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ADOLESCENT-PARENT COMMUNICATION ON SEXUAL AND REPRODUCTIVE HEALTH AND ITS ASSOCIATED FACTORS AMONG HIGHER SECONDARY SCHOOL STUDENTS OF TOKHA MUNICIPALITY, NEPAL: A CROSS-SECTIONAL STUDY

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ABSTRACT

Background: Compared to other age groups, adolescents are more vulnerable to sexual and reproductive health issues. Parents can become protective and influencing factors for their children to prevent risky sexual behavior. **Purpose:** This study aimed to assess adolescent-parent communication on sexual and reproductive health and its associated factors. **Methods:** this is a cross-sectional study among adolescents in the higher secondary schools of Tokha Municipality. A self-administered structured modified questionnaire to assess communication used the Weighted Topics Measure of Family Sexual Communication tool with a simple random sampling technique. Descriptive statistical analysis and chi-square tests were used to analyze the data and assess the association between the variables. Data quality was assured through careful questionnaire design, pretesting, and training. **Results:** The study found that 75.9% of adolescents had communicated on sexual and reproductive health (SRH) topics with their parents, 24.1% never communicated, 47.2% seldom communicated on SRH topics, followed by sometimes (23.6%) and often (5.2%), respectively. Adolescent-parent communication on SRH was found to be significantly associated with the level of knowledge regarding sexual and reproductive health ($\chi 2 = 5.809$, p-value = 0.01, df = 1). Similarly, there was a significant association with the perceived parenting style ($\chi 2 = 3.932$, p-value =0.04, df =1), living arrangements ($\chi 2 = 6.376$, p-value=0.01, df =1), and adolescent-parent communication. **Conclusion:** Adolescent-parent communication on SRH issues is not satisfactory. Creating an adolescent-friendly environment at home and conducting awareness programs with the help of the local government of the respective schools would help to increase adolescent-parent communication.

Keywords: adolescent, parent, communication, sexual and reproductive health, kathmandu

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INTRODUCTION

Individuals between the ages of 10 and 19 years old are considered adolescents, which is part of the process of growing up and involves changes in one's physical, sexual, psychological, and social development. These natural changes among adolescents put their health and wellbeing at high risk (Adolescent health, 2022). Adolescents make up 16% of the world's population, about 1.3 billion worldwide (UNICEF, 2022). Globally, around 1.2 million adolescents aged 10–19 years old die each year, with over 3,000 adolescents aged 10–19 years old dying every day from primary preventable causes. Low- and middle-income nations are where more than two-thirds of these deaths have taken place. The major cause of death for adolescent girls aged 10–19 years old is maternal mortality (WHO, 2017).

In Nepal, there are over 6.0 million adolescents, making up 24% of the total population. Among them, 75% of married women were married before the age of 19, and 16% before the age of 15 (UNICEF, 2019). Adolescents are a more vulnerable population than other age groups, with many sexual and reproductive health concerns such as gender inequality, sexual coercion, early marriage, polygamy, female genital mutilation, unplanned pregnancies, closely-spaced pregnancies, abortion, and sexually-transmitted infections like human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) (WHO, 2019). Sexual and reproductive health is a key source of concern. The majority of adolescents are protected under the Convention on the Rights of the Child as minors up to the age of 18. However, their vulnerabilities and needs are frequently neglected, and they lack adequate awareness and understanding. Therefore, the chances of sexually-transmitted infections (STIs), teenage pregnancy, and unsafe abortions are significantly greater among adolescents (UNFPA, 2016).

Sexual and reproductive health is concerned with the growth of life and personal relationships. It is the state of one's physical, emotional, and social wellbeing in all matters involving the reproductive system (Shiferaw *et al.*, 2014). Communication between adolescents and their parents is essential for improving sexual and reproductive health consequences for adolescents. Adolescent parents can influence their children's sexual development by modeling healthy sexual conduct and teaching them how to make wise decisions for themselves. By talking to and educating their children about sexuality, parents can support their children by reducing their sexual risk-taking behaviors. Parents are one of the most important safeguards for the health of adolescents. They have a significant influence on the attitudes and actions their kids take concerning their health, especially sexual and reproductive health (SRH). Protecting their children from harm is mostly dependent on parental guidance and information about sexuality-related risks, including the development of attitudes and values around sexuality and the decrease of risky behaviors. They could be a useful source of SRH information for their children (Bastien *et al.*, 2011).

Parent-adolescent discussions in Nepal regarding sexuality have generated controversy. Most parents don't feel comfortable talking to their kids about sexual health and instead concentrate on safe topics. Cultural taboos, shame, poor communication abilities, embarrassment, fear of parents, their lack of responsiveness, their unwillingness to accept young people due to a lack of understanding, sociocultural norms, and their conviction that talking about such topics encourages premarital sex are just a few things that hinder such a parent-child discussion (Bhatta *et al.*, 2021). The level of the adolescents' education, their living arrangements, and the educational status of their parents are further obstacles that prevent communication between parents and adolescents. Because of these barriers, many adolescents discuss sexual and reproductive health issues with their peers, who may or may not be knowledgeable about these concerns. They ultimately receive fragmented information. Due to this misinformation, adolescents may be more susceptible to unsafe abortions, unprotected intercourse, unintended pregnancies, and other sexually-transmitted infections (Pokharel *et al.*, 2016).

Healthy communication between parents and adolescents leads to the prevention and reduction of sexual risk-taking behavior among adolescents. It also helps to change the overall attitudes of the children towards health, behavior, values, and beliefs, including SRH (Bastien *et al.*, 2011). However, it has not been

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studied either broadly or specifically in the Tokha Municipality of Nepal, which is significant regarding the SRH status improvement among adolescents. The main purpose of this study was to assess adolescent-parent communication on sexual and reproductive health and its associated factors among higher secondary school students.

METHOD

Study design

The study design was cross-sectional as it did not fulfill the criteria of a true experimental research design. Moreover, the data collection was carried out only once among the respondents. No intervention programs were provided during the conduction of the study among the respondents.

Study area

The study was conducted in Tokha Municipality, Kathmandu. Adolescents in this municipality have socio-economically diverse characteristics. This municipality consists of 24 higher secondary schools. The data shows that the adolescent population in this municipality is huge.

Study population

The population consisted of students aged 15–19 years old from higher secondary schools in Tokha municipality. Compared to other groups, adolescents are more prone to SRH issues, and they have the desire to keep trying new things, making them vulnerable to SRH issues.

Sample size

The total sample size for this study was 228. The required sample size was determined using the following formula:

n = z2pq/d2

Where,

Degree of confidence (CI) = 95%, Z value at 95% of CI (z) = 1.96

Prevalence (p) = 0.16

q = 1-p = 0.84

Allowable error (d) = 5% = 0.05

Now,

Sample size (n) = z2pq/d2

= (1.96)2*0.16*0.84/(0.05)2

= 3.8416*0.16*0.84 / 0.0025

= 206.5~207

Adding a 10% non-responsive rate (207+10% of 207), the actual sample size for the study was 227.7~228. However, we were able to collect only 212 samples. The remaining 16 respondents refused to participate in the study.

Sampling technique

The study area of Tokha municipality, Kathmandu, was selected using the simple random sampling technique. For the study, the study area was divided into the north, south, east, and west directions. A list of schools located in each direction was made. One school from each direction was selected for inclusion in the research study by the lottery method. On the day of data collection, the roll numbers (student ID numbers) of the present students were listed from which an equal proportion of students were chosen from each section of grades 11 and 12 for the research study through the lottery method from the respective college.

Tools and techniques for data collection

There were four sections to the data collection tool. Part I is comprised of socio-demographic variables in which the respondents answered a questionnaire aimed to collect information on the adolescent's details (age, sex, grade, ethnicity, and religion), parental factors (Mother's Educational Status, Father's Educational Status, Father's Occupation, and Mother's Occupation), and the living arrangement of the respondents. Part II uses Divya and Manikandan's designed parenting style questionnaire (2013). It used 30 items and for each, the respondents selected one of five options: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. 5, 4, 3, 2 and 1 were used to score the various items. Part III is where the questionnaire's knowledge-related questions, which were designed to assess the adolescents' understanding of the principal sexual and reproductive health topics, were answered by the respondents. Part IV: Here, adolescent-parent communication on a variety of topics was evaluated using the Weighted Topics Measure of Family Sexual Communication. It is comprised of 11 questions on a scale of 0 to 44 to measure the level of communication between the parent and adolescent regarding various aspects of sexual and reproductive health. For the data collection, the self-administered technique was used.

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Data management, analysis, and interpretation procedures

Each question was coded by labeling, compiling, and organizing using numbers to represent the response categories. The questionnaires were examined by considering all answers to one question or variable at a time or by examining all responses given to all questions by one respondent at a time. After examining the questionnaires, the collected data was entered and cleaned in Epidata v4.6 and then exported to SPSS v26 software for analysis. Descriptive statistics were used for the quantitative data, and the final results of the study were presented in the form of numbers and tables. The chi-square test was used to test the association between the independent and dependent variables.

Validity and reliability of the study

Validity was maintained by searching for relevant literature. The validity of the instruments was maintained by reviewing the literature related to the topic. An intensive review of the literature was carried out. Consultation with faculties as well as the research supervisor was conducted to maintain the validity as well. Pretesting of the instrument at 10% of the sample population from similar schools and similar respondents was done. Additionally, the content validity ratio (CVR=0.89) and content validity index (CVI=0.78) indicated the confirmation of the content's validity. The consistency and accuracy of the collected data was checked on the same day to avoid missing or incomplete information.

Inclusive criteria and exclusive criteria

Adolescents aged 15–19 years old from selected schools or colleges in Tokha Municipality who were interested and willing to participate in the study were considered to meet the inclusive criteria.

Ethical consideration

Ethical approval was obtained from the Institutional Review Committee of the Nepal Institute of Health Sciences (Ref no. 13/078) before the initiation of the study. Before conducting the study, informed consent was taken from the respondents. Consent from the parents of the respondents who were below 18 years was taken by informing them and providing the consent form to the respondents beforehand to pass on the information regarding the data collection. An approval letter was taken from the respective schools/colleges and the health and education section of Tokha municipality. The purpose and objectives of the study were explained in detail to the respondents. Finally, the confidentiality of the respondents was maintained, no identities were revealed, and the collected data was used only for the purpose of the study.

Time Frame of the Study

The study was conducted from 14th November 2021 to 7th July 2022.

Operational definitions

Adolescent-parent communication refers to the communication between an adolescent and their biological parent, stepparent, or foster parent, including older siblings and local guardians regarding sexual and reproductive health topics. Communication was assessed using the questionnaire developed by Weighted Topics Measure of Family Sexual Communication, which consists of 11 questions using the scale "Never, Rarely, Sometimes, Often, Always," ranging from 0 to 44. Perceived parenting style refers to the perception of the respondents regarding parenting style as measured by the PSS questionnaire designed by Divya and Manikandan (2013). It involves30 items, and for each, the respondents selected one of five options: strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. 5 ,4 ,3 ,2 and 1 were used to score the various items (Divya, 2013). Knowledge regarding different sexual and reproductive health topics refers to the respondent's knowledge of sexual and reproductive health. It includes multiple responses regarding the different SRH components. Each correct response carries one point. The total responses regarding knowledge carry a 105 score. The median score is 52.5. Respondents who obtained a median score equal to or above the median score were considered to have adequate knowledge of the selected topics.

RESULTS

Socio-demographic and parental factors of the respondents

Among the 212 respondents, sixty percent (60%) were 15-17 years old, and forty

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percent (40 %) were 18-19 years old respectively. There were more female respondents than male respondents. More than half of the respondents, nearly fifty-seven percent (56.6%), were female, and forty-three percent (43.4%) were male, respectively. Regarding ethnicity, most of the respondents (43.4%) were from Brahmin/Chhetri ethnic backgrounds, followed by Dalits (5.7%), Newars 13.7%, Janajati 35.4%, and Muslim 1.9%, respectively. Most of the respondents (76.4%) followed the Hindu religion, followed by Buddhists (12.3%), Muslims (1.4%), and Christians (9%), respectively.

Similarly, the study found that the majority of the parents (93.9%) were together, while 3.8% were separated, and 2.4% were divorced. Regarding education, the majority of the respondents' mothers (73.1%) were literate, and nearly 27% (26.9%) were illiterate. Among the mothers in the literate group, 18.9% were able to read and write, while 19.8% had received primary-level education. Likewise, 10.8% had a lower secondary education level, 17% secondary level, 4.2 % higher secondary level, and 2.4% had received a bachelor's and above-level education, respectively. Similarly, the majority of the respondents' fathers (84%) were literate, while 16% were illiterate. Among the fathers in the literate group, 11.8% were able to read and write, while 19.3% had received primary-level education. Likewise, 16.5% had a lower secondary level, 21.7% secondary level, 9.4% higher secondary level, and 5.2% had received a bachelor's and above-level education, respectively. Most of the respondents' fathers (93.9%) were employed and engaged in different sectors. For example, 30.7% were in agriculture, 10.8% were in government/civil service, 5.2% were in private service/NGO/INGO, 20.8% were engaged in business, 10.4% were in labor, and 16% were foreign employers. Similarly, the majority of mothers, 26.9%, were homemakers while 4.2% were engaged in government/civil service, 5.2% were in private service/NGO/INGO, 12.7% had engaged in business, 2.4% were labor, and 4.2% were foreign employers (see Table 1).

Table 1: Socio-demographic and parental factors of the respondents

Socio-demographic factors (n =212)	Frequency	Percentage %
Age		
15-17	127	60
18-19	85	40
Gender		
Male	92	43.4
Female	120	56.6
Ethnicity		
Brahmin/Chhetri	92	43.4
Dalit	12	5.7
Newar	29	13.7
Janajati	75	35.4
Muslim	4	1.9
Religion		
Hindu	164	77.4
Buddhist	26	12.3
Muslim	3	1.4
Christian	19	9
Parental factors (n =212)	**Frequency**	**Percentage %**
Marital status of parents		
Together	199	93.9
Separated	8	3.8
Divorced	5	2.4
Mother's education		
Illiterate	57	26.9
Literate	155	73.1
Read and write	40	18.9
Primary level (1-5)	42	19.8
Lower sec. level (6-8)	23	10.8
Sec. level (9-10)	36	17
Higher sec. level (11-12)	9	4.2
Bachelor and above	5	2.4
Father's education		
Illiterate	34	16
Literate	178	84
Read and write	25	11.8
Primary level (1-5)	41	19.3
Lower sec. level (6-8)	35	16.5
Sec. level (9-10)	46	21.7
Higher sec. level (11-12)	20	9.4
Bachelor and above	11	5.2
Occupation of father		
Unemployed	13	6.1
Agriculture	65	30.7
Government/civil service	23	10.8
Private service/NGO/INGO	11	5.2
Business	44	20.8
Labor	22	10.4
Foreign employment	34	16
Occupation of mother		
Housemaker	57	26.9
Agriculture	94	44.3
Government/civil service	9	4.2
Private service/NGO/INGO	11	5.2
Business	27	12.7
Labor	5	2.4
Foreign employment	9	4.2

Source: Primary data

Living arrangements and perceived parenting style of the respondents

Upon assessing the living arrangements of the respondents, the study revealed that the majority of respondents (64.6%) were living with both parents (father and mother), followed by living with their mother only (1.4%), living with their father only (3.3%), living with

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siblings (1.4%), living with friends (1.9%), living with relatives (21.7%) and living alone (5.7%) respectively. Upon assessing the parenting styles of the respondents, the study found that more than half of the respondents (57.08%) perceived an authoritative parenting style, followed by an authoritarian style (32.54%) and a permissive style (10.38%), respectively.

Knowledge regarding Sexual and Reproductive Health Topics

Among the 212 respondents, the majority of the responses were recorded for pubertal changes (93.9%), menstruation (92.9%), child or forced marriage (91%), pregnancy (93.4%), abortion (57.5%), STI (80.2%), sexual violence (87.3%), and contraceptive devices (82.1) respectively. Upon assessing the level of knowledge, out of the 212 respondents, half had an adequate level of knowledge, whereas 50% had an inadequate level.

Communication Status on SRH topics

This study revealed that most respondents, nearly 76% (75.9%), communicated on SRH topics with their parents, whereas 24% (24.1%) never communicated such. The study showed that 161 respondents (47.2%) seldom communicated on SRH topics, followed by sometimes (23.6%) and often (5.2%), respectively. Most of the respondents communicated with their mother (62.73%). Both male and female students felt that it was easier to communicate with their mother rather than their father regarding SRH topics (see Table 2). The responses illustrate that more than half of the respondents (56.1%) communicated about choosing a life partner. 27.4% of respondents said they occasionally talked, and 6.1% of responders said they had done so on occasion. Most of the respondents (61.3%) never talked about using birth control, while 15.6% said they talked infrequently, 15.6% said they talked occasionally, and 6.1% said they talked a lot about using birth control. Communication about menstruation (50.1%), communication about physical and psychological changes (55.2%), and the physical growth of reproductive organs and development (50.5%) were significantly discussed by the respondents with their parents. Topics such as communication on when to start having sex (86.6%), pregnancy (69.3%), how to handle sexual pressure from a partner (85.8%), STI and HIV/AIDs (72.2%), communication about condoms (78.8%) and abortion (82.5%) were never discussed (see Table 3).

Table 2: Status of communication on SRH topics

Status of communication on SRH topics (n = 212)	**Frequency**	**Percentage %**
No communication	51	24.1
Communication	161	75.9
Total	212	100.0
Level of communication regarding SRH topics (n = 161)	**Frequency**	**Percentage %**
Seldom	100	47.2
Sometimes	50	23.6
Often	11	5.2
Total	161	100.0
To whom communication regarding SRH topics (n = 161)	**Frequency**	**Percentage %**
With Father	60	37.27
With Mother	101	62.73
Male communication regarding SRH topics (n = 65)	**Frequency**	**Percentage %**
With Father	30	46.16
With Mother	35	53.84
Female communication regarding SRH topics (n = 96)	**Frequency**	**Percentage %**
With Father	30	31.25
With Mother	66	68.75

Source: Primary data

Table 3: Communication on different SRH topics

Communication on different SRH topics (n = 212)	**Frequency**	**Percentage %**
Communication on choosing a life partner		
Never	93	43.9
Seldom	31	14.6
Sometimes	58	27.4
Often	13	6.1
Always	17	8.0
Communication on birth control		
Never	130	61.3
Seldom	31	14.6
Sometimes	33	15.6
Often	7	3.3
Always	11	5.2
Communication on condom		
Never	167	78.8
Seldom	15	7.1
Sometimes	21	9.9
Often	3	1.4
Always	6	2.8
Communication about physical and psychological changes		
Never	95	44.8
Seldom	14	6.6
Sometimes	46	21.7
Often	41	19.3
Always	16	7.5
Communication on reproductive organ growth and development		
Never	105	49.5
Seldom	24	11.3
Sometimes	46	21.7
Often	20	9.4
Always	17	8.0

Source: Primary data

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Continuation of Table 3: Communication on different SRH topics

Communication on different SRH topics (n = 212)	Frequency	Percentage %
Communication on how to handle sexual pressure from a partner		
Never	182	85.8
Seldom	13	6.1
Sometimes	14	6.6
Often	2	.9
Always	1	.5
Communication about pregnancy		
Never	147	69.3
Seldom	27	12.7
Sometimes	22	10.4
Often	9	4.2
Always	7	3.3
Communication about menstruation		
Never	104	49.1
Seldom	9	4.2
Sometimes	42	19.8
Often	29	13.7
Always	28	13.2
Communication on STI and HIV/AIDs		
Never	153	72.2
Seldom	18	8.5
Sometimes	22	10.4
Often	11	5.2
Always	8	3.8
Communication on Abortion		
Never	175	82.5
Seldom	13	6.1
Sometimes	14	6.6
Often	7	3.3
Always	3	1.4

Source: Primary data

Association between the independent variables and adolescent-parent communication on sexual and reproductive health.

Table 4 showed the association between the independent variables and adolescent-parent communication regarding SRH. It was reported that adolescent-parent communication on SRH was significantly associated with the living arrangements of the respondents (p-value < 0.01), parenting style (p-value < 0.04), and the level of knowledge regarding SRH (p-value < 0.01).

Table 4: Association between the independent variables and adolescent-parent communication on sexual and reproductive health

Independent variable (n = 212).	Status of Communication		Chi - square value	df	P - value
	Communi-cation	No communication			
Grade					
11	76 (71.7%)	30 (28.3%)	2.091	1	0.14
12	85 (80.2%)	21 (19.8%)			
Gender					
Male	65 (70.7%)	27 (29.3%)	2.491	1	0.11
Female	96 (80%)	24 (20%)			
Religion					
Hindu	128 (78%)	36 (22%)	1.757	1	0.18
Others	33 (68.8%)	15 (31.3%)			
Ethnicity					
Brahmin / Chhetri	73 (79.3%)	19 (20.7%)	1.031	1	0.31
Others	88 (73.3%)	32 (26.7%)			

Source: Primary data

Continuation of Table 4: Association between the independent variables and adolescent-parent communication on sexual and reproductive health

Independent variable (n = 212).	Status of Communication		Chi-square value	df	P - value
	Communi-cation	No communication			
Mother's education					
Literate	118 (76.1%)	37 (23.9%)	0.011	1	0.91
Illiterate	43 (75.4%)	14 (24.6%)			
Father's education					
Literate	137 (77%)	37 (23%)	0.636	1	0.42
Illiterate	24 (70.6%)	14 (29.4%)			
Living arrangements					
With parents or guardian	153 (78.1%)	43 (21.9%)	6.376	1	0.01*
With others	8 (50%)	8 (50%)			
Perceived Parenting style					
Good parenting	98 (81%)	23 (19%)	3.932	1	0.04*
Bad parenting	63 (69.2%)	28 (30.8%)			
Knowledge on SRH					
Adequate knowledge	73 (68.9%)	33(31.1%)	5.809	1	0.01*
Inadequate knowledge	88 (83%)	18 (17%)			

* Significant at p < 0.05

Source: Primary data

DISCUSSION

This study aimed to assess adolescent-parent communication on sexual and reproductive health and its associated factors among the students at higher secondary schools in Tokha Municipality. Overall, adolescent-parent communication on sexual and reproductive health was found to be 75.9%, which is quite good compared to the previous study conducted in Kailali (43%) (9) and Sankhu (55.9%) (Tuladhar, 2021), Nepal. More than half of the respondents (57.08%) had an authoritative parenting style, followed by an authoritarian (32.54%) and permissive style (10.38%), respectively. It appeared that authoritative parenting methods, which are helpful for communication, were very common in the neighborhood. No previous studies were found on adolescent-parent communication regarding SRH with the study variable of parenting style. The present study has also reported on the association between parenting style and adolescent-parent communication regarding SRH. We can conclude that open communication between parents and their children could encourage and enable the children to communicate with their parents regarding sexual and reproductive health issues, challenges, and problems.

Most of the respondents communicate with their mother (62.73%). Both male and female students felt that it was easier to communicate with their mother rather than their father. This demonstrates that mothers can

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teach and guide on Sexual and Reproductive Health education at their home in Nepalese society as needed. Regarding the knowledge of the 212 respondents in the present study, most of the responses were recorded for pubertal changes (93.9%), menstruation (92.9%), child or forced marriage (91%), pregnancy (93.4%), abortion (57.5%), STI (80.2%), sexual violence (87.3%), and contraceptive devices (82.1) respectively. A previous study conducted in Ethiopia (Wudineh *et al*., 2021) reported that (74.4%) of the respondents had knowledge about STIs, followed by (74.2%) of the respondents knowing contraception methods and (72.8%) when their first menstrual period had started. Comparing the present and previous study, the knowledge among the respondents was quite good in the present study conducted in Tokha among higher secondary level students. The knowledge of different SRHR topics was good among the respondents in this study due to them having various sources of information such as radio, television, the internet, and social media, and the changing and updated curriculum of the school regarding sexual education. Regarding the level of knowledge among the respondents (n=212) in the present study, 50% had adequate knowledge, whereas 50% had inadequate SRH knowledge. Hence, comprehensive sexuality education, through clubs and peer groups, to organize health education sessions will help to improve SRH-related knowledge.

More than half of the respondents (56.1%) communicated about choosing a life partner, followed by using birth control (38.7%), communicating about physical and psychological changes (55.2%), communicating about the physical growth of reproductive organs and development (50.5%), and communication about pregnancy (30.7%), as well as communication on when to start having sex (13.4%), how to handle sexual pressure from a partner (14.2%), STI and HIV/AIDs (27.8%), condoms (21.2%), and abortion (17.5%). This shows that topics such as choosing a life partner, birth control, menstruation, physical and psychological changes, and communication on the physical growth of reproductive organs and development has significantly been discussed by the respondents with their parents. SRH topics such as communication on when to start having sex, how to handle sexual pressure from a partner, STI and HIV/AIDs, and communication about condoms had never been discussed by the majority of the respondents. In the study conducted in Sanku, Nepal, menstruation was discussed a lot by 9.9%, followed by pubertal changes by 3.8%, and birth control by 2.8% (Tuladhar, 2021). Relationships with the opposite sex, abortion, sexually-transmitted infections, and fertilization had never been discussed with their parents by 80.8%, 70.4%, 59.6%, and 49.3%, respectively (Tuladhar, 2021). Correspondingly, the cross-sectional study conducted in Kailali, Nepal, showed that 16.2% communicated on pubertal change, followed by menstruation (17.8%), safe sex (5.9%), unintended pregnancy (9.9%), contraceptive devices (10.1%), STI/HIV/AIDS (14.8%), and condoms (3.2%) (Bhatta, 2021). Similarly, the study conducted in Ethiopia reported that 46.6% communicated on pubertal changes, followed by premarital sex (32.5%), contraceptive devices (43.3%), STI/HIV/AIDS (56.1%), unintended pregnancy (49.2%) and condoms (25.3%). We can conclude that there are quite good communication practices in the present study population. This may be because they have good knowledge of different SRH topics. Living with a guardian also enabled and encouraged communication between the parents. In Nepalese society, most parents did not feel comfortable talking to their kids about sexual health and concentrated on safe topics. Cultural taboos, shame, poor communication abilities, embarrassment, fear of the parents, their lack of responsiveness, their unwillingness to accept young people due to a lack of understanding, sociocultural norms, and their conviction that talking about such topics encourages premarital sex are just a few things that hinder such parent-child interactions (Bhatta, 2021).

In this study, there was a significant relationship found between adolescent-parent communication on sexual and reproductive health and living situations ($p = 0.01$), parenting style ($p = 0.04$), and knowledge ($p = 0.01$). A similar study in Sankhu, Nepal (Tuladhar, 2021) reported a significant association between age, gender, closest parent, and adolescent-parent communication on SRH. The more recent nature of the current study and the fact that men were more at ease speaking about SRH-related issues than women may be to blame for the discrepancies that were identified.

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The knowledge was substantially related to similar studies conducted in Woreta town, Northwest Ethiopia (p 0.05) (Wudineh *et al*., 2021). However, the study conducted in Vientiane reported that gender ($p<0.05$) was significantly associated with adolescent-parent communication on SRH (15). This may be due to cultural variations affecting parenting education and communication. Likewise, the study conducted in Ethiopia reported that study grade ($p<0.05$) was significantly associated with adolescent-parent communication on SRH (Dagnachew Adam, 2020) because the grade 12 students thought that they had enough knowledge compared to those in grade 11, so they did not communicate with their parents.

This study has not explored the factors from the parent's perspective. It was a cross-sectional study, and it was hard to imply a cause-effect relationship.

CONCLUSION

Adolescent-parent communication on SRH issues is still unsatisfactory. More than half of the respondents communicated on SRH topics with their parents. Sexual and reproductive health topics such as choosing a life partner, menstruation, physical and psychological changes, the physical growth of reproductive organs, and development were communicated well by the respondents, in contrast to topics such as using birth control, when to start having sex, pregnancy, how to handle sexual pressure from a partner, STIs and HIV/AIDS, condoms, and abortion, which were never communicated by the respondents, respectively. The adolescent-parent communication on sexual and reproductive health was found to be significantly associated with the level of knowledge regarding sexual and reproductive health. There was an association found between parenting style, living arrangements, and adolescent-parent communication. Most respondents had lived with their parents and perceived them as having an authoritative parenting style. Half of the respondents had adequate knowledge regarding sexual and reproductive health. Most respondents had enough knowledge on SRH topics such as pubertal changes, menstruation, child or forced marriage, pregnancy, sexually transmitted infections, sexual violence, and contraceptive devices. However, the least number of respondents had enough knowledge on SRH topics like abortion. Creating an adolescent-friendly environment at home and conducting awareness programs with the help of the local government of the respective schools would help to increase adolescent-parent communication.

SUGGESTIONS

If we could involve the parents of higher secondary school students closely in their school activities, creating an adolescent-friendly environment at home would help to increase adolescent-parent communication in the Nepalese context of Tokha Municipality.

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CONFLICT OF INTEREST

The authors declare that they have no competing interests.

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AUTHOR CONTRIBUTION

Alisha Gautam made substantial contributions to the concept and design of the research, as well as collected the data, acquired, analyzed, and interpreted the data, and drafted the article. Krishna Sharma made a central contribution in the drafting the research article, revised it critically for important intellectual content, acquired, analyzed, or interpreted data, and approved the version to be published. Sunita Dhakal and Sarmila Dhakal conceived and helped to design the research, contributed to the data collection and analysis tools, and supervised throughout the study. Anugraha Chand drafted the article and revised it critically for important intellectual content. All authors read and approved the final manuscript.

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