

Research Article

Determinants of Sexual Practice and its Associated Factors among School Adolescents in Central Gondar Zone, Amhara Region, Ethiopia

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Abstract

Background: Adolescents around the world face health risks because they are frequently denied access to sufficient sexual and reproductive health treatments and counseling. Adolescents in Sub-Saharan Africa, particularly Ethiopia, have a greater proportion of new HIV infections, maternal deaths, and unmet reproductive health information and service needs.

Methods: Institutional-based cross-sectional study design was employed. Proportionality and multistage, simple random, purposive, and systematic sampling techniques were used. Bivariate and multivariate logistic regression analysis was employed.

Results: A total of 654 school adolescents took part, with 97% response rate. The sexual practice was significantly associated with age (AOR=3.195, 95% CI; 1.463-6.976), educational status (AOR=0.275, 95% CI; 0.079-0.959), never having had a girl/boyfriend (AOR=0.003, 95% CI; 0.031-0.085), not having used contraceptive methods, while they used VCT (AOR=0.349, 95% CI; 0.148-0.8210), not using VCT (AOR=0.279-0.644), never used VCT, while they used contraceptive (AOR=0.195, 95% CI; 0.080-0.472) and not used both contraceptive and VCT (AOR=0.499, 95% CI; 0.276- 0.902).

Conclusions: In this study, high levels of sexual practice and low reproductive health services utilization. The primary factors that encouraged school adolescents engage sexual activity were alcohol consumption (10.6%), peer influence (37%), and love relationships (52.4%).

Keywords: Sexual practice; Reproductive health; Adolescents; Students; Ethiopia

Introduction

Reproductive health care is defined as the constellation of approaches, procedures, and services that contribute to reproductive health and well-being by preventing and solving sexual health problems [1]. In the recent past, adolescent sexuality and reproductive health have become global concerns. The issue has grown as a result of unprecedented increases in sexual activity, early pregnancies, and Sexually Transmitted Illnesses (STIs) among adolescents, including the Human Immunodeficiency Virus (HIV) [2]. Preconception care, family life education, family planning, antenatal care, nutrition, delivery, postnatal care, reproductive tract infection care, STDs/HIV/AIDS, reproductive cancer treatment, prevention and treatment of infertility; prevention and management of unsafe abortion complications, safe abortion services that were not against the law, active discouragement of harmful practices, and referral for additional services are all components of reproductive health services [3,4].

Ever had sex, your age at first sexual intercourse experience, the age difference with your first sex partner, the number of sexual partners, condom use, alcohol consumption prior to sexual intercourse sex, and

forced sex are all examples of sexual behaviour [5]. According to the World Health Organization (WHO), teenagers aged 15-19 account for 60% of all new HIV infections in Africa [6]. In developing countries, there are approximately 12.8 million births by adolescents aged 15-19 years, and a large share of those pregnancies is unplanned [7].

Adolescence and early life are the age groups that are exposed to premarital sex. The WHO files emphasize that the age group that faces premarital sex is adolescents [8,9]. According to the WHO report, the majority of young people in many international locations are sexually energetic before the age of 20, which is among those aged 15-19 [9]. Adolescents face peer pressure to engage in premarital sex, watch pornographic videos/films, get involved in midnight activities, use drugs, consume alcohol, be female, and lack parental control [8-11].

Sub-Saharan Africa is the most affected region in the world, with an estimated 22.5 million people living with HIV. Approximately 1.7 million new infections came about in the region. Ten million young people aged 15-24 years and nearly 3 million children less than 15 years have been living with HIV. Premarital sexual activity is most common in Sub-Saharan Africa, where more than half of 15-19-year-old girls have had sexual experience [12].

In Ethiopia, the median age at first sexual intercourse is 0.5 years earlier than the median age at first marriage for women and 2.5 years earlier for men; this shows that both women and men engage in intercourse before marriage. Rural women begin having sexual intercourse about 2.2 years earlier than urban women, at 16.3 years vs. 18.5 years. In Ethiopia, the median age at first sexual intercourse among women aged 25-49 is 16.6 years. One in every four women (24%) has their first sexual encounter before the age of 15, and 62% before the age of 18. By age 20, 76% of women have had sexual intercourse. The median age at first intercourse among men aged 25-

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49 is 21.2 years. Only 2% of men have their first sex earlier than age 15, while 17% have initiated sexual intercourse by age 18. By age 20, 36% of men have had sexual intercourse [13]. Ethiopia is a country of younger people; over 65% of its population is under the age of 25, and its youths have strong reproductive health desires [14]. Adolescents in Ethiopia have restricted access to sexual and reproductive health information as well as pleasant adolescent and youth-friendly reproductive health services [15].

Adolescent's behavior and peer influence have a notable impact on pushing youngsters towards premarital sex. A study carried out in east Ethiopia confirmed that failure in love, chewing chat, seeing or analysing pornographic films and magazines that focus on sex, and peer pressure are the main reasons for having intercourse among adolescents [16]. Adolescent's schooling status is regularly stated as a factor in sexual and reproductive health. Secondary school adolescents were twice as likely as elementary school adolescents to use RH services (AOR=2.41, 95% CI, 2.98, 7.11) [17], while adolescents with secondary education and above were nearly nine times more likely to use family planning services than those with no formal education (AOR=9, 95% CI: 1.45–54.14) [18].

In the Amhara region, among Debre Markos secondary and preparatory school adolescent students, 31.3% of participants had pre-marital sexual intercourse. This indicates that premarital sexual intercourse among secondary and preparatory school adolescents is high [19]. Therefore, the objective of this study was to assess the determinants of sexual practice and its associated factors among school adolescent in central Gondar zone, Amhara Region, Ethiopia.

Materials and Methods

Study setting and study design

The study was carried out in the Central Gondar Zone, Gondar Town. According to Gondar town administration and education department officials, there were seven (7) public and three (3) private preparatory schools, in which 4,728 students attended in the 2019/20 academic year. A school-based, cross-sectional study design was carried out to investigate the prevalence of the sexual practice and its associated factors among school-aged adolescents in Gondar town. The main data source for this study was primary data. The primary data source was gathered through a questionnaire.

Population and eligibility criteria

All the preparatory school students who are attending the 2019/20 educational year in Gondar town were a source of population. A multi-stage sampling procedure was used to select study populations from the source population. The inclusion criterion of the study was that preparatory school students attend both public and private schools. The exclusion criteria were that the students were sick or unable to communicate, and nighttime students were excluded from the study.

Sample size determination and techniques

The sample size was determined by using a single population proportion formula by considering the following assumptions: The level of confidence was 95% with a 0.05 α value ($Z_{\alpha/2}=1.96$ on the standard normal distribution curve), a 5% margin of error ($d=0.05$), a proportion of 29.8% taken from the preceding study in Woreta town among adolescents aged 10-19 years, a 5% contingency and two design effects were considered in the sample size determination. $n = ((Z_{\alpha/2})^2 \cdot p(1-p)) / (d^2)$, $n = ((1.96)^2 \times 0.298(1-0.298)) / (0.05)^2 = 321$. By adding a 5% contingency, the sample size was 337. The multistage

sampling approach was used to increase the sample size and pick out the first sampling unit. The sample size of 337 was multiplied by two design effects, and the final sample size was 674. A multistage sampling technique was used to select the primary sampling units and determine the sample proportion for each selected school. In the study area, seven public and three private preparatory schools were present. A simple random sampling technique was employed to select the sampling unit. Out of 10 preparatory schools, six were selected, four from the public and two from the private, using lottery methods and purposively. A systematic sampling technique was used by taking the list of all students from the roster in each grade.

Data collection and quality controls

The questionnaire was first organized in English and then translated into Amharic and re-translated again into English *via* another translator to check for consistency. After that, the data were collected using a self-administered questionnaire. The questionnaire asks about demographic, socioeconomic, and individual characteristics, as well as healthcare system characteristics. To ensure data quality, one school facilitator for each chosen preparatory school has been assigned to supervise each student's way of filling in the data. The intensive training was given for one day and covered the aim of the study, procedures, and data collection techniques. Prior to the study, a 5% pretest structured questionnaire was carried out on students outside the study area to check the reliability of the questionnaire. The collected data were rechecked for completeness before the data entry.

Outcome and explanatory variables

The outcome variable used to be sexual practice. The demographic, socioeconomic, and individual factors, as well as health system factors, were explanatory.

Data analysis

For statistical analysis, SPSS version 24 software was used. Bivariate and multivariate analyses were employed to assess the relationships between outcome and explanatory variables within a 95% confidence level at a P-value <0.25 and <0.05, respectively. A cross-tabulation was used in order to find out the degree of association between the explanatory variable and the outcome variable. A logistic regression model was employed since this approach is the most appropriate tool to analyze the degree of strength of the relationship between the outcome variable and explanatory variables when the outcome variable is dichotomous, taking a value between 1 and 2. Statistics were used to describe the results in the table as frequency and percentage.

Results

654 adolescents in preparatory schools agreed to participate in the study, with a response rate of 97%. Of the total study subjects, 403 (63.3%) were female, and 414 (63.3%) were younger than 18 years. The mean age of the participants was 18.62 (with SD \pm 1.714) years. A majority of the respondents, 506 (77.4%), were Orthodox Christians. A total of 654 respondents (75.4%) were urban, while 161 (24.6%) were rural. A majority of the respondents, 636 (97.2%), were single, and 18 (2.8%) were married. The majority of study participants' father and mother's educational status was secondary and above, at 286 (43.7%) and 238 (36.4%), respectively. From the total study subjects, 246 (37.6%) of respondents stated that their family's monthly income was more than 3550 ETB, and 488 (74.6%) had been living with both parents (Table 1).

Sexual practice of study subjects

Among study participants, 71 (39%) of males and 111 (61%) of

females had ever had girlfriends or boyfriends. Out of these study subjects, only 170 (26%) respondents had ever had sexual practice. This study discovered that drinking alcohol at age 18 (10.6%), peer influence at age 63 (37%), and love relationships at age 89 (52.4%) were the primary factors that school adolescents used to encourage sexual practice. The study indicated that 27 (4.1%) respondents had faced reproductive health problems like unintended pregnancy (10.7%), abortion (4.8%), and chlamydia (13.8%). Out of the total number of respondents, only 88 (13.5%) had received an STI diagnosis and treatment (Table 2).

Table 1: Socio-economic and demographic characteristics of school adolescents in central Gondar zone, Gondar town.

Variables		Frequency (N)	Percent (%)
Sex	Male	251	38.4
	Female	403	61.6
Age	<18 years	414	63.3
	>18 years	240	36.7
Religion	Orthodox	506	77.4
	Muslim	88	13.4
	Others	60	9.2
Place of birth	Rural	161	24.6
	Urban	493	75.4
Marital Status	Single	636	97.2
	Married	18	2.8
Father's educational level	Illiterate	63	9.6
	Read & write	183	28
	Primary school	122	18.7
	Secondary & above	286	43.7
Mother's educational level	Not formal education	306	46.8
	Primary school	110	16.8
Family monthly income	Secondary & above	238	36.4
	150-1400 ETB	184	28.1
	1401-3550 ETB	224	34.3
	>3550 ETB	246	37.6
Living status	With both parents	488	74.6
	With mother only	86	13.1
	Others	80	12.2

Table 2: percentage distribution of school adolescents by sexual practice in the central Gondar zone, Gondar town.

Variables		Frequency (N)	Percent (%)
Ever had girl/boyfriend	Yes	182	27.8
	No	472	72.2
Ever had girl friend	Yes	71	39
	No	180	38.1
Ever had boyfriend	Yes	111	61
	No	292	61.9
Ever had sexual practice	Yes	170	26
	No	484	74
Factors motivate to conduct sexual practice			
Drinking alcohol	Yes	18	10.6
	No	152	89.4
Peer influence	Yes	63	37
	No	107	63
Love relationship	Yes	89	52.4
	No	81	47.6
Faced RH problems	Yes	27	4.1
	No	627	95.9
Types of problems faced			
Un intended pregnancy	Yes	10	37
	No	17	63
Abortion	Yes	4	14.8
	No	23	85.2
Chlamydia	Yes	13	48.1
	No	14	51.9
STI diagnosis and treatment	Yes	88	13.5
	No	566	86.5

Characteristics of school adolescents by contraceptive, vct and both contraceptive and vct services utilization

In this study, 591 (90.4%) of school-age adolescents knew about contraceptive methods, and 157 (24% of them) had ever used contraceptive services. Of those study participants, only 58 (8.9%) used contraceptive methods at the same time as they used VCT. The male condom was the most commonly used modern contraceptive method by adolescents (67.5%), followed by oral contraceptive pills (44.6%). With respect to health facilities, the majority of 78 (49.7%) obtained contraceptive services from private health centers. The fundamental reasons that school adolescents didn't use contraception were fear of health worker confidentiality (84.9%), inconvenienced working hours (204.41%), lengthy waiting times (154.1%), a community mindset (236.5%), being seen by family (198.9%), and religious practices not allowed (387.9%). Only 101 (15.4%) of school-age adolescents had discussions with their parents about contraception, while 553 (86.4%) did not. Cultural taboos (318/57.5%), not necessary 253 (45.8%), and fear 75 (13.6%) are the reasons for contraceptive services that have not been discussed.

Out of all preparatory school adolescents, 534 (81.7%) know about VCT, and 316 (48.3%) have ever used VCT services. Knowing the health status of 282 (89.2%), for marriage purposes, 16 (5.1%), and for self-suspicion, 18 (5.7%) were the primary reasons for undergoing VCT. Only 52 (8%) of the school's adolescents used VCT, while they used other contraceptive methods in the study area. With regard to school adolescents' desire for health facilities for VCT services, 56 (17.7%), 96 (30.4%), 103 (32.6%), and 130 (41.1%) have been acquired from FGAE, a government hospital, a private health center, and a government health center, respectively, in ascending order. In addition to this, only 213 (32.6%) discussed with parents the issue of VCT, whilst the reasons for not discussing VCT were: cultural taboos, 244 (55.3%), not necessary, 220 (49.9%) and fear of 48 (10.9%) (Table 3).

Factors associated with sexual practice among school adolescents by bivariate analysis

On a bivariate analysis the factors that were found to be significantly associated with sexual practice were age, marital status, father education, ever had girl/boyfriends, faced reproductive health problems, discussed with parents on the issue of VCT, ever used contraceptive, used VCT, whilst they used contraceptive methods, used contraceptive methods, while they used VCT, ever used VCT, STI diagnosis and treatment as well as ever used both contraceptive & VCT services.

Factors associated with sexual practice among school adolescents by multivariate analysis

Of the variables that have been entered into multivariate logistic regression, age was found to be significantly associated with sexual practice. Participants over the age of 18 were 3.195 times more likely to engage in sexual activity than those under the age of 18 (AOR=3.195, 95% CI; 1.463-6.976). School adolescents whose father's education status is secondary and above have been 0.275 times less likely to sexually exercise than their father's academic level if they are illiterate, have attained primary school, and can read and write (AOR=0.275, 95% CI: 0.079-0.959). Respondents who had never had a girlfriend or boyfriend were 0.003 times less likely to engage in sexual activity than those who had (AOR=0.003, 95% CI; 0.001-0.008). School adolescents who had never used contraceptives were 0.051 times less likely to engage in sexual activity than those who had

Table 3: Percentage distribution of school students by contraceptive and vct service utilization in central Gondar zone, Gondar town.

Variables	Options	Frequency (N)	Percent (%)
Know about contraceptive methods	Yes	591	90.4
	No	63	9.6
Ever used contraceptive	Yes	157	24
	No	497	76
Used contraceptive methods, while they used VCT	Yes	58	8.9
	No	596	91.1
Contraceptive method used his/her life time*	Male condom	106	67.5
	Pill	67	42.7
	Injectable	70	44.6
	Implant	62	39.5
	IUCD	9	5.7
Where you got contraceptive*	Government hospital	20	12.7
	Pharmacy	36	22.9
	Govt health center	45	28.7
	Private health center	78	49.7
	FGAE	8	5.1
Reasons didn't use contraception*	Fear of health worker confidentiality	84	16.9
	Inconvenience working hour	204	41
	Long waiting time	154	31
	Fear of community attitude	236	47.5
	Fear of seen by family	198	39.8
Discussed with parents on the issue of contraceptive in the past time	Yes	101	15.4
	No	553	86.4
Reasons not discussed about contraceptive*	Cultural taboos	318	57.5
	Not necessary	253	45.8
	Fear	75	13.6
Know about VCT	Yes	534	81.7
	No	120	18.3
Ever used VCT service	Yes	316	48.3
	No	338	51.7
Reasons of undergo VCT	To know the status	282	89.2
	For marriage	16	5.1
	Self-suspicion	18	5.7
Used VCT, while they used contraceptive methods	Yes	52	8
	No	602	92
Ever used both contraceptive & VCT service the same time	Yes	110	16.8
	No	544	83.2
Where you got VCT services*	From government hospital	96	30.4
	From govt health center	130	41.1
	From private health center	103	32.6
	From FGAE	56	17.7
Discussed with parents on the issue of VCT in the past time	Yes	213	32.6
	No	441	67.4
Reasons not discussed about VCT*	Cultural taboos	244	55.3
	Not necessary	220	49.9
	Fear	48	10.9

ever used contraceptive services (AOR=0.051, 95% CI: 0.031-0.085). Participants in the study who did not use contraceptive methods while receiving VCT services were 0.349 times less likely to engage in sexual practice than those who did use contraceptive methods while receiving VCT services (AOR=0.349, 95% CI; 0.148-0.8210). Those school adolescents who never used VCT services were 0.424 times less likely to engage in sexual activity than those respondents who had ever used VCT services (AOR=0.424, 95% CI: 0.279-0.644). The study confirmed that respondents who never used VCT at the same time

as they used contraceptive methods were 0.195 times less likely to engage in sexual practice than participants who used VCT at the same time as they used contraceptive methods (AOR=0.195, 95% CI; 0.080-0.472). Furthermore, school adolescents who had never used both contraceptive and VCT services were 0.499 times less likely to engage in sexual behavior than those who had used both contraceptive and VCT services (AOR=0.499, 95% CI, 0.276-0.902) (Table 4).

Discussion

In Ethiopia, many studies have been conducted on risk sexual behavior in different population groups. However, the issue was neglected among youths attending secondary and preparatory schools. The main focus of this study was to assess the prevalence of the sexual practice and its associated factors among school adolescents in the Central Gondar Zone. The study findings revealed that 26% of respondents had ever had sexual practice. This finding was consistent with the 25% found in Debre Birhan town [20], lower than the 39.7% found in Mizan Tepi University students [21], and higher than the 16.4% found in Kachabirra district [22], who had ever had sex (sexual experience). This variation might be due to education status, socio-economic situation, study area, sample size, and cultural value.

The mean age of the participants was 18.62, which is consistent with the study done in Harar town, where 18.7 years old was studied [23]. Furthermore, the majority of respondents were single and adhered to orthodox Christianity. This finding is similar to that of a study conducted at Mizan Tepi University and Harar Town [21-23]. There might be students registered or entered into school with the same age group, and the majority of school adolescents are found in orthodox Christianity. In addition, this difference might be due to a difference in age and maturation. The study found that 90.4% and 81.7% of the participants were knowledgeable about contraceptives and VCT, respectively. The findings were higher than in studies conducted on Mizan Tepi University students and preparatory school students in the Mecha district [21-24]. This variation could be attributed to a lack of information education and communication services among adolescents, as well as knowledge gaps across study areas.

Regarding contraceptive service utilization, 24% of respondents utilized them. The study findings were lower than those of community-based cross-sectional studies that were also conducted, 71.4% in Goba town [25], and 27.7% in rural areas of east Gojjam [17]. The male condom was the most commonly used modern contraceptive method among adolescents, accounting for 67.5%, followed by pills (42.7%). This finding is relative to the study conducted in Debre Birhan town [20]. In addition to this, concerning voluntary counseling and testing for HIV, 48.3% of respondents used VCT services. The study's findings are lower than those obtained in Goba Town [25]. This difference might be due to the distribution of service accessibility in health centers, the socio-economic and demographic features of the participants, and knowledge differences across the study areas about the utilization of this service. The study revealed that discussion between school adolescents and their parents was 15.4% about contraceptives, followed by 32.6% of VCT. Cultural taboos, not necessary, and fears were the main obstacles to discussing the issues of contraception and VCT service utilization with their parents.

The age of school adolescents was one of the predicting factors. In this study, it was found that those respondents aged >18 years were 3.195 times more likely to engage in practice than those aged <18 years. The study findings contradict the study conducted in Addis

Table 4: Bivariate and multivariate analysis of factors associated with sexual practice among school adolescents in the central Gondar zone, Amhara region, Ethiopia.

Variables	Ever had sexual practice		Odds Ratio (OR)		
	Yes	No	B	COR (95%CI)	AOR (95%CI)
Age					
<18 years	84	330	0.786(1.162)	2.194(1.536-3.133)0.000	3.195(1.463- 6.976) 0.004
>18 Years	86	154		1	1
Marital status					
Single	159	477	1.551(2.161)	4.714(1.797-12.368)0.002	8.677(3.114-17.596) 0.039
Married	11	7		1	1
Father educational level					
Illiterate	20	43	-0.029(-1.292)	0.971(0.540-1.746) 0.923	0.275(0.079-0.959) 0.043
Read & write	40	143	0.479(0.028)	1.615(1.050-2.485) 0.029	1.028(0.425-2.485) 0.951
Primary school	21	101	0.776(0.159)	2.173(1.276-3.701) 0.004	1.172(0.385-3.573) 0.780
Secondary& above	89	197		1	1
Ever had girl / boyfriends					
Yes	158	24	-5.531(-5.755)	0.004(0.002-0.008) 0.000	0.003(0.001-0.008) 0.000
No	12	460		1	1
Faced reproductive health problems					
Yes	24	3	-3.679(-1.047)	0.025(0.006-0.108)0.000	0.351(0.063-1.960) 0.233
No	146	481		1	1
Discussed with parents on the issue of VCT in the past time					
Yes	79	134	-0.857(-0.187)	0.425(0.298-0.606)0.000	0.830 (0.399- 1.727) 0.618
No	91	350		1	1
Ever used contraceptive					
Yes	120	37	-2.579(-2.968)	0.076(0.050-0.115)0.000	0.051(0.031-0.085)0.000
No	50	447		1	1
Respondents used contraceptive methods, while they used VCT					
Yes	48	10	-2.243(-1.053)	0.106(0.057-0.197)0.000	0.349(0.148-0.821)0.016
No	122	474		1	1
Ever used VCT services					
Yes	122	194	-1.241(-0.857)	0.289(0.201-0.417) 0.000	0.424(0.279-0.644)0.000
No	48	290		1	1
Respondents used VCT, while they used contraceptive methods					
Yes	42	10	-2.156(-1.636)	0.061(0.061-0.220)0.000	0.195(0.080-0.472)0.000
No	128	474		1	1
STI diagnosis and treatment					
Yes	40	48	-1.028(-0.263)	0.358(0.225-0.569)0.000	0.769(0.446-1.325) 0.344
No	130	436		1	1
Ever used both contraceptive &VCT services					
Yes	64	46	1.749(-0.695)	5.749(3.724-8.875)0.000	0.499(0.276-0.902)0.021
No	106	438		1	1

Zemen, which revealed that those in the lower age groups (13-18) were 2.48 times more at risk than those in the higher age groups (19-25) [26]. This might be due to some sociocultural variations across the study areas.

Limitations

This study might be consisting some limitations. The study focused only school adolescent and excluded out school adolescents in the study. During data collection time, students were undertaken mid-exam. Due to this, most students were in tension might make school adolescents to sudden completed some variables.

Conclusion

In general, the study findings indicated that sexual practice among school adolescents in the study area was high while utilization of RH services was low. The main reasons for low service utilization were: fear of health worker secrecy; inconvenienced working hours; extended waiting time, worry of community attitudes; the anxiety of being seen by family; and religious practices not being permitted. The socio-economic, demographic, and health facility-related factors such as age, marital status, educational status, illiteracy, having ever had a girl or boyfriend, having ever used contraceptives, used contraceptive

methods, while they used VCT, ever used VCT services, used VCT, while they used contraceptive methods, and having ever used both contraceptive VCT services were significantly associated with the sexual practice.

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