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Original Research

Prevalence of Risky Sexual Behavior and Associated Factors Among Secondary School Students in Dire Dawa: A School-Based Cross-Sectional Study

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Abstract

Background: Risky sexual behavior (RSB) among adolescents, including early sexual debut, multiple partners, and inconsistent condom use, poses a major public health challenge in low-income countries like Ethiopia, increasing risks of HIV/AIDS, STIs, and unintended pregnancies. Despite interventions, RSB remains prevalent among Ethiopian secondary students, warranting further research. Studies in Dire Dawa often used small, non-representative samples and inconsistent RSB measures, limiting generalizability. This study aimed to assess the prevalence of risky sexual behavior and its associated factors among secondary school students in Dire Dawa City, Ethiopia.

Methods: A school based cross-sectional study was conducted from November 2024 to January 2025 among 602 secondary school students in Dire Dawa, Ethiopia. Data were collected using structured, self-administered questionnaire adapted from Centers for Disease Control and Prevention (CDC), Youth Risk Behavior Surveillance System (YRBSS), previous related studies and Oslo Social Support Scale (OSSS-3). Multi-stage sampling was used to select participants, and data were analyzed using SPSS version 26. Bivariate and multi-variate logistic regression analyses were performed to identify factors associated with risky sexual behavior, with significance level set at $P < 0.05$.

Results: The study found that 200 students, representing 33.2%, engaged in risky sexual behavior. Older students had 1.6 times higher odds of risky behavior (AOR=1.63, 95% CI:1.19, 2.24). Social support showed protective effects: moderate support (AOR=0.20, 95% CI:0.07, 0.56) and strong support (AOR=0.03, 95% CI:0.01, 0.09) reduced odds. Family substance uses increased odds 6.5 times (AOR=6.46, 95% CI:2.65, 15.73), peer pressure 5 times (AOR=4.96, 95% CI:1.83, 13.40), and easy post-pill access 7.7 times (AOR=7.67, 95% CI:2.96, 19.89). Good risk perception reduced odds significantly (AOR=0.07, 95% CI:0.03, 0.16).

Conclusion: Risky sexual behavior is prevalent among secondary school in Dire Dawa, Ethiopia, and influenced by combination of individual, familial, and environmental factors. Intervention should focus on strengthening social support system, improving access to sexual health education and services. Additionally, policies should address the easy availability of emergency contraceptive without consultation which may contribute to risky sexual behavior.

Keywords: Contraception, Dire Dawa, Emergency Peer Pressure, Ethiopia, Family Substance, Risky Sexual Behavior, Secondary School Students, Use Social Support

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1. Introduction

Risky sexual behavior (RSB) refers to actions that increase the likelihood of adverse health outcomes, particularly sexually transmitted infections (STIs), including HIV, and unintended pregnancies. Examples of RSB include unprotected vaginal, anal, or oral sex, early sexual initiation, multiple sexual partners, and sexual activity under influence of drugs or alcohol [1]. Adolescence (ages 10–19) is a critical developmental period characterized by physical, cognitive, and psychosocial changes, making youth especially vulnerable to engaging in risky sexual behavior [2].

According to the World Health Organization (WHO), adolescents bear a disproportionate burden of preventable sexual and reproductive health (SRH) challenges, including unintended pregnancies, unsafe abortions, and STIs, including HIV [1]. Studies indicate that, compared to adults, adolescents are slightly more susceptible to various health conditions, including STIs, due to behavioral and socio-cultural factors [3,4].

Globally, RSB remains a significant public health concern. In the United States, the 2023 Youth Risk Behavior Survey reported that 30% of high school students had engaged in sexual intercourse, with 45% not using condoms consistently [5]. Consequently, youth aged 13–24 accounted for 20% of all new HIV cases and more than half of nearly 20 million STI cases in 2021; additionally, over 145,000 infants were born to adolescent mothers that year [6].

Similarly, in Sub-Saharan Africa, early sexual debut and inconsistent condom use are prevalent, contributing to high rates of HIV and unintended pregnancies [7]. Young people in this region represent a significant proportion of new HIV infections, and their sexual and reproductive health outcomes remain disproportionately poor [8].

In Ethiopia, challenges to promoting adolescent sexual health are compounded by socio-cultural taboos, limited access to youth-friendly health services, inadequate comprehensive sexuality education, and low levels of parental communication [9,10]. Adolescent RSB is a pressing public health issue in the country, with early marriage, unprotected sex, and exposure to STIs being major concerns. Limited sexual health education and gaps in knowledge about contraception leave many young people vulnerable to these risks [11].

Secondary schools in Ethiopia represent new social environments where adolescents from diverse primary schools come together. These settings expand social networks, influence peer

interactions, and create opportunities for the development of new behaviors, including sexual behaviors [12]. Most students entering secondary school are at a stage of identity formation and sexual experimentation.

Previous studies in Dire Dawa often relied on small, non-representative samples and inconsistent measures of RSB, limiting the generalizability of their findings. This study addresses these gaps by examining the prevalence of RSB and its associated factors among secondary school students in Dire Dawa using a robust cross-sectional design. The study aims to provide a foundation for evidence-based interventions that promote sexual health and well-being among secondary school students and the broader community.

2. Methods and Materials

2.1.Study Area and Period

The study was conducted in Dire Dawa City Administration in selected secondary schools. Dire Dawa is the seventh largest city in Ethiopia, with a projected population of 440,000 for the entire chartered city and 277,000 for the city proper in 2022. The city is divided into more than 38 rural kebeles, the smallest administrative units in Ethiopia, and nine urban kebeles, housing a total of 233,224 residents [13].

Situated at a latitude and longitude of 9°36′N 41°52′E, Dire Dawa serves as an industrial hub, hosting several markets and the Dire Dawa Airport [13]. According to an unpublished report from the Dire Dawa Bureau of Education, the 2024/2025 academic year had a total enrollment of 19,954 students in secondary education, including 10,537 male and 9,417 female students. These students were distributed across 33 secondary schools, comprising 14 public and 19 private institutions. The study was conducted from November 25, 2024, to January 10, 2025, in selected secondary schools of Dire Dawa City Administration.

2.2. Study Design

A school-based cross-sectional study design was employed.

2.3. Population

2.3.1. Source Population

The source population for this study was all secondary school students in Dire Dawa City.

2.3.2. Study Population

Randomly selected secondary school students in Dire Dawa attending grades 9–12 in public/private schools 2024/2025 academic year.

2.4. Eligibility Criteria

2.4.1. Inclusion Criteria

All regular student enrolled in grades 9-12, who has registered to attend one of the selected private and public secondary schools in Dire Dawa City for the 2024/25 academic year.

2.4.2. Exclusion Criteria

The student who absents during data collection was excluded.

Sample size determination and sampling procedures.

2.5. Sample Size Determination

The sample size was calculated using the single proportion formula based on a study conducted among high school students who practiced risky sexual behavior in Gondar in 2019, which reported a prevalence of 49.3% [14]. A margin of error of 5% and a 95% confidence level were applied to determine the initial sample size.

For the second objective, the sample size was calculated using Epi Info version 7.2.5.0, considering proportions from similar cross-sectional studies: peer pressure among secondary and preparatory school students in Dire Dawa in 2018 [15]; discussions on sexual and reproductive health (SRH) among secondary and preparatory students in Aksum, Tigray, Ethiopia, in 2018 [10]; and parental neglect among public high schools in Axum, Tigray, Ethiopia, in 2019 [16], with a confidence level of 95% and a power of 80%.

Following these calculations, the largest sample size value of 384 was selected to increase the study's power. This value was then adjusted using a design effect (DE) of 1.5 [17]. After accounting for a 10% non-response rate, the final sample size was determined to be 634 participants.

2.6. Sampling Procedures

A multistage sampling method was utilized for the selection of study units. Initially, data of both public and private secondary schools were gathered from the Education Bureau of Dire Dawa City Administration. According to the collected data, a total of 19,954 students (10,537

males and 9,417 females) were enrolled in the 2024/2025 academic year. These students were distributed across grades nine through twelve in 33 secondary schools, comprising 14 public and 19 private institutions.

The student population was subsequently divided into two strata: public schools and private schools. Using the lottery method, 30% of schools from each stratum were randomly selected, yielding 4 public and 5 private schools. Within each selected school, students from grades 9–12 were enumerated. The sample size was proportionally allocated by grade level, then further stratified by sex (male/female). From each grade, sections were randomly chosen, and students were finally selected via simple random sampling (using attendance sheets as the sampling frame). The total sample (n=634) was distributed proportionally across schools, grades, and sexes to ensure representativeness.

2.7. Variables of the Study

2.7.1. Dependent Variables

- Risky Sexual Behavior

2.7.2. Independent Variables

- Sociodemographic factors (Age, sex, religion, marital status, Mother and father education status, mother and father occupation, monthly pocket money, social support, household monthly income)
- Individual related factors (substance use, knowledge, risk perception, night club enjoyment, watching pornography).
- Household factors (Parent child communication, parent supervision, living arrangement, parent substance use),
- Easy access to contraceptive pill.
- Interpersonal factors (peer pressure).

2.8. Operational Definitions

Risky sexual behaviors (RSB): Defined as a student's involvement in at least one of the following activities: having multiple sexual partners (more than one partner up to the time of the survey), initiating sexual activity at an early age (before 18 years), inappropriate or inconsistent condom use, and engaging in sexual activity in exchange for gifts and/or with commercial sex workers (at least once up to the time of the survey) [14,18].

Substance use: Characterized by the consumption of one or more of the following substances: alcohol, khat, cigarettes, shisha, hashish, and weed. This was assessed using "Yes" or "No" responses [14].

Parental substance use: Determined using "Yes" or "No" questions regarding parental consumption of substances [14].

Watching pornography: Measured using a "Yes" or "No" response item [10].

Perceived parental monitoring: Assessed using three "Yes/No" items. Respondents who answered "Yes" were categorized as having parental monitoring, while those who answered "No" were categorized as not having parental monitoring [19].

Parent–child communication on sexual issues: Defined as communication between a respondent and parents at least once within the last six months on topics such as abstinence, HIV/AIDS, or condom use. Those with such communication were categorized as having parental communication; otherwise, it was classified as poor communication [19].

Sex for exchange of money/items: Defined as receiving money or any other material benefit in exchange for sexual intercourse [9].

Knowledge on HIV/AIDS: Assessed using three questions on HIV prevention and five questions on local misconceptions regarding HIV transmission. Respondents who correctly identified at least three HIV prevention methods and had no misconceptions were considered knowledgeable; others were categorized as not knowledgeable [19].

Perception: Evaluated using ten "Yes/No" items related to sexually transmitted infections (STIs), including HIV/AIDS, and unintended pregnancy. Students scoring ≥60% were considered to have good perception, while those scoring below 60% were categorized as having poor perception [9].

Prescription-free access to emergency contraceptive pills: Participants were asked whether they perceived emergency contraceptive pills as accessible without consultation or a prescription from a healthcare professional [20,21].

Living arrangement: Defined as whether the student lived with parents, with relatives, alone, with a spouse, or with friends [9].

Social support: Measured using the OSSS-3 scale, which ranges from 3 to 14. Higher scores indicate strong social support, while lower scores (closer to 3) indicate poor social support. The scores were categorized as: poor (3–8), moderate (9–11), and strong (12–14) [22].

2.9. Data Collection Tool and Procedures

The data collection instrument was a structured questionnaire adapted and modified from previously validated tools, including the CDC Youth Risk Behavior Surveillance (YRBS) questionnaire and the Oslo Social Support Scale (OSSS-3) for measuring social support [9,10,19]. The questionnaire was first translated into local languages (Afaan Oromo, Af-Somali, and Amharic) and subsequently back-translated into English by independent translators to ensure consistency and conceptual clarity.

Six teachers, currently serving as club leaders in other high schools, were recruited as data collection facilitators. Their selection was based on prior experience in data collection and familiarity with the subject matter. Data were collected using a standardized, self-administered questionnaire. Prior to participation, all respondents were fully informed about the study objectives, procedures, and potential benefits. Informed consent was obtained from participants aged 18 years and above, while assent was secured from those below 18 years of age, in line with ethical requirements.

To ensure quality, the lead investigator provided a two-day training for data collection facilitators, focusing on data collection techniques, ethical considerations, and confidentiality. One week before the actual data collection, a pretest was conducted on 5% of the total sample size in a comparable setting. Necessary modifications were made to improve clarity and relevance.

During the data collection period, completed questionnaires were checked daily for accuracy and consistency. This rigorous approach enhanced the reliability and validity of the data, thereby strengthening the overall quality of the study.

2.10. Data Quality Control

To ensure data quality, data collectors received comprehensive training on the study instruments and procedures. The questionnaire was translated into the three major local languages (Afan Oromo, Amharic, and Af-Somali) and then back-translated into English to maintain consistency and conceptual accuracy. A pilot test was conducted on 5% of participants from a school not included in the actual study, and necessary adjustments were made prior to data collection.

During the actual data collection, close supervision was provided to ensure completeness and consistency of responses. Data cleaning was performed by running frequency checks for each categorical variable and cross-checking the entries against the original hard-copy questionnaires. Descriptive analysis was then conducted using SPSS software to identify and correct potential outliers, missing values, or inconsistencies.

2.11. Data Processing and Analysis

The collected data were first entered into Epi Data version 4.7 and subsequently exported to SPSS version 26 for analysis. A composite variable for assessing risky sexual behavior was constructed using four criteria: (i) initiation of sexual activity before the age of 18 years, (ii) having multiple sexual partners, (iii) inconsistent or incorrect condom use, and (iv) sexual involvement through receipt of gifts or engagement with commercial sex workers.

Initially, bivariate logistic regression was performed to identify independent variables potentially associated with risky sexual behavior. Variables with a significance level of $p < 0.25$ were considered candidates for the multivariable logistic regression model. In the final model, variables with a p-value < 0.05 were considered statistically significant, and their associations were reported using adjusted odds ratios (AORs) with 95% confidence intervals (CIs).

The Hosmer–Lemeshow goodness-of-fit test was employed to assess the adequacy of the model, where a p-value > 0.05 indicated good model fit. To assess potential multicollinearity among independent variables, both the Spearman correlation test and Variance Inflation Factor (VIF) were applied. Variables with a VIF > 10 and/or a Spearman correlation coefficient exceeding ±0.7 were considered to exhibit a high degree of multicollinearity and were excluded from the final mode.

3. Results

3.1. Socio-Demographic Characteristics

A total of 601 students participated in the study. The majority were female (n = 323, 53.7%), attended public schools (n = 471, 78.2%), and had a mean age of 18 years. Regarding religion, Muslims accounted for 289 (48.0%) of the respondents, while Orthodox Christians comprised 239 (39.7%). Most participants were unmarried (n = 451, 74.9%), with respondents distributed fairly evenly across grades 9 to 12. In terms of socioeconomic background, 325 students (54.0%) reported receiving monthly pocket money. Concerning parental education, 89 mothers (14.8%) and 141 fathers (28.4%) had education beyond secondary school, while 88 mothers (14.6%) and 46 fathers (7.6%) were illiterate. Regarding occupation, 183 mothers (30.4%) reported being unemployed,

whereas among fathers, 192 (31.9%) worked in government service, 168 (27.0%) were self-employed, and 29 (4.8%) had no formal occupation. The majority of households, 546 (90.7%), reported an annual income below 30,000 ETB (Table 1).

Table 1: Frequency distribution of Socio-demographic characteristics of the study participants, 2025

Variables		Frequency	Percentage (%)
School Type	Public	471	78.2
	Private	131	21.8
Sex Of Student	Female	323	53.7
	Male	279	46.3
Religion	Muslim	289	48.0
	Orthodox	239	39.7
	Protestant	53	8.8
	Catholic	8	1.3
	Others	13	2.2
Marital Status	Single	451	74.9
	Open Relationship	140	23.3
	Married	8	1.3
	Divorced	3	0.5
Grade Level	9th	168	27.9
	10th	122	20.3
	11th	147	24.4
	12th	165	27.4
Monthly Pocket	No	277	46.0
	Yes	325	54.0
Mother Education Status	No Formal Education	88	14.6
	Read And Write Only	167	27.7
	Primary School Completed	152	25.2
	Secondary School Completed	106	17.6
	Above Secondary School	89	14.8
Father Education Status	No Formal Education	46	7.6
	Read And Write Only	101	16.8
	Primary School Completed	121	20.1
	Secondary School Completed	163	27.1
	Above Secondary School	171	28.4
Mother Occupation	No Formal Job	183	30.4
	Govt Employed	112	18.6
	Merchant	119	19.8
	Self Employed	128	21.3
	Other	60	10.0
Father Occupation	No Formal Job	29	4.8
	Govt Employed	192	31.9
	Merchant	106	17.6
	Self Employed	168	27.9
	Other	107	17.8
Household Average Income	Less Than 30000	546	90.7
	Greater Than 30000	56	9.3

3.2. Sexual Behaviors of Study Participants

Out of the total respondents, 400 students (66.4%) reported never having engaged in sexual activity, while 202 (33.6%) indicated prior sexual experience. Among the sexually active group (n = 202), the vast majority (192, 95.1%) reported an early sexual debut (before age 18), whereas only 10 (4.9%) initiated sexual activity at age 18 or older. With regard to transactional sex, 170 participants (84.2%) reported never having received gifts in exchange for sex or engaged with commercial sex workers, while 32 students (15.8%) admitted such experiences. In terms of sexual partnerships, 132 respondents (65.3%) reported having only one partner, whereas 70 students (34.7%) had multiple partners. Concerning condom use, only 49 students (24.3%) reported consistent condom use, while the majority, 153 (75.7%), acknowledged inconsistent use (Table 2).

Table 2: Sexual Characteristics of High School Students, Dire Dawa, 2025

Variables	Response	Frequency	Percentage (%)
Ever had sex (n=602)	No	400	66.4
	Yes	202	33.6
Sexual intercourse before 18 years (n=202)	no	10	4.9
	yes	192	95.1
Received gift for sex or had intercourse with CSW (n=202)	No	170	84.2
	Yes	32	15.8
Multiple sexual partner (n=202)	no	132	65.3
	yes	70	34.7
Condom Inconsistency (n=202)	No	49	24.3
	Yes	153	75.4

3.3. Prevalence of Risky Sexual Behavior

Risky sexual behavior was defined as engaging in at least one of the following: having multiple sexual partners (more than one lifetime partner), initiating sexual activity before the age of 18 years, inconsistent or incorrect condom use, or engaging in sexual activity in exchange for gifts and/or with commercial sex workers. Based on this composite measure, 200 students (33.2%) were classified as having engaged in risky sexual behavior (Figure 1).

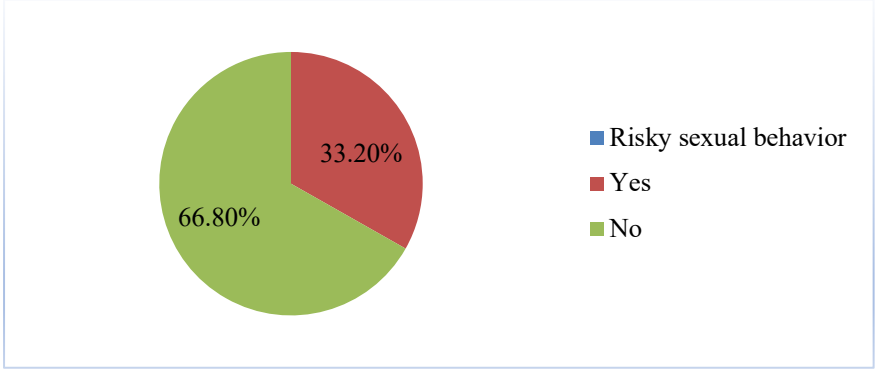

Figure 1: Risky sexual behavior among high school students who had sexual experience, Dire Dawa, 2025

3.4. Factors Associated with Risky Sexual Behavior

After adjusting for potential confounders, several factors were significantly associated with risky sexual behavior among secondary school students. Age was positively associated with risky sexual behavior. With each additional year of age, students were 1.63 times more likely to engage in risky sexual behavior (AOR = 1.63, 95% CI: 1.186, 2.241). Social support showed a strong protective effect. Students with moderate social support had 80% lower odds of risky sexual behavior compared to those with poor support (AOR = 0.201, 95% CI: 0.072, 0.561), while those with strong social support demonstrated a 96.9% reduction in odds (AOR = 0.031, 95% CI: 0.011, 0.088).

Family substance use was identified as a significant risk factor, with affected students being 6.46 times more likely to engage in risky sexual behavior compared to those without family substance use (AOR = 6.46, 95% CI: 2.65, 15.73). Peer influence was also significant. Students who reported peer pressure had nearly five times higher odds of risky sexual behavior (AOR = 4.958, 95% CI: 1.834, 13.404). Similarly, students with perceived easy access to emergency contraceptive pills had a 7.67-fold higher likelihood of engaging in risky sexual behavior (AOR = 7.666, 95% CI: 2.955, 19.890). Risk perception was another strong protective factor. Students with good risk perception had 93.2% lower odds of risky sexual behavior compared to those with poor perception (AOR = 0.068, 95% CI: 0.029, 0.161).

Table 3: Multivariate analysis to identify factors associated with risky sexual behaviors among high school students in Dire Dawa, 2025 (n=602)

Variables	Category	Risky sexual behavior		COR (95%)	AOR (95%)
		Risky	Not risky		
Age	Mean ± SD	17.91±1.23	17.55±1.23	1.247 (1.089, 1.428)*	1.63 (1.186, 2.241)**
Social Support	Poor	156	58		1
	Moderate	29	80	0.135 (.080, 0.227)*	0.201 (0.072, 0.561)**
	Strong	15	264	0.021 (.012, 0.039)*	0.031 (0.011, 0.088)**
Family member substance use	No	54	255	0.213 (0.147, 0.3109)*	1
	Yes	146	147		6.456 (2.650, 15.727)**
Perceived Peer Pressure	No	46	277	0.135 (0.091, 0.199)*	1
	Yes	154	125		4.958 (1.834, 13.404)
Perceived unregulated access to post-pill	No	41	309	0.077(0.051-0.116)*	1
	Yes	159	92		7.666 (2.955-19.89)
Student risk perception	Poor	176	80		1
	Good	24	322	0.034(0.021-0.055)*	0.068(0.029-0.161)**

4. Discussion

The purpose of this study was to assess the prevalence of risky sexual behavior (RSB) and associated factors among secondary school students in Dire Dawa, Ethiopia. The findings revealed that 200 students (33.2%) reported engaging in risky sexual practices. This prevalence is comparable to studies conducted in Gondar (49.3%) and Aksum (23.7%), which similarly highlight the ongoing public health concern of RSB among adolescents in Ethiopia [10,19]. However, the prevalence in this study was lower than that reported in Addis Ababa (71.2%) [23]. The discrepancy may be explained by contextual variations such as the level of urbanization, implementation of school-based sexual and reproductive health programs, and cultural differences across study areas. The findings underscore that adolescence is a vulnerable period during which environmental and psychological factors can increase susceptibility to sexual risk-taking behaviors [24].

Several key factors were identified as being significantly associated with RSB, including age, social support, family substance use, peer pressure, access to emergency contraceptive pills, and risk perception. Age was a significant predictor of RSB, with older students having 1.63 times higher odds of engaging in risky sexual practices compared to their younger peers (AOR = 1.63, 95% CI: 1.186, 2.241). This finding is consistent with studies from Gondar, which reported that older adolescents were more likely to have multiple partners and initiate sexual activity earlier [19], and Tanzania, where early sexual debut was strongly correlated with age progression [25]. These associations may reflect developmental and psychosocial changes that accompany aging, including greater autonomy, exposure to peer influences, and increased opportunities for sexual engagement.

Social support was found to have a strong protective effect against RSB. Students with moderate support were five times less likely to engage in RSB (AOR = 0.201, 95% CI: 0.072, 0.561), and those with strong support had 32 times lower odds (AOR = 0.031, 95% CI: 0.011, 0.088) compared to those with poor social support. This finding is in line with results from East Wollega and Aksum, where supportive family and community structures were linked to reduced sexual risk-taking [9,16]. The buffering role of social support can be understood through the OSSS framework, which emphasizes that connectedness helps adolescents resist peer pressure and regulate impulsive behaviors.

Family substance use was another strong predictor, with adolescents from such households being 6.5 times more likely to engage in RSB (AOR = 6.49, 95% CI: 2.65, 15.73). Similar associations have been reported in Gondar and Arba Minch [19,26]. Substance use within families often creates an

unstable environment characterized by poor role modeling and reduced parental supervision, which in turn erodes behavioral boundaries and normalizes risk-taking.

Peer pressure also emerged as a significant determinant of RSB. Students experiencing peer influence were nearly five times more likely to engage in RSB (AOR = 4.958, 95% CI: 1.834, 13.404). This finding is consistent with research from Gondar [19] and Nigeria [27], both of which emphasized the influence of peer networks on adolescent sexual behavior. The result aligns with social learning theory, suggesting that adolescents adopt sexual norms and behaviors modeled and reinforced by peers [28].

Easy access to emergency contraceptive pills (ECPs) without professional guidance significantly increased the odds of RSB (AOR = 7.666, 95% CI: 2.955, 19.890). Similar findings were reported in Addis Ababa, Dire Dawa, and the United States [21,29,30]. For instance, the Addis Ababa study revealed that many female students carried ECPs in their bags and perceived pregnancy as riskier than STIs [30]. Such perceptions may create a false sense of security, resulting in reduced condom use and heightened exposure to sexually transmitted infections.

Finally, risk perception was a powerful protective factor. Students with good risk perception had 14.7 times lower odds of RSB (AOR = 0.068, 95% CI: 0.029, 0.161). This finding is consistent with a study from Jimma, where awareness of the consequences of unprotected sex significantly reduced risky behaviors [31]. Adolescents who internalize the potential risks of STIs and unintended pregnancies are more likely to adopt protective sexual practices.

5. Conclusion

This study revealed that risky sexual behavior remains a significant concern among secondary school students in Dire Dawa, Ethiopia. The findings show that age, limited social support, family substance use, peer pressure, and unregulated access to emergency contraceptive pills were strong predictors of risky sexual behavior, whereas factors such as gender, parental education, and HIV/AIDS knowledge did not demonstrate a significant association. These results emphasize the urgent need for comprehensive and multi-dimensional interventions that not only strengthen individual awareness and risk perception but also engage families, schools, and communities. Addressing these determinants in an integrated manner is essential to reduce risky sexual practices and improve the sexual and reproductive health outcomes of adolescents in the region.

Abbreviations

AIDS: Acquired Immunodeficiency Syndrome, AOD: Adjusted Odds Ratio, COR: Crudes Odds Ratio, DASH: Division of Adolescent and School Health, EDHS; Ethiopian Demographic Health Survey, EMOH: Ethiopian Ministry of Health, HIV: Human Immunodeficiency virus, IRB: Institutional Review Board, OSSS: Oslo Social Support Scale, RSB: Risky Sexual Behavior, SPSS: Statistical Package for the Social Sciences, SRH: Sexual and Reproductive Health, STI: Sexually transmitted infection, UNAIDS: United Nations Programme on HIV/AIDS, VIF: Variance Inflation Factor, WHO: World Health Organization, YRBSS: Youth Risky Behavior Surveillance System.

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Authors Contribution

DD, AN, and MH collectively contributed to the conceptualization, formal analysis, methodology, investigation, and writing review and editing, with DD additionally handling data curation, funding acquisition, software, and the original draft preparation.

Ethics Approval

Ethical clearance was obtained from the Dire Dawa University Institutional Review Board (IRB). An official letter was submitted to the Dire Dawa Education Bureau, which was subsequently forwarded to the selected schools before data collection commenced. Informed, voluntary, written, and signed consent was obtained from each school head and the student parent committee. Participants were clearly informed about the study's purpose, potential benefits, and the confidentiality of their responses. Informed consent/assent was obtained from all participants.

Conflict of Interest

The authors declare that there are no potential conflicts of interest regarding the research, authorship, and/or publication of this article.

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Availability of Data and Materials

Data will be available upon submitting a reasonable request to the corresponding author.

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