

Research



Risky sexual behavior and associated factors among high school adolescents in North Shewa zone, Oromia Region, Ethiopia

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Risky sexual behavior and associated factors among high school adolescents in North Shewa zone, Oromia Region, Ethiopia

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Abstract

Introduction: risky sexual behavior is one of the major problems among adolescents in Ethiopia currently that results in adverse sexual and reproductive health, such as undesirable pregnancies, unsafe abortion and sexually transmitted infections (STIs), like HIV/AIDS. This study aimed to assess the risk factors associated with risky sexual behavior among high school adolescents in the North Shewa zone, Oromia region.

Methods: a cross-sectional study was used. The information collected from 386 high school adolescents was considered. The study used descriptive statistics, and logistic regression model to identify significant factors associated with risky sexual behavior. Results: the data showed that from total high school adolescents included in the study, 13.2% were ever had sexual intercourse and the mean age at first sexual intercourse was 16.05 ± 2.57 years (95% CI 14.98-17.12). Overall the prevalence of risky sexual behavior was 11.4% in the study area. The logistic analysis revealed, factors sex (being male) (AOR = 3.52; 95% CI: 1.479-8.382), drinking alcohol (AOR = 2.387; 95% CI: 1.079-5.280), chewing khat (AOR = 3.850; 95% CI: 2.729-5.188), watching pornographic movies (AOR = 4.068; 95% CI: 1.70-9.735), using Shisha/hashish (AOR = 1.649; 95% CI: 1.217-5.603) were statistically significantly associated with the higher risk of practicing risky sexual behavior while discussion on sexual reproductive issues with parents was inversely associated with risky sexual behavior (AOR = 0.339; 95% CI: 0.143-0.806). Conclusion: the study identified sex, alcohol use, chewing khat, using Shisha/hashish, watching pornographic movies and discussion on sexual reproductive health issues with parents were the factors significantly associated with risky sexual behavior. Even though the prevalence of engage in risky sexual behavior is lower than most studies in Ethiopia, schools should give special cares for male students, alcohol users, khat chewers, Shisha/hashish users and students who watch pornographic movies, in order to decrease the prevalence of risky sexual behaviors among high school adolescents.

Introduction

Adolescent period age 10-19 [1,2] is a transitional stage of life; sexual behaviors that might negatively affect the healthy development of young peoples' established [3]. Risky sexual behaviors are common sexual practices that results in adverse sexual and reproductive health, such as unintended pregnancies, unsafe abortion and STIs, like

HIV/AIDS [4]. Some studies also include that having multiple sexual partners, having sex without using a condom or inconsistent use of condom, initiation of sex before the age 18 years, sexual intercourse under the pressure of alcohol and having sex with commercial sex workers [5-8] in their definition of risky sexual behavior. Globally, it is estimated that in 2019 about 1.2 billion (16%) of the total population are adolescents aged 10-19 years, whereas about 23% of the population in sub Saharan Africa are adolescents [9]. On the other hand, the UNAIDS in 2016 reported an estimated of 250, 000 new HIV infections among adolescents worldwide. Of these, 80% occurred in sub-Saharan Africa [10]. In Ethiopia according to population projections for 2017, adolescents and youth aged 10-24 account for one third of the total population [11]. While adolescents aged 10-19 years consist of 25% of the total populations in Ethiopia [12]. Evidence indicated that in Ethiopia the national prevalence of HIV/AIDS is 0.9%. The high prevalence of HIV/AIDS is observed in the Addis Ababa city (3.4%) and Gambella region (4.8%) [13]. Overall, 0.2% of adolescent youth aged 15-24 have been infected with HIV, whereas HIV prevalence among adolescent girls and young women is 0.3% and that of boys in the same age is 0.1% [13,14]. The recent Ethiopian Demographic and Health Survey [15] reported nearly one in four (24%) of women has first sexual intercourse before age of 15 years old, whereas 2% of young men and less than 1% of young women aged 15-24 years were reported have had sexual intercourses with more than one partner. On the other hand, about 4.4% of Ethiopian adolescents and youth smoke cigarettes, 45.6% consume alcohol 51% of adolescents and youth consume alcohol [16].

Previous researches conducted in the Ethiopia revealed that even though it differs from region to region the prevalence of risky sexual behavior was relatively high. A study conducted on the risky sexual behavior practice and associated factors among secondary and preparatory school students of Aksum town, northern Ethiopia, showed that 19.6% of had practiced risky sexual behaviors [17].

Another study done on risky sexual behaviors and associated factors among preparatory school students in Arba Minch town, Southern Ethiopia indicates 22.4% of students had risky sexual behaviors [18]. A similar systematic review and meta-analysis of epidemiology of risky sexual behaviors among college and university students in Ethiopia showed that the prevalence of risky sexual behaviors among college and university students was 41.62% [19] and a study done among Mizan high school and preparatory school students' revealed 51.3% prevalence of risky sexual behaviors [20]. On the other hand, a study conducted in the Wolayta zone, south Ethiopia, revealed 17.9% of high school adolescents were engaged in risky sexual practice [21] whereas a study in Bahir Dar and Mecha district indicated that more than 13% of high school Adolescents had risky sexual behavior [3].

The determinants of practice of risky sexual behaviors are significantly associated with socioeconomic, cultural, geographic areas, environmental and demographic factors. Uses of alcohol were found strongly associated with high risk sexual behaviors [18,19,22-24]. Substance use was also significant determinants of practice of risky sexual behavior [18,25-27]. Other determinants of the practices of risky sexual behaviors among students include watching pornographic movies [17-19,22], level of knowledge and information about STIs [18,24,26], peer influence [17,23, 26,27]. There is also a strong and positive association between no parental control and no parental discussion on sexual and reproductive health issues [22, 23,26], high income/pocket money [25] and with risky sexual behaviors. Most studies also found that being male [19,23,25,26] is strongly positively associated with risky sexual behaviors. Despite the fact that a number of studies have been done on the examination of factors associated with risky sexual behavior, in different parts of Ethiopia, the practice of risky sexual behavior is still higher and more effort is needed. Regardless of policies and efforts made to create communities' awareness of

contracting sexually transmitted infections, currently many high school adolescents are engaged in risky sexual practice. Thus, this study tries to assess the major risk factors associated with risky sexual behavior among adolescents in the north Shewa zone, Oromia region.

Methods

Study setting and period: a cross sectional study was conducted between March 1 to May 1, 2019 in eight secondary schools found in the north Shewa zone with estimated residents of 1431305 populations. North Shewa zone is located 114 km away in the North West from, Addis Ababa.

Study design, population and eligibility criteria: institutional based cross-sectional study design was conducted. All systematically selected students from registered for grade 9 - 10 and acquiesced were included in the study.

Sample size calculation and sampling procedure: the sample size was calculated using a single population proportion formula by considering 95% confidence level, the proportion of risky sexual practice as 51.3% [20] and a 5% margin of error. The sample size of 386 was obtained. The sample size has been allocated to the eight schools based on proportional allocation to their size. The number of students between grades has varied. Assuming homogeneity in academic status among students in the same grade, a stratified proportionate sampling was used to select study participants. List of students were obtained from registration books.

Data collection and analysis process: the study instrument was self-administered questionnaire adapted from WHO sexual and Reproductive Health. The questionnaire was designed to gather qualitative and quantitative data relating to demographic, socioeconomic and cultural factors, substance use, alcohol use, and practices of risky sexual behavior. Trained supervisors and data collectors were employed during data collection. The data collectors brief each question to the respondents to help them understand the question

well and complete the questionnaire. The researchers had checked the completeness of each questionnaire, followed and facilitated overall data collection process. Data were entered to SPSS version 21. Descriptive statistics such as, frequency and cross-tabulations were used to summarize the characteristics of study participants, whereas the multivariable logistic regression was used to identify variables significantly associated variables with risky sexual behavior with p -value < 0.05 . The goodness of fit test was done using the likelihood ratio test (LRT) and Hosmer-Lemeshow tests.

Measurement variables: adolescents were considered to have practiced risky sexual behavior when, they multiple sexual partners (having more than one sexual partner until the survey), early initiation of sex (sexual debut at the age < 18 years old), erratic use of condom (inconsistent/fail to use condom at least ones during sexual intercourse until the survey), sex with commercial sex workers at least once until the survey. The variable, 'risky sexual behavior', was characterized as a binary response with 1 representing "yes" if the study participants practiced any of the above behaviors and 0 representing "no" elsewhere. The independent variables were socioeconomic, cultural, environmental, parents and demographic characteristics.

Ethical clearance: ethical clearance had been obtained from the research and community service directorate office of Salale University. Permission to conduct the research was obtained from north Shewa zone education bureau and school directors. Full informed written consent/assent was obtained from each study subject's accordingly before the data collection started and privacy was secured. When age was under 16 years old, it obtained from parents/legal guardians.

Results

Descriptive statistics of study participants: Table 1 presented the percentage distribution of the selected sociodemographic characteristics of study

participants. The majority of the participants (61%) were male and 39% were females. The mean age of the study participants was 17.40 ± 1.535 years. The vast majority (87.4%) of study participants was followed Coptic Orthodox religion. Regarding the family education level, 62.1% of study participants were from a mother with no education at all and whereas more than half (53.7%) were from illiterate father. On the other hand, when the employment status of families was concerned, 77.7% and 86% of study participants were reported they were from unemployed mother and father respectively. Nearly three-fourth of study participants was living with their parents while 16.09% were living alone. Table 1 reveals that 42.2% of the study participants use alcohol and 17.8% chew khat. On the other hand, about 5% of study participant smoke cigarette and 15.9% used illicit drugs. It also indicates that 38% of study participants were seen/read pornography (Table 1).

Prevalence of risky sexual behavior: about 13.2% of study participants were ever had sexual intercourse and the mean age at first sexual intercourse was 16.05 ± 2.57 years (95% CI 14.98-17.12). For those who ever had sexual intercourse one-third of the study participant started sexual intercourse below the age of 18 years. Only 43.8% of study participants used condom at the first sexual intercourse and one-third (34.1%) had more than two lifetime sexual partner. Concerning reason to start sexual intercourse nearly half (47.8%) of the study participants reported peer pressure, 21.7% reported personal desire, 19.6% reported alcohol or drug influence while 15.7% reported the started sexual intercourse for money/economic problem. The majority of the study participants (65.6%) had started sexual intercourse with their boy/girlfriend, 31.1% started sexual intercourse with their teachers and 21.3% started sexual intercourse with other than their boy/girlfriend and teachers. Approximately three-fourth of the study participant had information about HIV/AIDS and only 25% reported they had a discussion on sexual reproductive health issues

with parents. Inclusive 11.4% of study participants had practiced risky sexual behaviors (Table 2).

Factors associated with risk sexual behavior: multivariable binary logistic regression analysis was used to examine the effect of each predictor variable on the practice of risky sexual behavior. The overall goodness of fit was checked using the LRT and Hosmer -Lemeshow test. Consequently, the likelihood ratio test, provided a chi-square value of 46.938 (p-value < 0.001), which would imply good fit for the model. Similarly, the Hosmer-Lemeshow test is found the observed data was better fitted by the model (chi-square value = 6.416, p-values = 0.601). The multivariable analysis of factors associated with risky sexual behavior was presented in Table 3. The result showed sex of a student, using alcohol, chewing khat, watching pornographic movies, using Shisha/hashish, and parental discussion of sexual and reproductive health were statistically significant factors associated with risky sexual behavior. According to the results from Table 3, the odds of risky sexual behavior were higher among males than females (AOR = 3.52; 95% CI: 1.479-8.382). Study participants who used alcohol were more likely to practice risky sexual practice than non-user keeping all other variables constant. The odds of risky sexual practice were 2.387 times higher among alcohol users than the non-users (AOR = 2.387; 95% CI: 1.079-5.280). Table 3 also shown that the odds of risky sexual behavior were higher among adolescents, who chew khat (AOR = 3.850; 95% CI: 2.729-5.188) compared to that of who didn't chew khat. Watching pornographic movies were found significantly associated with risky sexual behavior. The odds of risky sexual behavior were about 4.068 times higher among adolescents who had seen/read pornography (AOR = 4.068; 95% CI: 1.70-9.735). Using Shisha/hashish was another variable significantly associated with risky sexual behavior, the odds of risky sexual behavior were 2.611 times higher among adolescents who used Shisha/hashish than that of those who didn't use Shisha/hashish (AOR = 1.649; 95% CI: 1.217-5.603). Finally, discuss on sexual reproductive health issues

with parents was found significantly associated with risky sexual behavior. Compared to adolescents who didn't discuss on the sexual reproductive health issues with parents, those children who had a discussion on the sexual reproductive health issues with parents, had significantly lower odds of risky sexual behavior (AOR = 0.339; 95% CI: 0.143-0.806) (Table 3).

Discussion

The present study investigates the factors associated with risky sexual behaviors among high school adolescents in the north Shewa zone, Ethiopia. The prevalence of risky sexual behavior was 11.4%. This figure is lower than the previous study conducted Aksum reported 19.6% prevalence of risky sexual behavior [17]. A similar studies conducted in Arba Minch reported 22.4% of students had risky sexual behavior [18] and another study conducted in Jiga high school, the Amhara region [24] reported 14.7% of the prevalence of risky sexual behavior. Whereas a study conducted in Bahirdar and Mecha district reported nearly similar prevalence of risky sexual behavior (13%) [3] and a study conducted in Gondar reported 12.8% of the prevalence of risky sexual behavior [22]. Similarly the mean at initial of sexual intercourse was 16.05 ±2.57 years, which is lower than the studies finding in Jiga, Amhara region [24], Shashemene, West Arsi zone [28], higher than the studies finding in Aksum [17], Gondar [22] and nearly consistent with the findings in Dire Dawa [29], and Uganda [30] This inconsistent might be due to the fact that the cultural, socioeconomic and environmental difference. In the multivariable logistic regression analysis, it was found that being male was more likely associated with risky sexual behavior as compared to female. This finding is congruent with previous studies conducted in Bodit, south Ethiopia [21], Dire Dawa [31,29], Aksum [32], Ghana [33] and a meta-analysis done in developing countries [34]. The possible explanation for this difference might be culturally males are more likely exposed to sexually explicit materials than females in Ethiopia. Additionally,

consuming alcohol was associated with the practice of risky sexual behavior. The result is comparable with previous studies from Haramaya, east Ethiopia [35], Adama [27], Jimma [36], Gondar [22], West Arsi zone [28], Sri Lanka [37], Dire Dawa [29], Southern Ethiopia [38], Jiga, Amhara region [24], Brazil [39], Mizan Aman [40], Arba Minch [18], and a systematic review and meta-analysis in Ethiopia [19]. This might be attributed to the fact that adolescents who drink alcohol could have a better chance of getting sex with commercial sex workers and erratic use of during sexual intercourse.

Adolescents who had ever seen/read pornography were more likely to practice risky sexual behavior. This finding is in agreement with previous studies reported in Aksum [17,32], Gondar [22], Dire Dawa [29], Jimma [38], Arba Minch [18], and a systematic review and meta-analysis in Ethiopia [19]. Use of illicit drugs such as Shisha/hashish, were risk factors of risky sexual behavior; i.e, adolescents who used Shisha/hashish were more likely to practice risky sexual behavior. Several studies recognized that uses of Shisha/hashish strongly correlated with risky sexual behavior [18,27,30,32,39]. In this study, we found that student who chewed khat had higher odds of practicing risky sexual behavior. This finding is consistent with a study conducted in Dire Dawa [29,31], West Arsi zone [28], Jimma [36] and Haramaya, east Ethiopia [35]. The possible explanation of this might be that using substances might imitate adolescents watch pornographic movies and to practice what they seen with their partners or other peoples. Discussion on sexual reproductive issues with parents was another variable found statistically significantly associated with risky sexual behavior. Adolescents who had a discussion on sexual reproductive health issues with parents were less likely to practice risky sexual behavior. Similar findings were also reported lower odds of risky sexual behavior among adolescents who had a discussion on sexual reproductive issues with parents [17,22,28,32].

The major limitation was that misreporting or under reporting of risky sexual practice and illicit drugs uses due to due to some cultures and traditions in the community. The other limitation was that interaction effects were not used included in the analysis due to the large number of variables to compute.

Conclusion

The study has examined the prevalence and factors associated with risky sexual behavior in North Shewa zone Oromia, Ethiopia. In the multivariable logistic regression analysis, it was found that being male sex, drinking alcohol, chewing khat, using Shisha/hashish, watching pornography, and no discussion on sexual reproductive issues with parents were factors significantly increase the risk of risky sexual behavior among adolescents. Even though the prevalence of engage in risky sexual behavior is lower than most studies in Ethiopia, the problem is still higher and policy makers and schools should give special cares for male students, alcohol users, khat chewers, Shisha/hashish users and students who watch pornographic movies, so that to decrease the prevalence of risky sexual behaviors among high school adolescents.

What is known about this topic

- *The practice of risky sexual behavior is higher;*
- *Most high school students use alcohol and substances;*
- *Most women have first sexual intercourse before age of 15 years old and infected with HIV/AIDS due to unprotected sexual intercourse is risky.*

What this study adds

- *The prevalence of risky sexual behavior was still high;*
- *Discuss on sexual reproductive health issues with parents is poor;*
- *Male students, are more likely uses alcohol, khat, Shisha/hashish and watch pornographic movies.*

Competing interests

The author declares no competing interests.

Authors' contributions

The author have read and agreed to the final manuscript.

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Table 1: socioeconomic and demographic characteristics of study participants

Table 2: sexual and reproductive history of study participants, North Shewa zone, Ethiopia

Table 3: factors associated with risky sexual behavior among high school adolescents, North Shewa zone, Ethiopia

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Table 1: socioeconomic and demographic characteristics of study participants

Variables	Categories	n	%
Sex	Male	230	61
	Female	147	39
Age	Below 17	91	28.9
	17 and above	224	71.1
Religion	Coptic Orthodox	332	87.4
	Protestant	20	5.3
	Muslim	16	4.2
	Others	12	3.2
Mothers education	No education	228	62.1
	Primary	61	16.6
	Secondary	37	10.1
	College	41	11.2
Father education	Illiterate	198	53.7
	Primary	60	16.3
	Secondary	39	10.6
	College	72	19.5
Father's employment status	Employed	78	22.3
	Unemployed	271	77.7
Mother's employment status	Employed	50	14
	Unemployed	307	86
Current living condition	With parents	256	71.1
	Guardian/others	12	3.3
	With relatives or friends	31	8.6
	Alone	61	16.9
Ever drunk alcohol	Yes	156	42.2
	No	214	57.8
Ever chew khat	Yes	64	17.8
	No	295	82.2
Ever smoke cigarette	Yes	18	4.8
	No	311	95.2
Ever use illicit substances	Yes	60	15.9
	No	317	84.1
Ever seen/read pornography	Yes	138	38
	No	225	62
Parents control students	Yes	180	48.6
	No	190	51.4

Table 2: sexual and reproductive history of study participants, North Shewa zone, Ethiopia

Variables	Categories	n	%
Ever had sexual intercourse	Yes	48	13.2
	No	317	86.8
Reason to start sex	Personal desire	10	21.7
	Peer pressure	22	47.8
	Influence of alcohol/drugs	9	19.6
	Economic problem/for money	7	15.2
Age at first sexual intercourse	<18 years old	16	33.3
	≥18 years old	32	66.7
Mean±SD= 16.05 ± 2.57			
Use condom at first sex	Yes	53	43.8
	No	68	66.2
Total number of sexual partners	One	29	65.9
	Two or more	15	34.1
Risky sexual behavior	Yes	44	11.4
	No	342	88.6
Knowledge of HIV/AIDS	Yes	245	73.4
	No	89	26.6
Discuss on sexual reproductive health issues with parents	Yes	89	25.1
	No	265	74.9
Relationship of first sexual partner	Boy/girlfriend	40	65.6
	Teachers	8	13.1
	Others	13	21.3
Consistent condom use	Yes		
	No		

Table 3: factors associated with risky sexual behavior among high school adolescents, North Shewa zone, Ethiopia

Variable	Risky sexual behaviors		COR	95% CI	AOR	95% CI
	Yes n (%)	No n (%)				
Sex						
Male	34(14.8)	196(85.2)	2.377	1.136-4.972	3.52*	1.479-8.382
Female	10(6.8)	137(93.2)	1		1	
Knowledge of HIV/AIDS						
Yes	32(13.1)	213(86.9)	0.428	0.271-1.579	0.607	0.248-1.485
No	10(11.2)	79(88.8)			1	
Alcohol use						
Yes	27(17)	132(83)	2.582	1.340-4.977	2.387*	1.079-5.280
No	16(7.3)	202(92.7)	1		1	
Currently live with						
Parents	28(10.9)	228(89.1)	1.912	0.680-5.377	2.341	0.570-9.608
Guardians/relatives/others	4(9.3)	39(90.7)	1.197	0.475-3.017	0.519	0.146-1.842
Alone	10(16.4)	51(83.6)	1		1	
Chew khat						
Yes	19(30.6)	43(69.4)	5.302	2.681-10.486	3.850*	2.729-5.188
No	24(7.7)	288(92.3)	1		1	
Ever seen/read pornography						
Yes	21(15.2)	117(84.8)	1.656	0.873-3.140	4.068*	1.70-9.735
No	22(9.8)	203(90.2)	1		1	
Peer pressure						
Yes	10(16.9)	49(83.1)	1.709	0.789-3.701	0.879	0.347-2.229
No	32(10.7)	268(89.3)	1		1	
Use of illicit drugs						
Yes	14(22.6)	48(77.4)	2.858	1.414-5.779	2.611*	1.217-5.603
No	30(9.3)	294(90.7)	1		1	
Use cigarette						
Yes	4(25)	12(75)	2.658	0.817-8.647	1.488	0.392-5.643
No	39(11.1)	311(88.9)			1	
Discuss on SRH issues with parents						
Yes	14(7.8)	166(92.2)	0.488	0.248-0.960	0.339*	0.143-0.806
No	28(14.7)	162(85.3)	1		1	

*Significant at $p < 0.05$, Note: LRT = 46.938 (p -value < 0.001), Hosmer and Lemeshow Test = 6.416 (p -value = 0.601)