

# Risky Sexual Behavior and Its Associated Factors Among High School and Preparatory Night Students in Awi Zone, Northwest, Ethiopia

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## Abstract

**Background:** Risky sexual behaviors are any behavior that increases the probability of adverse sexual and reproductive health problems. Risky sexual behaviors predispose adolescent and young people to a variety of sexually associated problems such as sexually transmitted infection, Human immune virus and unwanted pregnancy. Yet, little has studied about risky behaviors in the context of night students in Ethiopia at large and study area in particular.

**Objective:** To assess the magnitude and factors of risky sexual behaviors among grade 9-12-night students in Awi Zone, North west Ethiopia, 2020.

**Methods:** A cross-sectional study was conducted. The total sample size was 801. Participants were selected through simple random sampling technique and data were collected using a pretested and structured self-administered questionnaire. Epi data for data entry and SPSS for analysis were used. P-value less than 0.05 at multiple logistic regressions was considered as statistically significant.

**Results:** One hundred twenty (40.4%) have risky sexual behavior. Mean age of first sexual initiation was 18.64 (SD  $\pm$  2.16) and quite large proportion of respondents (30%) had initiated sex before 18 years. Grade level (AOR=2.52, 95% CI, 1.12-5.69), practicing sex in hotels (AOR=2.82, 95% CI, 1.11-6.94), having sex at school compounds (AOR=3.27, 95% CI, 1.05-10.17), exposure to pornographic films (AOR=5.49, 95% CI, 2.45-12.28), peer pressure (AOR=4.86, 95% CI, 2.31-10.22) and permissive type of parenting style (AOR=0.27, 95% CI, 0.10-0.70) are significantly associated factors with risky sexual behavior at P- value <0.05.

**Conclusion:** Considerable proportions of night students engage in sexual activity and practice risky sexual behaviors. Place of sexual intercourse were associated with risky sexual behavior. Students from grade 9-10, Pornographic film exposures, parenting style and peer pressure, were factors exposing participants to risky sexual behavior.

**Keywords:** Risky sexual behavior • Night Students • Awi • Ethiopia

**Abbreviations:** AOR • Adjusted Odd Ratio, ARHB • Amhara Region Health Bureau, CI • Confidence Interval, COR • Crude Odd Ratio, EDHS • Ethiopian Demographic Health Survey, HIV/AIDS • Human Immune Virus/Acquired Immune Deficiency Syndrome, WHO • World Health Organization

## Introduction

Risky sexual behaviors are behavior which increases the probability of unwanted sexual and reproductive health problems such as, unprotected sex, using unreliable birth control, and it also comprises practices which can lead to sexually transmitted infection, unintended pregnancies and psychological distress [1]. Youths who have early sexual debut are more likely to have risky sexual behaviors, like multiple sexual partners and inconsistent condom use. As a result, they increase the risk of, unwanted pregnancy, sexually transmitted infection (STIs), unsafe abortion, early childbirth, poor school performance and

school dropout rate. These practices are the main challenges to health and wellbeing of the youth and among the common precedents of risky sexual behaviors [2,3]. According to the world health organization (WHO) Adolescents are individuals aged 10-19, Youths are from 15 to 24 years and "young people" constitutes the age from 10 to 24 years. Youths accounted the larger and growing share of the world population, and majority of these are in developing country [4]. This period is the time in which youth face many challenges [1]. Many useful life events and ill-health behaviors start during youth period. As a result, it is a time of both risk and opportunity. The time between initiation of sexual activity and marriage is a time of sexual experimentation and may involve risky behaviors [5]. The factors for risky sexual behaviors are pleasure, curiosity, peer influence, financial benefit, biological, social, economic status and environmental factors (pornography, chewing khat and alcohol utilization) [6,7]. Worldwide, risky behaviors related to sexual practices in young people are increasing. Reports from different studies shows that the magnitude of risky sexual behavior among students ranges from 19- 44.7% [8-10].

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Studies about risky sexual behavior on high school and preparatory night students are limited and different behavioral and socio-economic factors are affecting the sexual health of night students. Therefore, this study tried to assess risky sexual behaviors, which could lead to STIs infection, unwanted pregnancy and factors, which affect it.

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## Materials and Methods

A cross-sectional study design was applied. The study was conducted among night 9-12 grades students in Awi zone. The zone had three woredas which have night school program for high school and preparatory students. Sample size was assigned to each Woreda and school proportionally based on the number of students they have and the sample size of the study subjects was calculated by proportion to population size from each class based on the data from the registrar. To attain representative sample size, school youths of both sexes were randomly selected (by simple random sampling) from all grade levels by using a lottery method. Accordingly, 512 school adolescents from grades 9 and 10 and 214 from 11-12 were selected to participate in the study. The data were collected at February, 2020.

### Source population

The source population of this study was all unmarried night students grade 9-12 at Awi zone.

### Study population

The study population was grade 9-12 unmarried night students enrolled for 2019/2020 academic year and attending class during the study period in the selected schools

### Operational definitions

**Risky sexual behavior:** Experiencing at least one of risky sexual behaviors such that having multiple sexual partners, sexual intercourse with causal sexual partner, and sex with commercial sex worker, inconsistent use of condoms or sex for exchange of money. **Inconsistent condom use:** Unable to use condom 100% of the time during every sex act in the last 6 months.

**Sex for exchange of money/goods:** Consensual sale of sex or exchange of money/goods/ for sex in the last 12 months.

**Multiple sexual partners:** Having sexual contact with two or more partners in the last 12 months.

**Early initiation of sex:** Experience of sexual intercourse before the age of 18 years.

**Substance use:** Use of substances such as alcohol, khat, cigarette or drug at least once in the last month that are assumed to increase risk of involving in risky sexual practice.

**Parenting practice:** Is the ardent environment provided by parents/guardians and parenting practices such as parent youth connectedness, parental monitoring and parents-youth communication that parents undertake with specific goals.

**Parenting styles:** Authoritative, permissive or neglectful.

**Parent-youth communication:** An interaction between parents and youth about SRH issues at least once in the last month.

**Parental monitoring:** Parental monitoring is participant's perception that their parents know their whereabouts, and associates.

**Sample size determination:** The sample size was computed based on factors associated with risky sexual behavior in the previous study, by using EPI Info version 7 software with the assumption of 80% power, 95% CI, 1 unexposed: exposed ratio, 25% outcome in unexposed group and 1.559 OR, given that 728 [11]. After adding 10% no response rate the final sample size was 801.

**Sampling technique and procedure:** Lottery method simple random sampling was used to select participants.

## Data collection tools and procedure, quality control and analysis

Data was collected using a self-administered questionnaire that have sections dealing with sexual risk behaviors and associated factors. The questionnaire was prepared by selecting, modifying and adapting relevant standard evaluation tool from similar studies in English version [12,13]. Data were collected by 3 high school teachers and supervised by preparatory teachers. The questionnaire was pretested on 5% of total sample size two weeks before actual data collection. Training was provided to data collectors and supervisor for one day. The English version questionnaire was translated into Amharic and back translated to English to ensure the consistency of two versions. Data were checked for completeness and internal consistency of responses manually, and coded and entered using Epi data version 3.1 and exported to SPSS version 23 for further analysis. To identify candidate variables ( $p < 0.25$ ) for multiple logistic regression, binary logistic regression analysis was carried out prior to multiple logistic regression. Multi-co linearity between the independent variables was diagnosed using variance inflation factor and standard error. Those variables with observed association on binary logistic regression, which have  $p$ -value  $< 0.25$ , were further treated by multiple logistic regressions to adjust for possible confounders. AOR was used to measure the strength of statistical association between dependent and independent variables for variables having  $P$ -value  $< 0.05$  which was considered as significant at 95% confidence interval. The Hosmer and Lemshow test statistic were done to assess the model fitness.

## Results

From the total 801 (eight hundred one) sample size seven hundred twenty-six (726) completed the questioner making the response rate 90.6%. More than half of the study subjects (51.7%) were in the age group of 15-20 years and the mean age of the respondents was 20.98 (SD  $\pm$  3.29) with a minimum of 15 and maximum 29 of years. Regarding ethnic composition, Amhara and Agew/Awi accounted for 407 (56.1%) and 299 (41.2%), respectively. Majority of study participants were from grade 9-10 (512 (70.5%)) and the rest were from 11-12 (214 (29.5%)). On the other hand, majority 462 (63.6%) of the study participants were females. Six hundred sixty-seven (91.7%) study participants were single and 31 (4.3%) were divorced.

Sexual behaviors of the respondents: -From the total 726 respondents 301 (41.5%) of the study participants ever had sexual intercourse, of those about 297 (98.7%) of the participants were sexually active during the last 12 months. ninety-nine (34%) students reported that they had two or more sexual partners in the last 12 months. First sexual initiation ranges of 14 to 26 with mean age 18.64 (SD  $\pm$  2.16) and majority of respondents 232 (77%) have first sexual initiation from age 16-20 and quite large proportion of respondents (30.2%) had initiated sex before 18 years old. Out of 301 students who had sex 243 (80.7%) did not use condom during their first sexual initiation. From the total sexually active, study participants only 131 (44.1%) use condom consistently in the last 6 months. The commonest reason described by study participants for not using condom is testing negative for HIV 74 (44.5%) and difficult to get condom 40 (24.2%). The usual site for sex 145 (48.7%) were at their partners home, 54 (18%) were in hotel and 45 (15%) were at school compounds. Regarding the type of sex, they practiced 100% of study participants conducted vaginal sex, 23 (7.7%) have practiced anal sex and eight (2.7%) have practice of oral-sex. Forty-six (15.5%) of sexually active study participants have performed sex with their employers and 25 (8%) have practiced sex with commercial sex workers. In addition, 46 (15.5%) participants had sex to receive money from their counterparts and 71 (23.9%) had have sex with casual partners in the last 6 months (Table 1).

Risky sexual behaviors and behavioral factors: -From the total sexually active study participants 120 (40.4%) have risky sexual behavior in the last 12 months. Out of 297 unmarried sexually active study participants 166 (56%) did not used condom consistently in the last 6 months. Regarding to watching pornographic movies 50 (16.6%) the study participants were exposed for

**Table 1.** Socio-economic characteristics of high school and preparatory night students in Awi zone, North West, Ethiopia, 2020.

Variables n (726)	Male n (%)	Female n (%)	Total n (%)
Do you have job			
Yes	124 (17.07%)	363 (50%)	487 (67%)
No	140 (19.3%)	99 (13.6%)	239 (33%)
<b>What is your job? (n=487)</b>			
House maid	0	236 (48.5%)	236 (48.5%)
Daily labourer	93 (19.09%)	100 (20.5%)	193 (39.6%)
Sex for exchange of money/goods	0	7 (1.85%)	7 (1.85%)
Government employee	8 (1.6%)	8 (1.6%)	16 (3.2%)
Trade	17 (3.5%)	14 (2.8%)	31 (6.4%)
Others	1	3	4 (0.45%)
<b>Educational status of father (n=726)</b>			
Illiterate	51 (7%)	104 (14.3%)	155 (21.4%)
Read and write	71 (9.8%)	160 (22%)	231 (31.8%)
Elementary	64 (8.8%)	106 (14.6%)	170 (23.4%)
Secondary	38 (5.3%)	43 (5.9%)	81 (11.2%)
Diploma/Certificate	28 (3.8%)	31 (4.3%)	59 (8.12%)
Degree and above	12 (1.6%)	18 (2.47%)	30 (4.1%)
<b>Educational status of mother (N=726)</b>			
Illiterate	103 (14.18%)	247 (34%)	350 (48.2%)
Elementary	74 (10.19%)	113 (15.56%)	187 (25.75%)
Secondary	48 (6.6%)	54 (7.4%)	102 (14%)
Diploma/Certificate	23 (3.16%)	25 (3.44%)	48 (6.6%)
Degree and Above	12 (1.65%)	15 (2%)	27 (3.71%)

**Table 2.** Behavioral factors of high school and preparatory night students in Awi zone, North West, Ethiopia, 2020.

Variable n (301)	Male n (%)	Female n (%)	Total n (%)
Have you drink alcohol in the last month (N=301)			
Yes	58 (19.2%)	60 (20%)	118 (39.2%)
No	37 (12.3%)	146 (48.5%)	183 (60.8%)
Sex after drinking alcohol (N=118)			
Yes	26 (22%)	20 (17%)	46 (40%)
No	32 (27%)	40 (34%)	72 (60%)
Have you chewed khat in the last month (N=301)			
Yes	23	24	47 (15.8%)
No	82	172	254 (84.2%)
Sex after you chew khat (N=47)			
Yes	13	19	32 (67%)
No	10	5	15
Have you visit nightclubs in the last month? (N=301)			
Yes	39	49	88 (29.3%)
No	56	157	213 (70.7%)
Have you seen pornography? (N=301)			
Yes	15	62	77 (25.6%)
No	83	141	224 (74.4%)
Sex after watching pornography? (N=77)			
Yes	15	28	43 (56%)
No	12	22	34 (44%)
Peer pressure for sex (n=726)			
Yes	80	177	257 (35.4%)
No	184	285	469 (64.6%)

pornographic films and among those 33 (66%) reported they practiced sex after watching pornographic movies. Numbers of respondents who visited nightclubs were 88 (29.3%) and 69 (78.4%) have practiced sex after visiting nightclubs (Table 2).

From the total 297 sexually active study participants, 99 (34%, 95% CI, 33.1-47) have multiple sexual partner, 25 (8%, 95% CI, 14.3 – 27.8) have sex

with sex workers, 71 (23.9%, 95% CI, 19.2-28.9) of them have sex with casual partners, 166 (56%, 95% CI, 50.2-61.6) have inconsistent condom use and 46 (15.5%, 95% CI, 11.4-19.9) have practice sex to receive gift or money. One hundred twenty (40.3%, 95% CI, 34.8-46.3) of study participants have risky sexual behavior.

Factors associated with risky sexual behavior: -Binary logistic regression

**Table 3.** Binary logistic regression analysis of factors associated with risky sexual behavior among high school and preparatory night students in Awi Zone, North West Ethiopia, 2020 (N=726).

Characteristics	Risky sexual behaviour		COR (95% CI)	AOR (95% CI)	P- Value
Male	30 (10.0%)	60 (20.0%)	1	1	
Female	90 (30.0%)	117 (40.0%)	1.51 (0.90-2.54)	1.31 (0.53-3.17)	0.555
Grade level					
9-10	67 (22.5%)	71 (23.9%)	1.87 (1.16-2.99)	2.52 (1.12-5.69)	0.026*
11-12	53 (17.9%)	106 (35.7%)	1	1	
Do you have job					
Yes	89 (29.9%)	114 (38.4%)	1.56 (0.93-2.60)	1.27 (0.54-3.01)	0.574
No	31 (10.4%)	63 (21.3%)	1	1	
Area of sexual intercourse					
At rented home	20 (6.7%)	34 (11.5%)	1	1	
At your partner home	33 (11.1%)	112 (37.7%)	0.48 (0.24-0.95)	0.51 (0.19-1.30)	0.161
Hotel	43 (14.5%)	11 (3.7%)	6.45 (2.718-15.308)	2.82 (1.11-6.94)	<0.001*
School compound	24 (8.1%)	20 (6.7%)	1.98 (0.87-4.46)	3.27 (1.05-10.17)	0.040*
Did you chew Khat?					
Yes	29 (9.7%)	18 (6.0%)	2.79 (1.47-5.31)	1.24 (0.43-3.62)	0.682
No	91 (30.6%)	159 (53.7%)	1	1	
Have you seen pornography films					
Yes	58 (19.6%)	19 (6.4%)	7.73 (4.26-14.02)	5.49 (2.45-12.28)	<0.01*
No	62 (20.8%)	158 (53.2%)	1	1	
Did you visit night clubs					
Yes	55 (18.5%)	33 (11.2%)	3.66 (2.17-6.17)	2.08 (0.90-4.80)	0.086
No	65 (21.9%)	144 (48.4%)	1	1	
Have you face peer pressure to have sex					
Yes	98 (32.3%)	67 (22.5%)	7.24 (4.16-12.60)	4.86 (2.31-10.22)	<0.01*
No	22 (7.4%)	110 (37.8%)	1	1	
What is your parenting style					
Authoritative	55 (18.5%)	75 (25.3%)	0.38 (0.20-0.71)	0.67 (0.28-1.60)	0.377
Permissive	23 (7.7%)	79 (26.6%)	0.15 (0.07-0.30)	0.27 (0.10-0.70)	0.008*
Neglectful	42 (14.2%)	23 (7.7%)	1	1	

was carried out to identify predictors of risky sexual behavior and all variables with  $p < 0.25$  at 95% CI, were selected for multiple logistic regressions. Accordingly, in binary logistic regression, age, sex, grade level, job, place of sexual intercourse, peer pressure, viewing sex movies, drinking alcohol, chewing khat, smoking, visiting night clubs, parenting style, parent youth communication about sex, and parent youth discussion about changes during adolescence showed statistically significant with risky sexual behavior at  $p$ -Value 0.25. Multiple logistic regression analysis was executed to identify the effect of independent factors after controlling other confounding variables. After controlling confounding effect of different variables, exposure factors, like parenting style, area of sexual intercourse, students from grade 9-10, having peer pressure, and saw pornographic films were significantly associated with risky sexual behavior at  $p$  value 0.05 and 95% CI. Accordingly, study participants from grade 9-10 were 2.5 (AOR=2.52, 95% CI, 1.12-5.69) times more likely to practice risky sexual behavior than grade 11-12 students. Area of sexual intercourse were found to have significant association for risky sexual behavior such that practicing sex at hotel were 2.8 (AOR=2.82, 95% CI, 1.11-6.94) and having sex at school compound were 3.2 (AOR=3.27, 95% CI, 1.05-10.17) times more likely to have risky sexual behavior than practicing sex at home. There is strong positive association between having exposure to pornographic films and risky sexual behavior, it was found that the odds of having risky sexual behavior among study participants who were having exposure for pornographic films was 5.5 times more likely to have risky sexual behavior than non-exposed participants (AOR=5.49, 95% CI, 2.45-12.28). Peer pressure was the other independent predictor for having risky sexual behavior; students who had peer pressure were about five times more likely to have risky sexual behavior compared to those who didn't have (AOR =4.86, 95% CI, 2.31-10.22). Besides, this study indicated that there was statistically significant association between parenting style and having risky sexual

behavior, respondents who had permissive type of parenting style were less likely to have risky sexual behavior compared to neglectful parenting style (AOR =0.27, 95% CI, 0.10-0.70) (Table 3).

## Discussion

Among the total respondents' 301 (41.5%) had sexual intercourse in their lifetime. This finding was similar with the study conducted in Brazil (45%) and Debre Markos (44.7%) and higher than the study in Harameya (37%) and Axum (23.7%). The difference may be due to variation in socio demography, study area and sample size. And slightly lower than with the study in Direedawa (59%) and this difference might be due to variation in types of program day time and night time and Direedawa is a big city which have large access for internet use which may further exposes students to practice sex [8, 9,12,14,15]. This study showed that, 34% had two or more sexual partners in the last 12 months. The finding were similar with the studies in Brazil (39.4%) [14] and Bahirdar (45.3%) [15,16]. The result was less than the study conducted at Mizan (86.3%) [17] and Shirie (83.5%) [18]. The difference may be due to difference in schooling program (day time and university students), study area, media exposure and difference in residence most study participants are from rural residence in this study while urban residence were the commonest for Mizan and Shirie. In this study, 44% had used condom during every sexual contact in the last 6 months, which was comparable with the studies conducted in east Wollega (57.6%) [19]. It was slightly lower than the study conducted at Bahir Dar University (62%). This discrepancy might be due to level of awareness that have been given at different settings, life skill trainings arranged by the universities and availability of condom may have supposedly contributed for such variability [10]. The overall prevalence of risky sexual behavior in this study was (40.3%). This was consistent with the finding of a similar studies conducted in Sirilanka

(40.6%) [20]. This could be due to the strong relationship of sexual life of individual and exposure of the individual to risky sexual behaviors and greater than the study in Axum (19%) and less than in Debre Markos (58%) and Mizan (51.3%) [8,17,21]. The discrepancy might be difference in awareness, schooling program and living arrangement. In this study, participants from grade 9-10 were 2.5 times more likely to have risky sexual behaviors as compared to grade 11-12. This result was supported by study conducted in Haremaya [22]. This might be due to that most night students from grade 9-10 are housemaid and daily laborer which may further exposes them for risky sexual behavior and limited exposure to information and education related to sexual and reproductive health and grade 11-12 students might have better awareness and knowledge towards risky sexual behavior. The finding of this study showed that study participants who watched pornographic films were 5.5 times more likely to have higher risky sexual behaviors compared to non-watcher. This finding was in line with study conducted at Haremaya [22], and Kea Med University College, Addis Ababa [23]. The possible reason might be those who watch pornographic films could be liable and need emotionally enjoy what they observe in the film without any protection. This study reveals that participants who were exposed for peer pressure were 4.8 time more likely to have risky sexual behavior than those who are not exposed for peer pressure. This is in line with study findings in Axum, Bahir Dar and Gondar; this might be due to their need to share life experiences related to sexual behaviors with their peers. However, study in Addis Ababa indicates that peer pressure had no statistical significant effect, which might be due to self-efficacy of students towards external force [24,25]. Participants who had permissive type of parenting, practices were 73% less likely to have risky sexual behavior. This is consistent with the studies conducted in Mekelle and Addis Ababa. The studies affirm the importance of permissive parenting style in shielding youths from risky sexual practices. In contrast to the study conducted in and Legehida district and this might be due to that in Legehida most study participants were from rural community in which they might not have an experience and habit of taking decisions permissively [26-28]. This study revealed that having sex at hotels were 2.82 times more likely to have risky sexual behavior and performing sexual contact at school compound were also 3.27 times more likely to have risky sexual behavior compared to having sex at home/ rental home. The result disagrees with studies conducted in Addis Ababa [22]. It might be due to variation in socio demography and hotels in Addis Ababa might have better habit to avail condom in the classroom, which might push participants to use condom by assuring availability and accessibility in hotels and rooms. Schools in Addis Ababa might have better mechanisms to control sexual act in school compounds.

## Conclusion

The overall magnitude of risky sexual behavior was high in this study. Substantial portion of sexually active study participants in the last 12 months, have multiple sexual partners, have sex with sex workers, sex with casual partners, were have inconsistent condom use and have practice sex to receive gift or money. The study revealed area of sexual intercourse (having sex in hotels and in school compound), pornographic film exposures, peer pressure, students from grade 9-10 were identified to have significant association with risky sexual behaviors. Youths from permissive type of parenting style, were less involved in sexual risk behavior.

## Declarations

Ethical clearance was obtained from Bahir Dar University, college of medicine and health science, institutional review board. Before the interview, data collectors had informed the respondents and request consent. All respondents' response was kept confidential and the right to refuse to answer for a question was respected.

## Consent to Publish

Not applicable.

## Availability of Data and Materials

The data used to generate and or analyzed the current study are available from the corresponding author upon the request.

## Competing Interests

The authors declare that they have no competing interests.

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Nil.

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## Authors' Contributions

ABA: Conceived, designed, performed the study, analysis and wrote the paper. AMM and YM: Advising the whole research paper. BFS: Involved in analysis, paper writing and manuscript preparation and analysis. Finally, all authors read and approved the manuscript.

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