescent Friendly Health Institution in locality (n= 379)		
Yes	146	38.5
Time required to reach health facility (n=502)		
Less than 30 minutes	**401**	**79.9**
30-60 minutes	67	13.3
More than 60 minutes	34	6.8

Perceived sexual and reproductive health needs related information

Table 6 shows the information about the perceived sexual and reproductive health service needs among the participants. It was found that less than one fourth (24.1%) of the participants had felt need for SRH services. Among those who had felt need for SRH services, most (31.4%) of participants couldn't remember the exact time when the need was felt. Two fifth (40.0%) of participants said that they had made a plan to utilize AFHS in future. Regarding the views of students on sexual and reproductive health problems faced by them in general, majority (71.7%) of participants reported that most of students have to face menstruation related problems followed by psycho-sexual problems (31.3%).

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Table 6: Perceived SRH needs related information

Characteristics	Number	Percentage
Ever felt need of SRH services (n=502)		
Yes	121	24.1
Time of felt need (n=121)		
One month ago	17	14.0
Two months ago	25	20.7
Six months ago	31	25.6
Twelve months ago	10	8.3
Can't remember	**38**	**31.4**
Response after felt need (n=121)		
Visited adolescent friendly health facility	**73**	**60.3**
Talked to friends	18	14.9
Talked with parents	17	14.0
Did nothing	9	7.4
Talked to girlfriend/boyfriend	4	3.3
Plan to utilize AFHS in future (n=502)		
Yes	201	40.0
Views on SRH problems to the students* (n=502)		
Menstrual problems	**360**	**71.7**
Psycho-sexual problems	157	31.3
Sexual and gender-based violence	104	20.7
Genital organs pain	101	20.1
STI related problems	95	18.9
Masturbation related problems	89	17.7
Unintended pregnancy	51	10.2

Table 7 presents the barriers for utilizing sexual and reproductive health services. Regarding the barriers for utilizing SRH services, only 3.4% of the participants said that they had to face any barrier for utilizing SRH services. Among those who had to face barrier, shyness was the dominant (70.6%) barrier felt by them for utilizing SRH services.

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Table 7: Barriers for utilizing SRH services

Characteristics	Number	Percentage
Have to face any barrier (n=502)		
Yes	17	3.4
Type of barriers faced* (n=17)		
Shyness	**12**	**70.6**
Poor gender friendly services	6	35.3
Poor family support	4	23.5
Negative beliefs of society toward SRH service	1	5.9
Poor knowledge on SRH	1	5.9
Far distance to reach health facility	1	5.9

Utilization of Adolescent Friendly Health Services

Utilization of any one of the stated services like counselling services, family planning services, voluntary counselling and testing/HIV services, treatment of STIs, antenatal services, safe delivery services, postnatal services, safe abortion services, general health services and gender-based violence related services was considered as the service utilization of AFHS. Out of the total participants, only 14.5% of them had utilized any one of the stated Adolescent Friendly Health Services (At 95% Confidence Interval: 0.115- 0.176) i.e., it shows 95% confidence that the percentage of utilization of AFHS ranges between 11.5% and 17.6%. About the type of service used, more than half (54.8%) of the users used counselling services which was followed by general health services (35.6%) (Table 8).

Table 8: Utilization of Adolescent Friendly Health Services

Utilization of AFHS	Number	Percentage
Utilization of any one AFHS (n=502)		
Yes	73	14.5
		(CI: 0.115-0.176)
Type of services used* (n=73)		
Counselling services	**40**	**54.8**
General health services	26	35.6
Gender based violence related services	11	15.1
Family planning services	9	12.3
Voluntary counselling and testing/HIV services	9	12.3
Treatment of STIs	2	2.7

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Regarding the reasons for not utilizing AFHS services, among those who did not utilize the services, majority (65.7%) of study population reported that they had no any need to utilize AFHS. The details of the reason for not utilizing AFHS are mentioned in Table 9

Table 9: Reason for not utilizing AFHS

Reasons for not utilizing AFHS	Number	Percentage
No need of services	**282**	**65.7**
Don't know where AFHS are available	78	18.2
Feel shy/awkward to go	61	14.2
Lack of male/female service provider	8	1.9

Preference to health services related information

Table 10 entails the detail information about the preference to health services. Here, most (58.0%) of the participants preferred to get SRH services like information on menstrual problems followed by information on body changes (56.6%) in future. 44.4% ofparticipants stated that they preferred private health facilities than government health facilities (41.6%). In regards of location of health facility, most of the participants (79.3%) preferred the health facility nearby their residence while 5.8% of participant preferred the health facility which are at distant to get SRH services. Regarding the place of service provision, nearly equal percentage of participants preferred in a separate room of a health facility providing general health services (36.3%) and separate AFHI (34.9%).

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Table 10: Preference to health services related information

Preference to health services	Number	Percentage
SRH services preferences		
Information on menstrual problems	**291**	**58.0**
Information on body changes	284	56.6
Family planning services	146	29.1
Counselling and treatment of STIs	119	23.7
Information on masturbation related problems	96	19.1
Gender based violence related services	81	16.1
Preference of health facility for SRH		
Private health facilities	**223**	**44.4**
Government health facilities	209	41.6
Doesn't matter	70	13.9
Preference for location of health facility		
Nearby the residence	**398**	**79.3**
Far from residence	29	5.8
Doesn't matter	75	14.9
Preference of place of service provision		
Inside the health facility with separate room	**182**	**36.3**
Separate AFHI	175	34.9
Within school	65	12.9
Doesn't matter	80	15.9

Table 11 presents the details about the reasons for preferring the health facility far from the residence. The major reason for preferring the health facility far from their residence was to get quality SRH services (96.6%).

Table 11: Reason for preference to health facility far from the residence

Reasons*	Number	Percentage
To get quality SRH services	**28**	**96.6**
Shyness to visit nearby health facility	3	10.3

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Inferential findings

This section includes the analysis of association between various independent variables and utilization of Adolescent Friendly Health Services using Chi-square test. It includes bivariate analysis between socio-demographic factors, socio-economic factors, knowledge related factors, access to AFHS, preference to health services related factors and utilization of Adolescent Friendly Health Services.

Association of utilization of Adolescent Friendly Health Services with socio demographic variables

Table 12 and table 13 presents the bivariate analysis of association of utilization of Adolescent Friendly Health Services with socio-demographic variables. None of the variables under socio-demographic characteristics of adolescents i.e., sex, age, religion, ethnicity, family type, marital status, father's education, mother's education, living status and family relationship were found to have statistically significant association with utilization of AFHS.

Table 12: Association of utilization of AFHS with socio-demographic variables

Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Sex				
Female	44 (15.6)	238 (84.4)	0.583	0.445
Male	29 (13.2)	191 (86.8)		
Age				
(10-14) years	15 (10.3)	131 (89.7)	3.018	0.082
(15-19) years	58 (16.3)	298 (83.7)		
Grade				
Nine	43 (15.1)	242 (84.9)	0.158	0.691
Ten	30 (13.8)	187 (86.2)		
Religion				
Hindu	67 (14.4)	399 (85.6)	0.141	0.707

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Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Non-Hindu	6 (16.7)	30 (83.3)		
Ethnicity				
Brahmin/Chhetri	9 (12.9)	61 (87.1)	0.186	0.666
Non-Brahmin/Chhetri	64 (14.8)	368 (85.2)		
Family Type				
Nuclear	42 (13.7)	264 (86.3)	0.420	0.517
Joint or extended	31 (15.8)	165 (84.2)		
Marital Status				
Never married	69 (14.3)	414 (85.7)	0.239	0.625
Ever married	4 (21.1)	15 (78.9)		

Note: Continuity correction value was taken for marital status

Table 13: Association of utilization of AFHS with socio-demographic variables

Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Father's education				
Literate	58 (13.9)	359 (86.1)	0.794	0.373
Illiterate	15 (17.6)	70 (82.4)		
Mother's education				
Literate	48 (15.0)	273 (85.0)	0.121	0.728
Illiterate	25 (13.8)	156 (86.2)		
Living status				
With parents	68 (14.3)	407 (85.7)	0.363	0.547
Other than parents	5 (18.5)	22 (81.5)		
Family relationship				
Close	41 (14.1)	249 (85.9)	0.090	0.764
Distant	32 (15.1)	180 4 .9)		

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Association of utilization of adolescent friendly health services with socio- economic variables

Table 14 depicts the analysis of association of utilization of adolescent friendly health services with socio-economic variables like occupation of participant's father and occupation of participant's mother. The utilization of adolescent friendly health services was found to have statistically significant association with parents' occupation.

Table 14: Association of utilization of AFHS with socio-economic variables

Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Father's Occupation				
Daily labor/Agriculture/ Foreign employment	49 (15.8)	261 (84.2)	2.154	0.341
Business	19 (14.3)	114 (85.7)		
Service	5 (8.5)	54 (91.5)		
Mother's Occupation				
Housewife	55 (14.2)	331 (85.8)	1.441	0.487
Service/Business	13 (18.6)	57 (81.4)		
Agriculture/Daily labor/Foreign employment	5 (10.9)	41 (89.1)		

Association of utilization of Adolescent Friendly Health Services with knowledge related factors

Table 15 shows the bivariate analysis of association of utilization of Adolescent Friendly Health Services with knowledge related factors. Statistically significant association was found between utilization of Adolescent Friendly Health Services and heard about AFHS (p value=0.0001). Similarly, source of information was also seen to have statistically significant association with utilization of AFHS (p value=0.036). In contrast, ever seen logo of AFHS did not found to have statistically significant association with utilization of Adolescent Friendly Health Services.

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Table 15: Association of utilization of AFHS with knowledge related factors

Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Seen logo of AFHS				
No	45 (12.6)	311 (87.4)	3.561	0.059
Yes	28 (19.2)	118 (80.8)		
Heard of AFHS				
Yes	67 (17.7)	312 (82.3)	12.243	**0.0001***
No	6 (4.9)	117 (95.1)		
Source of information	**(n=67) (%)**	**(n=312) (%)**		
Health institution	13 (28.9)	32 (71.1)	4.410	**0.036***
Other than health institution	54 (16.2)	280 (83.8)		

Association of utilization of Adolescent Friendly Health Services with access related factors

Table 16 depicts the association of utilization of adolescent friendly health services with access related factors. Information about availability of adolescent friendly health institution in the locality of participants was found to have statistically significant association with utilization of adolescent friendly health services (p value=0.011). However, time to reach health facility was not found to have statistically significant association with utilization of adolescent friendly health services.

Table 16: Association of utilization of AFHS with access related factors

Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=67) (%)	No (n=312) (%)		
Known about availability of Adolescent Friendly Health Institution				
Yes	35 (24.0)	111 (76.0)	6.466	**0.011***
No	32 (13.7)	201 (86.3)		
Time to reach health facility	**(n=73) (%)**	**(n=429) (%)**		

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Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=67) (%)	No (n=312) (%)		
≤ 30 minutes	66 (14.1)	402 (85.9)	1.073	0.300
> 30 minutes	7 (20.6)	27 (79.4)		

Association of utilization of Adolescent Friendly Health Services with preference to health services related factor

Table 17 presents the association of utilization of Adolescent Friendly Health Services with preference to health services for AFHS. It shows that the preference of location of heath facility to use Adolescent Friendly Health Services has statistically significant association with utilization of Adolescent Friendly Health Services (p value=0.034). While the association of utilization of Adolescent Friendly Health Services with other preference related variables like preference by type of health facility and preference by place for providing Adolescent Friendly Health Services were not statistically significant.

Table 17: Association of utilization of AFHS with preference related factors

Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Preference of health facility				
Private health facility	34 (15.2)	189 (84.8)	0.649	0.723
Government health facility	31 (14.8)	178 (85.2)		
Doesn't matter	8 (11.4)	62 (88.6)		
Preference of location				
Nearby the residence	54 (13.6)	344 (86.4)	6.740	**0.034***
Far from residence	9 (31.0)	20 (69.0)		
Doesn't matter	10 (13.3)	65 (86.7)		
Preference by place				
Separate room of health facility	35 (19.2)	147 (80.8)	7.166	0.067
Separate Adolescent Friendly Health	25 (14.3)	150 (85.7)		

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Variable	Utilization of AFHS		χ^2-value	p value
	Yes (n=73) (%)	No (n=429) (%)		
Institution				
Within school	7 (10.8)	58 (89.2)		
Doesn't matter	6 (7.5)	74 (92.5)		

Discussion

This study has tried to find out the utilization status of Adolescent Friendly Health Services among secondary school adolescents of Inaruwa Municipality, Sunsari district, Nepal and also tried to examine its associated factors. This cross-sectional study showed that the utilization of any one of the stated Adolescent Friendly Health Services was low i.e., 14.5% (at 95% CI: 0.115-0.176) among secondary school adolescents. Here, vast majority of the adolescents did not utilize AFHS even though those services were available in their municipality. It is lower than a previous study conducted by GIZ in four districts of Nepal showing the reproductive health service utilization among adolescents as 33.8% who were still at school (16). Contrary, a study conducted in Bhaktapur showed that the utilization of SRH services was 9.2 % (26). Compared to above studies, this difference in utilization status might be due to different sample size, different study settings and difference in individual characteristics of study participants. Looking more closely at the utilization of AFHS, the most commonly used AFHS by adolescents was counselling services (54.8%). This is similar with the findings of the study conducted in Hadiya Zone, Ethiopia where the mostly used service was counselling service (60.2%) (22). Among those who did not utilize the AFHS, no need of SRH services (65.7%) was reported as the main reason of not utilizing those services This finding is in line with a study conducted in Nekemte town, Ethiopia (21). Here in this study, the association of utilization of AFHS was examined with socio- demographic variables like sex, age, religion, ethnicity, family type, marital status, father's education, mother's education, living status and family relationship. But none of these variables were found to have statistically significant association with utilization of AFHS. This means there is no real difference in the utilization status among adolescents based on their socio-demographic characteristics. A study conducted in Bhaktapur shows that sex and marital status have statistically significant association with utilization of SRH services (p value=0.011 and 0.0001 respectively) (26).

Similarly, no any statistically significant association was established between utilization of AFHS and socio-economic variables. This means parents' occupation didn't had significance in utilizing AFHS by their children. For the successfulness of ASRH programme appropriate and relevant information about ASRH is important. In this study, majority (67.5%) of school adolescents sought information from their teacher. This may be because they spend most of their time in school with teachers. This is contrary to other studies conducted by Magdalena Mattebo, Rebecka Elfstrand, Ulrika Karlsson and Kerstin Erlandsson in Kathmandu, Nepal and by Obonyo Perez Akinyi in Kenya showed a common response, where majority of the school going youth sought information from their friend (31, 32). In this study,

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source of information was statistically significant with the utilization of AFHS. This means source of accurate information for adolescents affects them for making appropriate decision in health services seeking behavior. To talk about the access to AFHS, only 38.5% of the participants knew about the availability of adolescent friendly health institution in their locality. From this, it can be said that most of the participants being unaware about availability of AFHS raised a critical question towards national ASRH program implementation. Knowledge about availability of AFHI in locality has statistically significant association with utilization of AFHS. This is similar with the findings of a study conducted in four districts in Nepal (19). Similar kind of results were seen in the studies conducted in Thika West District, Kenya, in Hadiya Zone, Ethiopia (p value=0.0001) and in Makassar, Indonesia (p value=0.010) (17, 22, 23).

Likewise in this study, most (79.9%) of the study participants reported that it took less than 30 minutes to reach the nearest health facility. Also, travel time was not significantly associated with the utilization of AFHS. From this, we can say that travel time was not felt as an obstacle to seek SRH services. To discuss about the association of utilization of AFHS with perceived sexual and reproductive health needs, all the adolescents who had utilized AFHS had felt needs for SRH services. Finding of this study showed that perceived need of SRH services among adolescents was 24.1%. Though there were felt needs for SRH services, a gap was seen if compared with the utilization of AFHS to only 14.5%. This may be because those who didn't utilize AFHS, they preferred to share their SRH problems to their friends and parents rather visiting AFHS. Perceived needs of SRH services are less if compared to the study conducted in Nepal in 2016 which revealed 44% of adolescents had felt needs for SRH services (28). One interesting finding in this study is that almost all the adolescents (96.6%) reported that they didn't have to face barrier while utilizing SRH services. Despite such finding, its utilization is low. It is, therefore, important to continue to conduct research especially qualitative research within this field so that the associated hidden factors are explored. Among those who had faced barrier for utilizing SRH services, feeling shy was reported as the most common (70.6%) barrier. This finding is in agreement with a study conducted in Kathmandu valley in 2017 (27). Regarding the preference of health services for AFHS, this study revealed that most (79.3%) of the adolescents prefer the nearby health facility for utilizing AFHS and statistically significant association was established with the preference by location of health facility and utilization of AFHS. This finding is aligned with the implementation guideline of National ASRH programme for certification of health facility as adolescent friendly (10). But no statistically significant association was observed with utilization of AFHS and preference of health facility and preference by place in this study.

Conclusion

This study has gone some way to find the result about the utilization status of Adolescent Friendly Health Services and its associated factors among school adolescents in Inaruwa Municipality, Sunsari district, Nepal. This study showed a low level of Adolescent Friendly Health Services utilization i.e., 14.5% among secondary school adolescents despite the efforts made by the government to increase its utilization through various strategies. Though most of the adolescents had heard about AFHS, most of them were unaware about the existence of the Adolescent Friendly Health Institution in Inaruwa Municipality. The factors associated with the utilization of AFHS were ever heard about AFHS, source of information about AFHS, knowledge about availability of AFHS and preference of health facility based on location. No significant association was found between socio-demographic variables like sex, age, religion, ethnicity, family type, marital status, living status, family

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relationship and utilization of Adolescent Friendly Health Services in bivariate analysis. Also, no statistically significant association found to have between utilization of AFHS and socio- economic variables. The findings of this study can be used in a broader study with larger sample size to assess the utilization of Adolescent Friendly Health Services and its associated factors among adolescents. It provides insights on various factors associated with utilization of Adolescent Friendly Health Services among school adolescents in Inaruwa Municipality, Sunsari district.

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