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RESEARCH ARTICLE

Youth Reproductive Health Problems, Service Preference and Associated Factors among Female Secondary School Students in Lay Gayint District of Amhara Region, Ethiopia, 2019

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Abstract:

Background:

More than one million youth population is reported to die annually from preventable causes of death. Young people, particularly females are highly affected by an unwanted pregnancy, HIV/AIDS, Sexually Transmitted Infections (STIs), and other reproductive ill health due to lack of awareness about risky sexual behaviors. This study aimed to assess youth reproductive health problems, service preference, and associated factors among female secondary school students in the Lay Gayint district of Amhara Region, Ethiopia.

Methods:

Institution-based cross-sectional study design was employed for 374 female secondary school students from March 10-25, 2019 who were selected using a simple random sampling technique. Descriptive statistics using frequency and other statistical summary measures were performed to describe the characteristics of youths, while binary and multivariable analyses were used to identify factors associated with youth reproductive health problems. An adjusted odds ratio with a 95% confidence interval was used to measure the association and statistical significance was taken at $p\text{-value} \leq 0.05$.

Results:

The magnitude of youth reproductive health problems was 28.3% (95% CI (24.2%, 32.6%)). The risk of developing reproductive health problems was found to be higher among participants less than 20 years of age (AOR=3.25, 95% CI (1.38, 7.65)), those who ashamed to discuss sexual issues (AOR=8.42, 95% CI (3.80, 18.67)), those who had multiple sexual partners (AOR=11.05, 95% CI (4.29, 28.50)), and those who had peer influence (AOR=23.00, 95% CI (8.02, 65.98)) compared with counterparts. While study participants who reported to attend a class every day (AOR=0.30, 95% CI (0.12, 0.74)) and those who believe in the convenience of youth services (AOR=0.04, 95% CI (0.02, 0.12)) were less likely to develop a reproductive health problem.

Conclusion:

The magnitude of youth reproductive health problems was found to be high. Being young, failing to discuss sexual issues, having multiple sexual partners, and peer influence were found to be the contributing factors for youth reproductive health problems. Therefore, emphasis should be given on the prevention of youth reproductive health problems through avoidance of risk factors and the establishment of convenient youth-friendly services.

Keywords: Youth reproductive health problems, Service preference, Factors, Ethiopia, Risk factors, Youth-friendly services.

Article History

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1. INTRODUCTION

The World Health Organization (WHO) defines the youth

population as persons whose age is found between 15–24 years [1]. Globally, the youth population has reached 1.8 billion and the majority reside in low and middle-income countries. Regardless of being the healthiest group of the general population, 1.3 million youth population is reported to die annually from preventable causes of death particularly in low

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and middle-income countries [2, 3]. Young women are highly vulnerable to HIV/AIDS infection than young men for several social, cultural, and biological reasons [4]. Young people, particularly females are highly affected by the burden of early marriage, unwanted pregnancy, HIV/AIDS, sexually transmitted infections (STIs), and other reproductive ill health due to lack of awareness about risky sexual behaviors [5, 6]. Among women in Sub-Saharan Africa, estimates suggest that the prevalence of all STIs is higher among girls aged 15-24 years than other age groups [7, 8].

In Ethiopia, a high proportion of females was reported to initiate sexual intercourse before 18 years of age compared to male counterparts with respective prevalence of 40% and 12%. Those who initiate sexual intercourse at an early age are more likely to be exposed to STIs and other reproductive health problems. The prevalence of STIs like HIV/AIDS is relatively high among young people in Ethiopia. According to the HIV sentinel surveillance of mothers seeking antenatal care, HIV/AIDS prevalence is reported to be 11% among women of age 15-19 years. The two major risk factors for the spread of STIs among the youth people in Ethiopia are the practice of having multiple sexual partners and the limited use of condoms during intercourse [9, 10].

Different factors such as age, cultural views regarding early marriage, the cultural prohibition of contraceptive use, limited knowledge about the risks of unprotected sexual activity, and lack of life skills needed to practice safer sexual behaviors could affect the health of the youth population. Limited access to reproductive health services complemented by poor service provision and the ignorance of unmarried and young women are common contributing factors to youth reproductive health problems in most low and middle-income countries [3, 11]. Studies indicated that youth reproductive health service utilization was reported to be low among the youth population [12 - 14]. A study conducted in Debre Berhan Town, central Ethiopia disclosed that only 33.8% of the adolescents reported utilizing reproductive health services [12]. Similarly, a study conducted in Bahir Dar, Northwest Ethiopia indicated that less than one-third of the youth people were found to utilize youth reproductive health services [14].

The Ethiopian Ministry of Health has established adolescent and youth health strategies to address youth reproductive health problems [15]. Despite efforts made to improve access to youth reproductive health services, the utilization of the service is still low and the youth population particularly females are highly affected by reproductive health problems. Different studies were conducted in Ethiopia about the utilization of youth reproductive health services and associated factors. However, there is limited evidence about youth reproductive health problems, service preference, and associated factors in Ethiopia [12 - 14, 16]. Therefore, this study was designed to assess the magnitude of reproductive health problems, service preference, and its associated factors among female secondary school students in the Lay Gayint district of Amhara Region which is located in the Northcentral part of Ethiopia.

2. METHODS

2.1. Study Design and Participants

An institution-based cross-sectional study was employed from March 10-25, 2019. The study was conducted in the selected secondary schools found in the Lay Gayint district, South Gondar Zone which is located 173 kilometers from the regional capital (Bahir Dar, Amhara Region) and 739 Km from the capital, Addis Ababa. According to the district education office, there were seven secondary schools as of March 2019. Three secondary schools (Nefas Mewucha, Gobgobe, and Salie) were selected for the study purpose. The schools were selected based on the number of students enrolled in the study year. The study participants were female secondary school students selected from the three secondary schools. There were a total of 2,379 female secondary school students in the selected schools. With regards to inclusion and exclusion criteria, all the female students who follow education on the regular program were included, whereas those who were absent in the schools during the study period were excluded.

The sample size was determined using the formula for single population proportion with 95% confidence level, 5% margin of error (w), and prevalence of youth reproductive health problems of 50% (no previous similar study and to get a maximum sample size, 50% was taken). By using the reduction formula and adding a 10% non-response rate, the final sample size was 374. Then the calculated sample was proportionally allocated to each school based on the number of female students. Then a simple random sampling technique was used to select the study participants by using students' roster in each school.

2.2. Data Collection Procedures and Quality Assurance

The data were collected using a self-administered questionnaire. The questionnaire was prepared in English language and translated to the local language (Amharic) and translated back to English by experts to maintain the consistency. Before conducting the actual study, the Amharic version questionnaire was pretested on 5% of the sample size among secondary school students in another district. Essential amendments were undertaken on the questionnaire following the pretest. Two days of training were given for the facilitators of the data collection. The collected data were checked for completeness, accuracy, clarity, and consistency throughout the data collection period by the principal investigator. The data collected for the pre-testing purpose were not included in the final analysis and report. Similarly, appropriate coding, data cleaning, and editing were performed to ensure the quality of the data.

2.3. Study Variables and Term Definitions

The dependent variable was reproductive health problems, while independent variables were sociodemographic variables such as age, grade level, occupation of the mother, household income, *etc.*, and reproductive health-related characteristics. Concerning data collection techniques, information about sociodemographic and reproductive health characteristics was collected through a self-administered structured questionnaire.

In this study, youth reproductive health problem was considered if participants experience at least one of the major reproductive health problems (unplanned pregnancy, abortion, early sexual initiation and symptoms of sexually transmitted infections (STIs). While early sexual initiation was considered if the participants experienced sexual initiation before 18 years of age. [9].

2.4. Data Processing and Analysis Procedures

The collected data were entered in Epi Data version 3.1 and exported to SPSS version 20 for cleaning and analysis. Descriptive statistics using frequency and other statistical summary measures were used to describe the magnitude of reproductive health problems and other socio-demographic characteristics of the study participants. A binary and multivariable logistic regression analysis was used to identify factors associated with the outcome variable. To maintain the stability of the final model, variables with a P-value of ≤ 0.05 in the bivariable logistic regression analysis were entered into the multivariable model to identify the independent predictors of youth reproductive health problems. An adjusted odds ratio at 95% confidence level was used to identify the direction and strength of the association. A statistical significance was determined at a P-value of ≤ 0.05 . The final result was presented using tables as frequency and percent.

2.5. Ethical Consideration

An ethical approval and support letter were obtained from the College of Health Sciences, Debre Tabor University, and the district education office. Following the submission of the ethical approval and the support letter to the selected schools,

permission was acquired to contact the students. Oral informed consent was obtained from the study participants after elucidating the study purposes and the procedures of the data collection work. The right to refuse and to terminate the participation after the initiation of the data collection was also communicated to the study participants. The privacy of the participants and the confidentiality of the information were maintained.

3. RESULTS

3.1. Socio-demographic Characteristics of the Study Participants

A total of 374 participants completed the questionnaire giving a response rate of 100%. The majority (224 59.89%) of the students were within the age group of 15-19 years. The mean age of respondents was 18.81 ± 1.76 SD years with a minimum and a maximum ages of 17 years and 24 years, respectively. The majority of the study participants, 339 (90.6%), were orthodox Christian followers, whereas the remaining 35 (9.4%) were Muslims. The mean household income of the family of the study participants' was 1908 \pm 1174.95 Ethiopian Birr (ETB). More than sixty percent, 226 (60.4%), of the study participants were found in a family with a household income of < 1908 ETB (the mean value) (Table 1).

3.2. Reproductive Health Problems by Type

With regards to reproductive health problems by type, 78 (20.9%), 13 (3.5%), 12 (3.2%), 7 (1.9%), and 6 (1.6%) of the study participants had a history of early sexual initiation, unplanned pregnancy, symptoms of STIs, and abortion, respectively were the commonly encountered problems among female secondary school students (more than one answers were also reported).

Table 1. Socio-demographic characteristics of female secondary school students in the Lay Gayint district of Amhara Region, Ethiopia, 2019.

Variables	Frequency (n=374)	Percent (%)
Age in years:		
15-19	224	59.89
20-24	150	40.11
Grade:		
9th	207	55.3
10th	167	44.7
Attend class every day:		
Yes	284	75.9
No	90	24.1
Religion:		
Orthodox	339	90.6
Muslim	35	9.4
Family condition:		
Live together	346	92.5
Separated	27	7.5
Occupation of the mother:		
Housewife	259	69.3
Government employee	51	13.6
Private employee	32	8.6
Merchant	32	8.6
Family monthly income:		
< 1908 ETB	226	60.4
\geq 1908 ETB	148	39.6

3.3. Reproductive health-related characteristics of the study participants

Nearly one-third, 106 (28.3%) (95% CI (24.2%, 32.6%)), of the study participants had reproductive health problems. One-third, 125 (33.4%), of the study participants had reported using a condom during their first sexual experience. With regards to preference where to get youth reproductive health services, more than two-third, 294 (78.6%) of the study participants prefer to get the service in a private setting and the rest 80 (21.4%) prefer to get the service in public health facilities despite more than half, 200 (53.5%) of the study participants believed that the public health services are convenient for the youth people (Table 2).

3.4. Factors associated with reproductive health problems

We aimed to assess youth reproductive health problems, service preference, and associated factors among female secondary school students in the Lay Gayint district of the Amhara Region of Ethiopia. In this study; the age of the study participants, class attendance, openness to a discussion of sexual issues, having multiple sexual partners, the convenience

of health facilities to youth-friendly services, condom use, and peer influence were found to be significantly associated with reproductive health problems.

The odds of experiencing reproductive health problems were found to be 3.25 times higher among participants who were less than 20 years (AOR=3.25, 95% CI (1.38, 7.65)). Those who feel embarrassed to discuss sex-related issues were more likely to develop reproductive health problems. The odds of developing reproductive health problems were found to be 8.42 times higher among youths who feel embarrassed to discuss sex-related issues compared with counterparts (AOR=8.42, 95% CI (3.80, 18.67)). The odds of experiencing reproductive health problems were (AOR=11.05, 95% CI (4.29, 28.50)) and (AOR=23.00, 95% CI (8.02, 65.98)) among female youths who had multiple sexual partners and a peer influence, respectively. On the other hand, study participants who reported to attend a class every day (AOR=0.30, 95% CI (0.12, 0.74)) and those who believed in the convenience of youth-friendly services (AOR=0.04, 95% CI (0.02, 0.12)) were less likely to develop reproductive health problems (Table 3).

Table 2. Reproductive health-related characteristics of female secondary school students in the Lay Gayint district of Amhara Region, Ethiopia, 2019.

Variables	Frequency (n)	Percent (%)
Reproductive health problem:		
Yes	106	28.3
No	268	71.7
Ashamed to discuss on sexual issues:		
Yes	70	18.6
No	304	80.9
Multiple sexual partners:		
Yes	49	13.1
No	325	86.9
Use condom during sexual intercourse:		
Yes	125	33.4
No	249	66.6
Peer influence on sexual issues:		
Yes	118	31.6
No	256	68.4
Health facilities are convenient for youth:		
Yes	200	53.5
No	174	46.5
Preference to use youth services:		
Government facilities	80	21.4
Private facilities	294	78.6
Utilize youth health services:		
Yes	134	35.6
No	242	64.4

Table 3. Multivariable analysis of factors associated with youth reproductive health problems among selected female secondary school students in the Lay Gayint district of Amhara Region, Ethiopia, 2019.

Variable	Reproductive health problem		COR, 95% CI	AOR 95% CI	P-value
	Yes (%)	No (%)			
Age of the respondents:					
15-19	77 (72.6)	147 (54.9)	2.19 (1.34, 3.57)	3.25 (1.38, 7.65) ^b	0.007
20-24	29 (27.4)	121 (45.1)	1	1	

(Table 3) contd.....

Variable	Reproductive health problem		COR, 95% CI	AOR 95% CI	P-value
	Yes (%)	No (%)			
Participants' grade level:					
Grade 9	75 (70.8)	132 (49.3)	2.49 (1.54, 4.04)	1.69 (0.82,3.48)	0.150
Grade 10	31 (29.2)	136 (50.7)	1	1	
Attend class every day:					
Yes	64 (60.4)	220 (82.1)	0.33 (0.20, 0.55)	0.30 (0.12, 0.74) ^b	0.009
No	42 (39.6)	48 (17.9)	1	1	
Feel ashamed to discuss sexual issues:					
Yes	37 (34.9)	33 (12.3)	3.82 (2.22, 6.56)	8.42 (3.80, 18.67) ^b	<0.001
No	69 (65.1)	235 (87.7)	1	1	
Sexual experience with more than one partners:					
Yes	26 (24.5)	23 (8.6)	3.46 (1.87, 6.41)	11.05 (4.29, 28.50) ^b	<0.001
No	80 (75.5)	245 (91.4)	1	1	
The existing health institutions are convenient for youth:					
Yes	22 (20.8)	178 (66.4)	0.13 (0.08, 0.23)	0.04 (0.02, 0.12) ^b	<0.001
No	84 (79.2)	90 (33.6)	1	1	
Use condom during sexual intercourse:					
Yes	22 (20.8)	103 (38.4)	1	1	0.09
No	84 (79.2)	165 (61.6)	2.38 (1.40,4.05)	2.21 (0.88, 5.59)	
Peer influence on sexual issues:					
Yes	44 (41.5)	74 (27.6)	1.86 (1.16, 2.98)	23.00 (8.02, 65.98) ^b	<0.001
No	62 (58.5)	194 (72.4)	1	1	

Key: ^b significant in the multivariable analysis, AOR: Adjusted Odds Ratio; COR: Crude Odds Ratio

4. DISCUSSION

Several pieces of evidence globally showed that youths are prone to many reproductive and sexual problems [3, 17, 18]. Similarly, our study revealed that the age of the study participants, class attendance, discussion of sexual issues, sexual exposure with multiple sexual partners, the convenience of health facilities to youth-friendly services, condom use, and peer influence were found to be the determinant factors of youth reproductive health problems. The overall magnitude of reproductive health problems was found to be 28.3% (95% CI (24.2, 32.6)). The finding of this study supports the reports that young people are enormously affected by reproductive health problems due to poor access to youth health services, inconvenience of existing youth reproductive health services, and lack of evidence-based interventions to counteract reproductive health problems [3, 18].

With regards to youth reproductive health service utilization, only one-third, 134 (35.6%), of the study participants had reported utilizing youth reproductive health services. The finding is consistent with a study conducted among high school students in Bahir Dar City, Amhara, Ethiopia [12]. However, the finding is lower than studies conducted in Eastern Ethiopia and the Dejen District of Amhara Region, Ethiopia [13, 19]. The difference might be attributed to the variation in the study population and the level of awareness among the study population.

The age of the study participants was found to be significantly associated with reproductive health problems. The odds of experiencing reproductive health problems were found to be 3.25 times higher among young participants compared with counterparts (AOR=3.25, 95 CI (1.38, 7.65)). The increased risk of reproductive health problems among young participants might be ascribed to poor understanding of the

risky sexual behaviors and poor decision making power related to maturity. The finding of this study is consistent with a previous study that revealed 3.7 times higher odds of experiencing reproductive health problems among young adolescents compared with their counterparts [20].

Participants who reported attending a class every day were less likely to experience reproductive health problems compared to counterparts (AOR=0.30, 95% CI (0.12, 0.74)). Students who feel connected to their school environment are more likely to avoid risky sexual behaviors [21]. On the contrary, students who usually miss class attendance might found to engage in substance use and other risky sexual behaviors leading to reproductive health problems. Making the school environment attractive and safe for school youth could be vital in preventing reproductive health problems since students usually spend most of their time at school which in turn decreases their engagement in practicing risky sexual activities.

The number of sexual partners was found to be a predictor of experiencing reproductive health problems in this study. The risk of experiencing reproductive health problems was found to be 11.05 times higher among youth who had a sexual experience with more than one partner compared with counterparts (AOR=11.05, 95%, CI (4.29, 28.50)). Those who had multiple sexual partners are more likely to be exposed to STIs and other reproductive health problems [22]. It is momentous to educate young people about the safe sexual practice by using a condom and being faithful if they are incapable to maintain abstinence [9].

The odds of developing reproductive health problems were 8.42 times higher among participants who reported feeling ashamed to discuss sex-related issues compared with counterparts (AOR=8.42, 95%, CI (3.80, 18.67)). The finding

of this study is consistent with a study conducted among preparatory school students in Debre Tabor Town which reported poor communication on sexual issues among participants who feel embarrassed to discuss sexual issues. Failure to discuss sexual issues openly might lead to poor awareness of safe reproductive health practice and increase the exposure to risky sexual behaviors [23].

The convenience of a health system to youth reproductive services was found to be associated with a reduced risk of experiencing reproductive health problems. Participants who believe in the convenience of the health system to youth people were less likely to experience reproductive health problems compared with their counterparts (AOR= 0.04, 95%, CI (0.02, 0.12)). The reduced risk of having reproductive health problems among youth who reported to believe in the convenience of health system might be related to the likelihood of utilizing youth reproductive health services which results in little engagement in risky sexual behaviors [14, 18]. On the other hand, the odds of experiencing reproductive health problems were found to be higher among participants who had peer influence on sexual matter compared with counterparts (AOR=23.00, 95%, CI (8.02, 65.98)). Those participants who had peer pressure are more likely to practice risky sexual behaviors leading to a high risk of experiencing reproductive health problems [8, 24].

Our study has some limitations. Recall bias might be a concern due to the cross-sectional nature of the study design. Similarly, participants may not disclose the exact experiences related to sexual issues due to cultural and social desirability bias. The study was conducted at a school level which might not be representative of the general female youth population.

CONCLUSION

The magnitude of youth reproductive health problems was found to be high. The odds of experiencing reproductive health problems were found to be higher among young participants, those who feel ashamed to discuss sexual issues, those who had multiple sexual partners, and those who had peer influence compared with counterparts. While study participants who reported attending a class every day and those who reported to believing in the convenience of youth reproductive health services were less likely to develop reproductive health problems. Special emphasis should be given to the prevention of youth reproductive health problems through avoidance of risk factors by the engagement of different stakeholders such as the government, the school community, and the parents. The establishment of youth-friendly services should be based on the interest of the youth population.

ABBREVIATIONS

AIDS	=	Acquired Immune Deficiency Syndrome
AOR	=	Adjusted Odds Ratio
COR	=	Crude Odds Ratio
CI	=	Confidence Interval
HIV	=	Human Immune Deficiency Virus
STIs	=	Sexual Transmitted Infections

WHO = World Health Organization

AUTHORS' CONTRIBUTION

MM contributed to the write-up of the proposal, data collection, data entry, data analysis, and final manuscript write up. WT and AT have been involved in data collection, data analysis, and final manuscript write up. The final manuscript was read and approved by all authors.

ETHICAL APPROVAL AND CONSENT TO PARTICIPATE

The study was approved by the research ethics committee of the College of Health Sciences, Debre Tabor University, Ethiopia with Reference Number: CHS/276/2019.

HUMAN AND ANIMAL RIGHTS

Not applicable.

CONSENT FOR PUBLICATION

Oral informed consent was obtained from the participants.

AVAILABILITY OF DATA AND MATERIALS

The datasets used in this study are available from the corresponding author [M.M] on reasonable request.

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None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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