

Awareness Regarding Adolescent Sexual and Reproductive Health Among School Students in a Province of Nepal

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ABSTRACT

Introduction: Adolescent sexual and reproductive health awareness remains a critical public health challenge in Nepal, with socio-cultural, educational, and infrastructural barriers limiting access to comprehensive knowledge. This study aims to identify awareness regarding adolescent sexual and reproductive health among school students in Nepal.

Methods: A descriptive cross-sectional study of 416 students (13–19 years) from urban, peri-urban, and rural schools in Lumbini Province, Nepal was done from January to June 2023. Ethical approval was obtained from the Institutional Review Committee (Ref No: 26-21(6-11) E2-077-078). Parental/Guardian (teacher) consent was secured for students under 18, and written informed consent was obtained from all participants. Data were collected via validated questionnaires and analyzed using SPSS v26.

Results: Among 416 students, 146 (35.1%) (30.5% to 39.7% at 95% Confidence Interval) had high ASRH awareness. The mean age of participants was 16.0±1.8 years. Older age, peri-urban residence, adolescent sexual and reproductive health training revealed greater awareness.

Conclusions: This study disclosed that adolescents lack sufficient knowledge and a positive attitude towards using Adolescent sexual and reproductive health services. This is comparable to findings of other similar studies.

Keywords: adolescent; awareness; cross-sectional study; reproductive health; school students.

INTRODUCTION

Adolescence is a unique transformative phase comprising physical, psychological, and emotional maturation from childhood to adulthood.¹ The World Health Organization (WHO) defines adolescence as the period between 10-19 years, in which children develop attitudes and behaviors that may significantly impact their lifelong health trajectories.² Adolescent sexual and reproductive health (ASRH) remains a critical public health concern in Nepal, despite it being implemented since 2008.³ Although adolescents comprise 22% of Nepal's population, adolescents often encounter significant barriers to ASRH knowledge, including sociocultural taboos, limited educational resources, and inadequate healthcare infrastructure.⁴ This knowledge gap contributes to concerning outcomes such as early marriage, unplanned pregnancies, sexually transmitted infections (STIs), and gender-based violence among Nepalese youth.⁵

The Nepalese government has implemented various initiatives to improve ASRH, including the National Adolescent Health and Development Strategy and the integration of comprehensive sexuality education into school curricula.⁶ Despite these efforts, significant gaps persist in implementation and effectiveness, particularly in rural and underserved areas.⁷ Recent data from the Nepal Demographic Health Survey (NDHS) revealed that only 38% of adolescents possessed comprehensive knowledge about sexual and reproductive health, highlighting the urgent need for enhanced approaches.⁸

This cross-sectional study aims to identify and analyze ASRH awareness among school students in Nepal.

METHODS

A descriptive cross-sectional study was done from Jan-

uary 2023 to June 2023 and were selected from urban, peri-urban, and rural schools in Lumbini Province.

Ethical approval was obtained from the Institutional Review Committee of Institute of Medicine (Ref No:26-21(6-11) E 2- 077-078). Parental/Guardian (teacher) consent was secured for students under 18, and written informed consent was obtained from all participants, who were briefed on the study's purpose, methods, benefits, confidentiality, and their right to withdraw. Participation was voluntary, and all ethical considerations, including confidentiality and privacy, were maintained throughout the study process.

The sample size was calculated using formula:

$$n = Z^2 \times p \times q / e^2$$

$$= 19.6^2 \times 0.5 \times 0.5 / 0.05^2$$

$$= 384$$

Where,

n= required sample size

Z= 1.96 at 95% Confidence Interval

p= prevalence taken as 50% for maximum sample size calculation

e= margin of error, 5%

The calculated sample size is 384. However, 416 sample was taken for the study. The convenience sampling technique ensured representativeness. Three districts were randomly selected from Lumbini province (Gulmi, Arghakhanchi and Palpa), followed by the random selection of four schools (two public and two private) per district. Within each school, students were stratified by grade (8–12) and individual participants were selected randomly using the lottery method.

Data were collected using a structured, self-administered questionnaire developed from Anderson's model of health service utilization [17] and extensive literature review based on previous studies and were pre-tested on 40 students to ensure clarity and validity in Rupandehi District. The instrument included sections on demographics, sources of ASRH information and a 25-item knowledge assessment (scored 0–25, with higher scores indicating greater awareness). The questionnaire was initially developed in English, translated into Nepali using forward and backward translation. Validity and reliability were confirmed through expert review and Cronbach's alpha of 0.83. Data were entered into Microsoft Excel and analyzed using

SPSS v 26. Descriptive statistics were used to study the characteristics of variables and assess ASRH awareness.

RESULTS

Among 416 students, 146 (35.1%) (30.5% to 39.7% at 95% Confidence Interval) had high ASRH awareness. Table 1 shows the distribution of participants based on their awareness levels. For knowledge of the topic, 70 (16.8%) of participants scored within the "Low Awareness" range (0–8), 200 (48.1%) fell under "Moderate Awareness" (9–16), and 35.1% scored in the "High Awareness" range (17–25).

Table 1. Distribution of ASRH Knowledge Scores (Standard Awareness Tool).⁹

Knowledge Category	Score Range	n (%)
Low Awareness	0-8	70 (16.8)
Moderate Awareness	9-16	200 (48.1)
High Awareness	17-25	146 (35.1)

Table 2 presents various demographic and educational characteristics of a sample population, categorized by age group, gender, grade, school type, residence, ethnicity, and other relevant factors.

Table 2. Socio-Demographic and ASRH-Related Characteristics of Respondents (n = 416).

Variable	Category	n (%)
Age Group	13–14	100 (24)
	15–16	150 (36.1)
	17–19	166 (39.9)
Gender	Male	200 (48.1)
	Female	210 (50.5)
	Other	6 (1.4)
Grade	8	70 (16.8)
	9	80 (19.2)
	10	90 (21.6)
	11	90 (21.6)
School Type	12	86 (20.7)
	Public	220 (52.9)
Residence	Private	196 (47.1)
	Urban	150 (36.1)
	Peri-urban	120 (28.8)
	Rural	146 (35.1)

Ethnicity	Brahmin/Chhetri	150 (36.1)
	Janajati	120 (28.8)
	Madhesi	90 (21.6)
	Dalit	40 (9.6)
	Other	16 (3.8)
Availability of School Nurse	Yes	250 (60.1)
	No	166 (39.9)
Received ASRH Training	Yes	180 (43.3)
	No	236 (56.7)
Primary Source of ASRH Information	Parents/Family	80 (19.2)
	Teachers/School	120 (28.8)
	Health Professionals	60 (14.4)
	Peers/Friends	70 (16.8)
	Social media	70 (16.8)
	Other	16 (3.8)

Regarding age, the sample is divided into three groups: 100 (24%) are aged 13-14, 150 (36.1%) are aged 15-16, and 166 (39.9%) are aged 17-19. In terms of gender, the sample includes 200 (48.1%) males, 210 (50.5%) females, and 6 (1.4%) identifying as other. For grade levels, students are distributed, with 70 (16.8%) in grade 8, 80 (19.2%) in grade 9, 90 (21.6%) in grade 10, 90 (21.6%) in grade 11, and 86 (20.7%) in grade 12. The school type is nearly split, with 220 (52.9%) attending public schools and 196 (47.1%) in private schools.

For residence, 150 (36.1%) live in urban areas, 120 (28.8%) in peri-urban areas, and 35.1% in rural areas. Ethnically, 146 (36.1%) identify as Brahmin/Chhetri, 120 (28.8%) as Janajati, 90 (21.6%) as Madhesi, 40 (9.6%) as Dalit, and 16 (3.8%) as other. Regarding health services, 250 (60.1%) of students have access to a school nurse, while 166 (39.9%) do not. Concerning adolescent sexual and reproductive health (ASRH) training, 180 (43.3%) have received training, while 236 (56.7%) have not. In terms of sources of ASRH information, 80 (19.2%) rely on parents or family, 120 (28.8%) on teachers or schools, 60 (14.4%) on health professionals, 70 (16.8%) on peers or friends, 70 (16.8%) on social media, and 16 (3.8%) on other sources.

DISCUSSION

Regarding awareness of adolescent sexual and re-

productive health (ASRH), as shown in Table 1, 48.1% of participants fall within the "Moderate Awareness" range, 35.1% exhibit "High Awareness," and 16.8% demonstrate "Low Awareness."

Our study shows a diverse sample population with participants categorized by age, gender, grade level, school type, residence, ethnicity, and access to health services. Our findings demonstrate that with growing age, ASRH knowledge increases. Older adolescents (15-19 years) exhibit higher knowledge levels compared to younger adolescents (13-14 years). This age-related progression aligns with Sapkota and colleagues' study in Nepal, which reported that older adolescents possessed better reproductive health knowledge.¹⁰ Similarly, Khanal et. al. found that ASRH knowledge increases with age due to cognitive development and greater exposure to educational content.¹¹ This developmental trajectory is consistent with international findings from Deshmukh et. al.¹² in India and Chandra-Mouli et. al. in multiple low and middle-income countries.¹³

Interestingly, our study found gender and ASRH knowledge are not intertwined. This uncovering contrasts with earlier research by Regmi and colleagues in rural Nepal that reported significant gender disparities in ASRH knowledge. Our results may reflect the progressive narrowing of gender gaps in educational settings over recent years, as suggested by Khanal's analysis.¹⁴ However, it differs from Kumar et. al's findings in India, where significant gender differences in ASRH knowledge persisted.¹⁵ Residential setting bonds with ASRH knowledge, with peri-urban adolescents demonstrating higher levels of awareness. This pattern challenges the conventional urban-rural knowledge gradient observed in studies by Acharya et. al. and Mmari and Sabherwal in multiple developing countries.¹⁶ Our findings reflect the unique characteristics of peri-urban settings in Nepal, which often combine stronger educational infrastructure with more conservative family structures that may paradoxically intensify interest in ASRH information, as observed by Shrestha.¹⁷

CONCLUSIONS

This study provided a snapshot of current ASRH knowledge across urban, peri-urban, and rural settings, capturing varied and vivid socioeconomic and cultural contexts and disclosed that adolescents lack sufficient knowledge and a positive attitude towards using ASRH services. The higher awareness in peri-urban students emphasizes the effectiveness of hybrid educational approaches. The strong link between ASRH training and increased knowledge suggests the need for evidence-based, school-led programs, especially in rural areas. Targeted

interventions should prioritize school based ASRH education, expand training programs, and address rural disparities as well as amplify school nurses' roles and

leverage digital platforms for awareness dissemination.

Conflict of Interest: None.

REFERENCES

1. Sawyer SM, Afifi RA, Bearinger LH, Blakemore SJ, Dick B, Ezech AC, et al. Adolescence: a foundation for future health. *The Lancet*. 2012;379(9826):1630–40. [[PubMed](#) | [DOI](#)]
2. Patton GC, Sawyer SM, Santelli JS, Ross DA, Afifi R, Allen NB, et al. Our future: a Lancet commission on adolescent health and wellbeing. *Lancet*. 2016 Jun 11;387(10036):2423–78. [[PubMed](#) | [DOI](#)]
3. Pandey PL, Seale H, Razee H. Exploring the factors impacting on access and acceptance of sexual and reproductive health services provided by adolescent-friendly health services in Nepal. *PLOS ONE*. 2019 Aug 8;14(8):e0220855. [[PubMed](#) | [DOI](#)]
4. Acharya D, Bhattarai R, Poobalan A, Teijlingen E van, Chapman G. Factors associated with Teenage pregnancy in South Asia. *Health Sci J*. 2010;4(1):3–14. [[Full Text](#) |]
5. Regmi PR, van Teijlingen E, Simkhada P, Acharya DR. Barriers to Sexual Health Services for Young People in Nepal. *J Health Popul Nutr*. 2010 Dec;28(6):619–27. [[PubMed](#) | [DOI](#)]
6. National Adolescent Development and Health Strategy 2075 [Internet]. 2019. [[Full Text](#)]
7. Shrestha DB, Budhathoki P, Shrestha O, Karki S, Thapa N, Dangal G, et al. Teenage Pregnancy and Associated Risk Factors and Outcome in Nepal From 2000–2020: A Systematic Review and Meta-Analysis. *Kathmandu Univ Med J (KUMJ)*. 2022;20(78):225–33. [[PubMed](#) | [DOI](#)]
8. Acharya DR, Thomas M, Cann R. Validation of a questionnaire to measure sexual health knowledge and understanding (Sexual Health Questionnaire) in Nepalese secondary school: A psychometric process. *J Educ Health Promot*. 2016 Jun 23;5:18. [[PubMed](#) | [DOI](#)]
9. Deshmukh DD, Chaniaana SS. Knowledge About Sexual and Reproductive Health in Adolescent School-Going Children of 8th, 9th, and 10th Standards. *Journal of Psychosexual Health*. 2020 Jan 1;2(1):56–62. [[Full Text](#) | [DOI](#)]
10. Sapkota S, Chaudhari A, Rawal P, Paudel KN, Giri P. Knowledge and Perspective regarding Adolescent Sexual and Reproductive Health Among Adolescents in Selected Schools of Birendranagar Municipality of Surkhet, Karnali Province. *NPRC Journal of Multidisciplinary Research*. 2024 Oct 22;1(4):134–58. [[Full Text](#)]
11. Khanal S. Gender Discrimination in Education Expenditure in Nepal: Evidence from Living Standards Surveys. *Asian Development Review*. 2018 Mar;35(1):155–74. [[Full Text](#) | [DOI](#)]
12. Deshmukh DD, Chaniaana SS. Knowledge About Sexual and Reproductive Health in Adolescent School-Going Children of 8th, 9th, and 10th Standards. *Journal of Psychosexual Health*. 2020 Jan 1;2(1):56–62. [[Full Text](#) | [DOI](#)]
13. Chandra-Mouli V, McCarraher DR, Phillips SJ, Williamson NE, Hainsworth G. Contraception for adolescents in low and middle income countries: needs, barriers, and access. *Reprod Health*. 2014 Jan 2;11(1):1. [[PubMed](#) | [DOI](#)]
14. Kumar P, Saxena S, Gupta SB, Agarwal N, Imtiaz D. A Comparative Study of Knowledge Regarding Reproductive Health among Rural & Urban Adolescent Girls in District Bareilly. *National Journal of Community Medicine*. 2019 Apr 30;10(04):212–7. [[Full Text](#)]
15. Mmari K, Sabherwal S. A review of risk and protective factors for adolescent sexual and reproductive health in developing countries: an update. *J Adolesc Health*. 2013 Nov;53(5):562–72. [[PubMed](#) | [DOI](#)]
16. Shrestha S. Sexual and Reproductive Health of Adolescents in Nepal. *Journal of Karnali Academy of Health Sciences*. 2018 Oct 6;1(2):65–6. [[Full Text](#)]

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