

Level and determinants of knowledge, attitude, and practice of risky sexual behavior among adolescents in Harar, Ethiopia

SAGE Open Medicine

Volume 11: 1–9

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DOI: 10.1177/20503121221145539

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Abstract

Background: Adolescence is a transition period of advancement from a state of immature sexual characteristics to sexual and reproductive maturity; an improvement in the mental form progressing to the mental maturity of a grown-up adult; and a period of transition from total socioeconomic dependence to relative independence. An adolescent is defined as a person aged between 10 and 19 years. This study assessed the level and determinant factors of knowledge, attitude, and practice of risky sexual behavior among secondary school adolescents in Harar, Eastern Ethiopia, 2022.

Methods: A school-based cross-sectional study design was employed. From the total population of adolescents, 387 respondents were sampled. A simple random sampling method was used to select study participants. The data was collected by using a self-administered questionnaire and analyzed using SPSS version 26.

Result: Among the participants, 47.3% had good knowledge of risky sexual behavior. 41.9% had a positive attitude toward risky sexual behavior. 36.1% of students had started sexual activity before they reached 18 years old. Out of 9.3% of respondents who have had sexual intercourse, almost 50% of them had multiple partners. Students who live in urban areas were three times (adjusted odds ratio: 3.3, 95% CI: 1.6, 6.6) more likely to have good knowledge about risky sex than their counterparts in rural settings.

Conclusion: There is a significant number of risky sexual behaviors, such as having a different sexual partner and having unprotected sex with a non-regular partner. Being female, in urban residence, not having pocket money, and attending parties have significant associations with having good knowledge about risky sex. Harari Regional Educational and Health Bureau should provide repeated tailored information that can specifically address the attitude of the adolescents toward risky sexual behavior using different media, teachers, and school clubs in respect of sexual and reproductive health. The existing adolescent reproductive health program should be strengthened and evaluated to improve the sexual behavior of adolescents.

Keywords

Sexual behavior, sexual health, adolescent, Harar

Date received: 09 February 2022; accepted: 29 November 2022

Introduction

The World Health Organization (WHO) defines an adolescent as a person aged 10 to 19 years. Their needs vary enormously by age, gender, region, socioeconomic condition, and cultural context. This is a result of physiological and psychological changes that cause them to desire sexual intercourse and take risks, leading to unfavorable sexual behavior.¹ There is a consensus that adolescents engage in high-risk sexual behavior.² Risky sexual behavior (RSB) is characterized by

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different hazardous behaviors such as premarital sex, multiple sexual partners, and unprotected sex.³ Therefore, Sex education is important for this age groups in order to increase the knowledge and skills they need for a lifetime of good sexual health. They learn how to think critically and make informed decisions about sex and have healthy relationships.⁴

The total world population is expected to be 7.75 billion out of this, around 1.2 billion are between 10–19 years of age. Among this 85% of them live in developing countries. According to WHO estimates, the majority of early deaths among adults are due to risky sex. The age of sexual debut is generally low. Still, there is a lack of knowledge about sexuality.⁵ Globally around 1.2 billion people aged 10–19 died, generally from preventable causes. The number of adolescents who are expected to live with HIV is more than 2 million. Most of them live in sub-Saharan countries.⁶ Also, youth remain at risk of HIV in Ethiopia, where the number was estimated to be 710,000 in 2016. Adolescents had past sexual intercourse, and high-risk sexual behaviors have been reported.⁷

Ethiopia is now one of the developing countries where HIV/AIDS is increasing and killing its population of all ages, including adolescents. The problems of risky sex in Ethiopia are believed to be similar to those of other developing countries. Also, there are challenges of sexually transmitted infections/HIV infections, early marriage, and unwanted pregnancy among reproductive health problems adolescents have been facing.⁸ The Ethiopian Demography Health Survey report showed that 62% of adolescents begin sexual activity before the age of 18, while 13% of women aged 15–19 are mothers or pregnant with their first child, while adolescent women in the poorest households are four times as likely as those in the wealthiest households to have begun childbearing (24% versus 6%).⁹

Recent evidence from different parts of Ethiopia shows that the prevalence of risky sexual practice was 13% in Bahir Dar, Amhara; 13.7% in Humera, Tigray; 17.2% in Axum, Tigray; 25.9% in Debre Markos, Amhara; 36.6% in Mekelle, Tigray, and 84.4% in Shire, Tigray.^{10–15}

So far up to our knowledge, there is no study conducted to assess the level and determinants of RSB in the study area. Therefore, this study explored the level of knowledge, attitude, and practice of RSB and determinants of knowledge, attitude, and practice of RSB among secondary school adolescents in the Harari region. The findings of this study are believed to fill the gap on stated parameters in the study area. The finding of this study will help in providing clues about the magnitude of the problem, and to generate hypothesis, and may also, assist public health administrators with reliable information relating to how they may address adolescents' problems contributing to the current reproductive health status.

Material and methods

Study area and period

The study was conducted in Harari regional state which is located in eastern Ethiopia. The total population of Harar is

expected to be 232,000; 62.6%, and 37.4% live in the urban and rural areas, respectively. Also, the total population of adolescents is 22,176 in urban area. There are 14 secondary schools in Harar, six of them are owned by the government, and eight of them are private. The study was conducted from January 5 to 20, 2022 G.C.

Study design

An institutional-based cross-sectional study was employed to assess knowledge attitude and practice of risky sexual practice among secondary school adolescents.

Source population

All adolescents were in a secondary school in Harar regional state.

Study population

All adolescents in selected secondary school aged 15–19 years.

Eligibility criteria

Participants who were present during data collection and those who are volunteers were considered to be admitted for the study. Also, participants who refused to participate were excluded from the study.

Sample size determination

Single population proportion formula was used to calculate adequate sample size with the assumption of 95% confidence interval, 5% margin of error, and taking proportion of knowledge, attitude, and practice from similar study,¹⁶ then the sample size was calculated for all outcome variables as follows;

$$\begin{aligned} \text{Knowledge } n &= \frac{Z^2 \alpha^2 p(1-p)}{d^2} = \\ n &= \frac{(1.96)^2 0.77(1-0.77)}{0.05^2} = 273 \end{aligned}$$

$$\begin{aligned} \text{Attitude } n &= \frac{Z^2 \alpha^2 p(1-p)}{d^2} = \\ n &= \frac{(1.96)^2 0.55(1-0.55)}{0.05^2} = 380.9 \approx 381 \end{aligned}$$

$$\begin{aligned} \text{Practice } n &= \frac{Z^2 \alpha^2 p(1-p)}{d^2} = \\ n &= \frac{(1.96)^2 0.58(1-0.58)}{0.05^2} = 374 \end{aligned}$$

By taking the larger sample, the final sample size was approximately 419, (38) 10% non-response rate also considered in the calculation.

Sampling procedure

From a total population of adolescents, 387 respondents were chosen. Simple random sampling methods were used to select study participants for the quantitative studies. Three secondary schools in the region were selected, then the sample was proportionally allocated to each school (Supplemental File 1).

Data collection tool

After a review of relevant literature and previous studies, the questionnaire was prepared, which consisted of independent variables (sociodemographic characteristics) and the dependent variables, which include knowledge, attitude, and practice related to RSB. During analysis for the Likert scale questions “strongly agree” and “agree” responses were recoded as “yes” answer, and “strongly disagree” and “disagree” responses were recoded as “No” answer. For all questions “Yes” responses were considered as correct answer and earn a score of 1, whereas “No” responses were considered as wrong answer and scored as 0. The data were collected by using self-administered questionnaires. Questions were originally developed in English and translated into the local languages (Afaan Oromo and Amharic).

Data quality control

The accuracy of the data was assured through careful design, translation, and pretesting of 10% of the questionnaire. The internal reliability of the knowledge, attitude, and practice questions Cronbach alpha result was 0.82, 0.75, and 0.85, respectively. Proper training was given to the interviewers and supervisors. In addition, close supervision was conducted during data collection. All completed questionnaires were examined for completeness and consistency during the interview and at the end of each day. For data validation, data was entered by two authors (AA and AD) carefully.

Data analysis

After the data were checked for completeness then it was coded and entered into Epidata V.3. Then for analysis transported to SPSS v.26. Descriptive summaries like frequencies and percentages were used to give a clear picture of background variables. Bivariate logistic regression was computed to assess the association between dependent and independent variables. Those variables in these crude analysis (bivariate analysis) with p -value < 0.25 were transferred to the next model (multivariable logistic regression) in order to control or adjust the effect of possible confounding variables. Chi-square test was used to assess the significant association between dependent and independent variables. In the chi-square and multivariable logistic regression, those variables with p -value < 0.05 were declared as having a statistically significant association.

Ethical considerations

The protocol of this study for subject recruitment process and participation in the study adhered to the Declaration of Helsinki’s guidelines and an ethical approval letter was obtained from Harar Health Science College Institutional Health Research Ethics Committee (IHREC) with reference No. IHREC 02/2608/21/02/14. Informed written consent was obtained from all subjects or legally authorized representatives of minor subjects prior to the initiation of the study. Participation was completely voluntary, and participants were free to withdraw from the study at any time without any consequence. Confidentiality of all information has been maintained. This form of obtaining consent was approved by the IHREC

Operational definition

Risky sexual behavior. If the participants had premarital sex, multiple sexual partners, and unprotected sex.

Attending party. If the participants had engaged or participated in different recreational assembly or ceremonies.

Level of knowledge. If the respondents scored above the mean to knowledge questions related to RSB was considered as having good knowledge and if they scored below the mean to knowledge questions related to RSB were considered as having poor knowledge.

Level of attitude. When participants score above the mean score from attitudinal questions toward RSBs, were declared as having a positive attitude, and when participants score below the mean score, were declared as having a negative attitude.

Level of practice. When participants score above the mean score from practice questions toward RSBs, were declared as having a good practice, and when participants score below the mean score, were declared as having poor practice.

Results

Sociodemographic characteristics of adolescents in Harar secondary school students

A total of 387 respondents completed the questionnaire, and the response rate was 92.4%. 51.1% of them were males and 42.9% of participants were females. Also, the majority were in grade 9 (28.9%), followed by 11 (28.7%), 10 (27.4%), and 12 (15.0%). The mean age was 17.09 (+1.233) years (Table 1).

Knowledge about RSB

Among 387 study participants, about half (52.7%) had poor knowledge, while the rest had good knowledge (Figure 1).

Table 1. Sociodemographic characteristics of secondary school adolescents in Harar, Eastern Ethiopia, 2022.

Sociodemographic variables	Frequency	Percentage (%)
Sex		
Male	221	57.1
Female	166	42.9
Age		
≥18	236	61
<18	151	39
Religion		
Muslim	187	48.3
Orthodox	128	33.1
Protestant	61	15.8
Catholic	5	1.3
Other	6	1.6
Residence		
Rural	58	15
Urban	329	85
Educational status		
Grade 9	112	28.9
Grade 10	106	27.4
Grade 11	111	28.7
Grade 12	58	15.0
Living arrangements		
Both	311	80.4
Father	9	2.3
Mother	37	9.6
Boy/Girlfriend	20	5.2
Alone	10	2.6
Pocket money		
Yes	224	57.9
No	163	42.1
Attending party		
Yes	168	43.4
No	219	56.6
Chat chewing		
Yes	145	37.5
No	242	62.5

According to our study, the majority (87.9%) of the participants had information regarding RSB. Most of them assumed homosexuality (23%) and oral sex (5.9%) as the most and least RSBs, respectively. The majority of the respondents thought that age ≥18 years was the acceptable age to start sexual intercourse for both males and females, 89.9% and 91.2%, respectively. In addition, the participants thought that the acceptable age for marriage was ≥18 years, 97.5% for males and 97.4% for females. Fortunately, both males and females below 18 years of age were given the least percentage (0.3% and 2.7%, respectively). About 319 (82.4%) of respondents had information about sexual matters, among which 40.7% were from the media, followed by the school (31.6%), peers (20%), health professionals (4%), and parents (3.7%).

The attitude of respondents toward RSB

In this study, 58.1% of study participants had a negative attitude toward RSB, while the rest had a positive attitude. (Figure 1). The majority of respondents 249 (64.4%) didn't want to discuss sexual behavior with parents. About 146 (37.7%) of the respondents said it is possible to start sex before marriage for males, and 91(23.6%) for females. 335 (86.6%) and 352 (91%) of the respondents also agreed on substance use (like cigarettes, alcohol, hashish) and homosexual intercourse without condom exposure to RSBs, respectively. 140 (36.2%) said that masturbation is an alternative way to fulfill sexual urges, and 231 (59.7%) said that girls can use a condom during sexual intercourse.

The practice of respondents toward RSB

Our study results showed that 54.2% of adolescents had good practice while 45.8% had poor sexual practice (Figure 1). Among the total participants, 351 (90.7%) of them had experienced sexual intercourse. Out of these, 9.3% had sexual partners currently. 3.4% had started sexual intercourse at <18 years old. The main reasons for sexual initiation were age and falling in love (4.1% and 3.9% respectively). Among those who had sexual intercourse, 33 (8.5%) of study participants had sexual intercourse in the past year, about 26 (6.7%) had sex with the same age. Out of that, 9.3% of respondents had sexual intercourse, and 4.6% of participants had a history of multiple sexual partners. 24 (6.2%) practiced protected sex and 11 (2.8%) used a condom during their first sexual intercourse. Also, 22 (5.7%) used it in their last sexual intercourse. Among those who used it in the last sexual intercourse, 6 (1.6%) of study participants used it consistently. Study participants who did not use a condom were 12 (3.1%); 7 (1.8%) of them said that the main reason for not using was loss of desire. According to our study results, 24.5% of study participants drank alcohol occasionally. Of these, 0.8% drank daily and 90.2% of participants never smoked cigarettes. According to this study, 60.2% and 90.2% of study participants never chewed chat and smoked cigarettes. Also, substance abusers were only 2 (0.5%).

Factors associated with knowledge, attitude, and practice of high school students

Sociodemographic variables show association in bivariate analysis with a p -value < 0.25 transferred to the second model. In the second model, Students who live in urban areas were three times (Adjusted odds ratio (AOR): 3.3, 95% CI: 1.6, 6.6) more likely to have good knowledge about risky sex than their counterparts. Students who attend parties were six (AOR: 6.5, 95% CI: 3.8, 10) times more likely to have good knowledge than those who don't attend parties. Females were two times (AOR: 2, 95% CI: 1.2, 3.2) more likely to have good knowledge about risky sex than their counterparts.

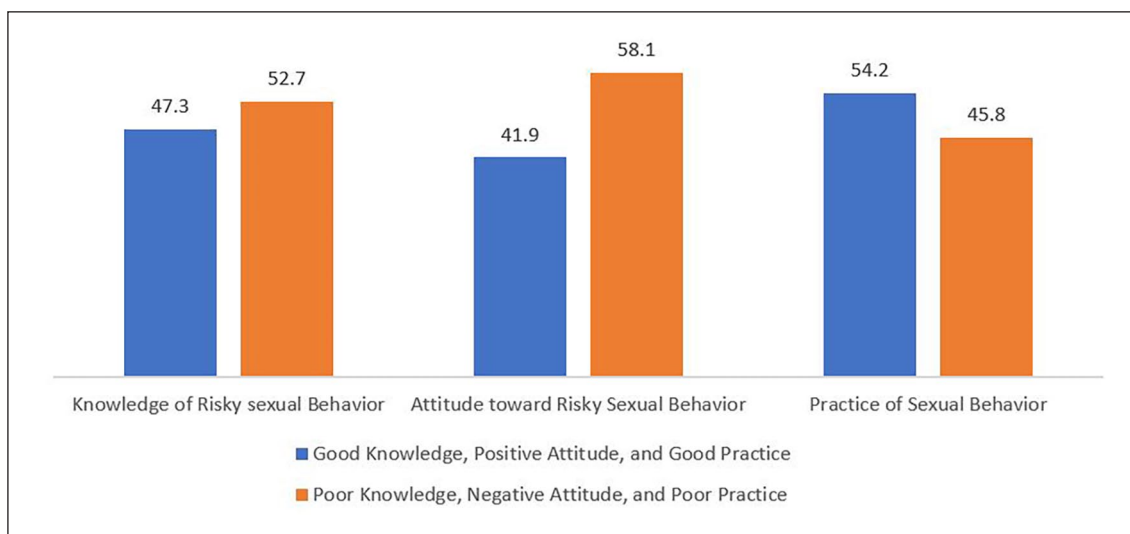


Figure 1. Knowledge, attitude, and practice of RSB among secondary school Adolescents, in Harar, Eastern Ethiopia, 2022.

Adolescents who have a pocket money were two times (AOR; 2.2, 95% CI: 1.3, 3.7) more likely to have good knowledge about risky sex than their counterparts (Table 2). As students' grade levels increase, positive attitudes toward RSB also increase. Females were two times (AOR: 2.1, 95% CI: 1.4, 3.3) more likely to have a positive attitude toward risky sexual behavior than males. Adolescents who lived with both parents were 90% less likely to have a positive attitude toward risky sexual behavior than those who lived alone (Table 3). Sex of participants has a significant association with engaging in risky sexual practice ($\chi^2=4.531$, p -value=0.033) and similarly, residence area of students has a significant association with committing risky sexual practice ($\chi^2=4.531$, p -value=0.033) (Table 4).

Discussion

Overall, in this study, 55.7%, and 58.2% of the participants had poor knowledge, and poor attitude toward RSB, respectively and, also, 54.2% had good sexual behavior practice. Sex, educational status, and residence area of students have shown a significant association with knowledge, attitude, and practice toward risky sexual practice.

This study revealed that about 87.9% knew at least one RSB. This is similar to the study conducted in Botswana (82.17%).¹⁷ However, it is a little bit different from the study conducted in Uganda (99.6%).¹⁸ The possible explanation for this disparity could be differences in knowledge regarding RSB, sample size, study population, cultural and background difference.

According to our study, about 86.6% knew the consequences of RSBs. It is similar to a study in Yirgalem, which is 95.6%. These variations of opinions could be because of the differences in sample size and socio-cultural background.¹⁹

Moreover, 82.4% of the participants had information about sexual matters, among which, 40.7% were from media, followed by the school (31.6%), peers (20%), health professionals (4%), and parents (3.7%). Media being a major source of information reflects that it plays a vital role in influencing and shaping the younger generation. This finding is relatively similar to a study conducted in Uganda, which revealed that media (44.5%) was the predominant source of information regarding sexual matters, followed by the school (31.7%), and parents (9.9%).¹⁸ Another similar finding was noted in a study from Zambia regarding parental communication, which is 7%.²⁰ The decrement in the percentage of parental communication could be due to a lack of openness and clarity between children and parents, social and cultural influences.

47.3% of the participants in our study had a good knowledge of RSBs, which is lower than with a finding from Botswana (70.2%).¹⁷ This Variation of opinions could be because of differences in sample size and socio-cultural background.

Around 35.6% were comfortable enough to communicate with parents about sexual matters. But another similar study from the United States of America showed that 59% of young adolescents were comfortable communicating with parents regarding sexual matters.²¹ This disparity might be because of a lack of openness among children and parents, and social and cultural differences.

The majority (61.3%) of the respondents agree with the idea of premarital sex. However, a study from Nepal was much lower (16%).²² Socio-cultural differences could be the main reason for the disparity.

Around 60% of the study subjects thought that females should use a condom during sex. It is a relatively similar finding to the study from Jimma (72%). Only 36.2% of the

Table 2. Factors associated with knowledge of RSB among high school adolescents in Harar, Eastern Ethiopia, 2022.

Factor variables	Knowledge of RSB		COR (CI, 95%)	p-Value	AOR (CI, 95%)	p-Value
	Good	Poor				
Sex						
Male	120 (31%)	101 (25.1%)	1			
Female	63 (16.3%)	103 (26.6%)	1.9 (1.2, 2.9)	0.002	2 (1.2, 3.2)	0.004*
Age						
<18 years	107 (27.6%)	129 (33.3%)	1.2 (0.8, 1.8)	0.338	0.9 (0.4, 1.7)	0.793
≥18 years	76 (19.6%)	75 (19.4%)	1			
Residence area						
Rural	35 (9.04%)	23 (5.9%)	1			
Urban	148 (38.2%)	181 (46.7%)	1.86 (1.1, 3.3)	0.032	3.3 (1.6, 6.6)	0.001*
Educational status						
Grade 9	49 (12.6%)	63 (16.3%)	1.4 (0.7, 2.6)	0.324	1.4 (0.5, 3.4)	0.457
Grade 10	42 (10.8%)	64 (16.5%)	1.6 (0.8, 3.1)	0.137	1.6 (0.7, 3.8)	0.261
Grade 11	62 (16%)	49 (12.7%)	0.8 (0.5, 1.6)	0.609	0.8 (0.4, 1.8)	0.633
Grade 12	30 (7.8%)	28 (7.3%)	1			
Living arrangement						
Both	148 (38.2%)	163 (42.1%)	1			
Father	4 (1.03%)	5 (1.3%)	1.1 (0.3, 4.3)	0.852	0.5 (0.1, 2.2)	0.396
Mother	17 (4.4%)	20 (5.2%)	1.1 (0.5, 2.1)	0.850	0.9 (0.4, 2.2)	0.960
Boy/Girlfriend	10 (2.6%)	10 (2.6%)	0.9 (0.4, 2.2)	0.834	0.7 (0.2, 2.2)	0.617
Alone	4 (1.03%)	6 (1.6%)	1.4 (0.4, 4.9)	0.637	1.1 (0.2, 4.1)	0.970
Pocket money						
Yes	110 (28.4%)	135 (34.9%)	1			
No	73 (18.9%)	69 (17.8%)	1.2 (0.8, 1.8)	0.401	2.2 (1.3, 3.7)	0.002*
Attending party						
Yes	44 (11.4%)	124 (32%)	4.9 (3.2, 7.6)	0.001	6.5 (3.8, 10)	0.001*
No	139 (35.9%)	80 (20.7%)	1			
Chat chewing						
Yes	85 (22%)	60 (15.5%)	1			
No	98 (25.3%)	144 (37.2%)	2.1 (1.4, 3.2)	0.001	1.9 (1.2, 3.2)	0.006*

AOR=adjusted odds ratio; COR=crude odds ratio; 95% CI=95% confidence interval; RSB=Risky sexual behavior. Bold*, p-value < 0.05 significant; Bold, p-value < 0.25.

respondents thought that masturbation is an alternative way to fulfill sexual urges, which is consistent with a study from Jimma (38%).¹⁶ However, it is a little bit lower when compared to a finding from Iran (53%).²³ The possible reasons for the disparity could be differences in the study population from the different cultural and socio-demographic backgrounds.

Those participants who thought use of substances like cigarettes, chat, and alcohol exposes one to RSBs was 86.6%, which is nearly the same as studies from Jimma (92.14%), Yirgalem (82.3%), and Iran (75.21%).^{16,19,23} The possible reasons for the disparity could be differences in study populations from different cultural and socio-demographic backgrounds.

Those who had ever experienced sexual intercourse were only 9.3%, and 8.5% of them had it within the past 12 months. A similar study from Nekemte revealed that 18.9% had experienced intercourse, among which 13.7% was within the past 12 months.²⁴ The gap could be as a result of sample size and study population differences.

In our study, the percentage for early sexual initiation was 36.1%. It is lower than other findings such as Nekemte (57%) and Jimma (66.7%).^{16,24} The possible reasons for the disparity could be differences in the study population and socio-demographic background.

The main reason for having sex was sexual initiation because of age (44.4%), and a similar finding was noted from Jimma (48.4%).¹⁶

Out of the 9.3% respondents who have had sexual intercourse, almost half of them (50%) had multiple partners. However, a study from Malaysia indicates a level of 66.7%.²⁵ Socio-cultural and geographical differences could explain this huge gap.

Based on our findings, condom utilization was around 6.2%. This is very low when we compare with the study conducted in Nekemte at 29.3%.²⁴ The difference could be because of differences in the sample size and awareness of participants. In our study condom usage during the first and last time of intercourse among adolescents was 2.8% and

Table 3. Factors associated with attitude toward RSB among high school adolescents in Harar, Eastern Ethiopia, 2022.

Factor variables	Attitude toward RSBs		COR (CI, 95%)	p-Value	AOR (CI, 95%)	p-Value
	Positive	Negative				
Sex						
Male	108 (27.9%)	113 (29.2%)	1	0.001	2.1 (1.4, 3.3)	0.001*
Female	54 (13.9%)	112 (28.9%)	1.9 (1.3, 3)			
Age						
< 18 years	89 (22.9%)	147 (37.9%)	1.5 (1, 2.3)	0.039	0.9 (0.5, 1.7)	0.195
≥ 18 years	73 (18.8%)	78	1			
Residence area						
Rural	19 (4.9%)	39 (10.1%)	1.5 (0.8, 2.8)	0.130	1.5 (0.8, 2.8)	0.195
Urban	143 (36.9%)	186 (48.1%)	1			
Educational status						
Grade 9	43 (11.1%)	69 (17.8%)	2.6 (1.4, 5)	0.004	2.9 (1.2, 7)	0.013*
Grade 10	39 (10.1%)	67 (17.3%)	2.8 (1.4, 5.4)	0.002	3.3 (1.4, 7.5)	0.004*
Grade 11	44 (11.4%)	67 (17.3%)	2.5 (1.3, 4.7)	0.006	3.4 (1.6, 7.2)	0.002*
Grade 12	36 (9.3%)	22 (5.7%)	1			
Living arrangement						
Both	131 (33.8%)	180 (46.5%)	0.3 (0.1, 1.6)	0.181	0.1 (0.03, 0.9)	0.041*
Father	4 (1.03%)	5 (1.3%)	0.3 (0.1, 2.3)	0.231	0.2 (0.02, 1.8)	0.163
Mother	15 (3.9%)	22 (5.7%)	0.4 (0.1, 1.9)	0.241	0.1 (0.03, 1.1)	0.061
Boy/Girlfriend	10 (2.6%)	10 (2.6%)	0.2 (0.04, 1.4)	0.127	0.1 (0.02, 1.1)	0.061
Alone	2 (0.5%)	8 (2.1%)	1			
Pocket money						
Yes	97 (25.1%)	127 (32.8%)	1	0.501	1.2 (0.7, 1.8)	0.514
No	65 (16.8%)	98 (25.3%)	1.1 (0.7, 1.7)			
Attending party						
Yes	70 (18.1%)	98 (25.3%)	1	0.946	1.1 (0.7, 1.8)	0.785
No	92 (23.8%)	127 (32.8%)	0.9 (0.6, 1.4)			
Chat chewing						
Yes	60 (15.5%)	85 (21.9%)	1	0.88	0.9 (0.6, 1.5)	0.774
No	102 (26.4%)	140 (36.2%)	0.96 (0.6, 1.4)			

AOR=adjusted odds ratio; COR=crude odds ratio; 95% CI=95% confidence interval; RSB=Risky sexual behavior.

*Bold, p-value < 0.05 significant; Bold, p-value < 0.25.

5.7%, respectively. A similar study in Uganda indicated 9.6% and 34.5%.¹⁸ This deference could be due to the difference in sample size and study population.

Our study shows a 25.3% alcohol drinking rate, 9.8% smoking rate, and 0.5% illegal drug usage among respondents. The drinking rate is consistent with a study from Malaysia (17.4%), but not with illegal drug usage (5.8%).²⁵ This high rate could be due to differences in lifestyle, socio-cultural background, and higher peer influence.

Our study revealed that, females, urban residents, those who lack pocket money, and those attending parties were more likely to have a good knowledge toward RSB. Regarding attitude, participants who are females, with increased educational status, and those living with both parents were more likely to have positive attitude toward sexual behavior. These factors, which have shown a significant association with the level of knowledge and attitude toward RSB in our study, had not been reported in other similar studies.

Limitation of the study

The study has a limitation such as the data was collected using self-administered questionnaire due to the sensitive nature of the topic and it may have introduced social desirability bias. The strength of the study is that we have to try to control the potential source of confounding using the adjusted logistics regression model.

Conclusion

Young adolescents in Harar face great challenges regarding sexual behaviors, having a low level of knowledge about RSB. The majority of adolescents in Harar had negative attitudes toward RSB. There is a significant number of risky sexual practices. Being female, in urban residence, not having pocket money, and attending parties have significant associations with having good knowledge about risky sex. Harari Regional Educational and Health Bureau should

Table 4. Factors associated with RSB practice among high school adolescents in Harar, Eastern Ethiopia, 2022.

Sociodemographic variables	RSB practice		X ² -test	p-Value
	Good	Poor		
Sex			4.531	0.033*
Male	12 (50%)	6 (25%)		
Female	1 (4.2%)	5 (20.8%)		
Age			1.846	0.174
< 18 years	2 (8.3%)	0 (0.0%)		
≥ 18 years	11 (50%)	11 (50%)		
Residence area			4.531	0.033*
Rural	1 (4.2%)	5 (20.8%)		
Urban	12 (50%)	6 (25%)		
Educational status			2.685	0.443
Grade 9	1 (4.2%)	1 (50%)		
Grade 10	0 (0.0%)	2 (8.3%)		
Grade 11	5 (20.8%)	3 (12.5%)		
Grade 12	7 (29.2%)	5 (20.8%)		
Living arrangement			1.242	0.743
Both	7 (29.2%)	8 (53.3%)		
Father	0 (0.0%)	0 (0%)		
Mother	2 (8.3%)	1 (4.2%)		
Boy/Girlfriend	3 (12.5%)	1 (4.2%)		
Alone	1 (4.2%)	1 (4.2%)		
Pocket money			2.098	0.148
Yes	7 (29.2%)	9 (37.5%)		
No	6 (25%)	2 (8.3%)		
Attending party			0.001	0.973
Yes	7 (29.2%)	6 (25%)		
No	6 (25%)	5 (20.8%)		
Chat chewing			0.336	0.562
Yes	5 (20.8%)	3 (12.5%)		
No	8 (33.3%)	8 (33.3%)		

AOR = adjusted odds ratio.

Bold*, p-value < 0.05 significant; X², chi-square test.

provide repeated tailored information that can specifically address the attitude of the adolescents toward RSB using different media, teachers, and school clubs in respect of sexual and reproductive health. Existing adolescent reproductive health programs should be strengthened and evaluated to improve the sexual behavior of adolescents.

Acknowledgements

First of all, we would like to express our thanks to the almighty God. We would also like to extend our gratitude to the study participants who were involved in the study. We extend our heartfelt appreciation to the Advance Sage Preprint server for publishing our manuscript as a preprint. Finally, we thank Mr. Merga Hirko, Dr. Abebe Desalegn, and Mrs. Ikram Mohammed for editing the language and grammatical flow.

Author contributions

JM, AA, MY, FA, and AD participated in the study from inception to design, acquisition of data, analysis, and interpretation of the

results. MA and AJ participated in the methods, analysis, interpretation, and writing of the manuscript of the results. Finally, all authors approved the manuscript for publication and the journal to which it has been submitted.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics approval

The protocol of this study for subject recruitment process and participation in the study adhered to the Declaration of Helsinki's guidelines and an ethical approval letter was obtained from Harar Health Science College Institutional Health Research Ethics Committee (IHREC) with reference No. IHREC 02/2608/21/02/14.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The

author(s) declared that the study was funded by Harar Health Science College.

Informed consent

Informed written consent was obtained from all subjects or legally authorized representatives of minor subjects prior to the initiation of the study. Participation was completely voluntary, and participants were free to withdraw from the study at any time without any consequence. Confidentiality of all information has been maintained. This form of obtaining consent was approved by the IHREC.

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Data availability

At any time, the corresponding author can provide an additional resource on request.

Supplemental material

Supplemental material for this article is available online.

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