




# Condom Use Self-Efficacy Score and Risky Sexual Behavior Among High School Students in Southern Ethiopia

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## Abstract

There is emerging evidence of a rise in new human immunodeficiency virus (HIV) infections in Ethiopia. This may partly be explained by an increase in risky sexual behaviors among high school adolescents. The current study was conducted to explore the association between a set of predictor variables (comprehensive HIV knowledge and condom use self-efficacy score) and an outcome variable of risky sexual behavior among high school adolescents in the Angacha District of Southern Ethiopia. The study employed a quantitative cross-sectional design to answer the research question. Primary data were collected using a self-administered questionnaire from 374 participants using a stratified random sampling technique. Descriptive statistics and bivariate and multivariate logistic regressions were computed using *SPSS Version 25*. The prevalence of risky sexual behavior among school adolescents was 30.04/per 1000. The Cronbach's Alpha for condom use self-efficacy score (CUSES) was 0.79. The association between HIV comprehensive knowledge and risky sexual behavior was not statistically significant. A statistically significant association was found between CUSES and the risky sexual behavior of the student,  $P = 0.048$ ,  $OR = 2.23$ , 95% CI [1.007, 4.925] when the covariates were held constant. The mean CUSES for males ( $M = 3.44$ ) was significantly higher than females ( $M = 3.22$ ),  $U = 14523.5$ ,  $P = 0.025$ ,  $\eta^2 = 0.016$ ). Policy decisions to revitalize school-based adolescent sexual health promotion to empower adolescents with life skills are needed to sustain the gains of HIV/AIDS control and enhance social change in the country.

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## Introduction

Young people in the age group of 15–24 accounted for 594,000 (33%) of an estimated 1.8 million new human immunodeficiency virus (HIV) infections that occurred in 2018 globally (The Joint United Nations Program on HIV/AIDS [UNAIDS], 2018). A substantial proportion of these new infections (68.4%) were from the Eastern and Southern parts of Sub-Saharan Africa, which accounts for the highest burden in the continent (UNAIDS, 2018). Ethiopia is one of the hardest hit countries in Sub-Saharan Africa. Young adolescents appeared to be particularly vulnerable to HIV infections because of the complex interactions of social determinants of health surrounding their sexual life. In their cross-sectional study of Adama, a town in central Ethiopia, Wana et al. (2019) reported that 95.7% of students reported knowing that HIV could be transmitted through unsafe sex. However, this knowledge among students was not associated with safer sexual practices. For instance, 110 (47.3%) students who indicated having had a sexual experience did not use condoms during their first sexual encounter. In the Wana et al. study, age, peer pressure, substance use (khat, cigarette smoking, and alcohol), and access to social media were significant predictors of risky sexual behavior. Similar research in Western Cameroon, the Kisumu District of Kenya, and the Eastern Cape of South Africa reported an adequate understanding of HIV transmission and prevention among high school students and low condom use (Adeboye et al., 2016; Nubed & Akoachere, 2016; Ochieng et al., 2011).

Through multiple and integrated interventions, there has been a substantial decline in HIV incidence in Ethiopia—from 3,300 per 100,000 (in 2000) to 900 per 100,000 (in 2016)—among general populations (Central Statistical Authority [CSA] & ICF, 2017; Kibret, 2019). In the age group of 15- to 24-year-olds, the rate of infection declined from 12,400 per 100,000 (in 2001) to 1,700 per 100,000 (2014) in Ethiopia (Ethiopian Public Health Institute [EPHI], 2015).

However, there is emerging evidence of the rise in new HIV infections in Ethiopia (CSA & ICF, 2017; Wana et al., 2019). According to CSA and ICF (2017), the HIV/AIDS prevalence increased from 200 per 100,000 (in 2005) to 400 per 100,000 (in 2016) in the Southern National Regional State of Ethiopia. This is in spite of its substantial decline at the national level. Such an increase may partly be explained by the resurgence of risky sexual behaviors among young adolescents in secondary schools, which is consistent with the onset of their biological sexual maturation (UNAIDS, 2018). HIV comprehensive knowledge and condom use self-efficacy appear to influence adolescent sexual health behavior and outcomes as important social determinants of health.

## Literature Review

Health literacy remains one of the fundamental determinants of health and health inequalities across subpopulation groups (Nutbeam & Liloyd, 2020). The 9th Global Conference on Health Promotion identified health literacy as one of the foundations with which to achieve the health-related sustainable development goals (SDGs) in 2030. Health literacy influences individuals to engage in health-promoting decisions and healthy actions (World Health Organization [WHO], 2017).

A cross-sectional study in Iran revealed an association between health literacy scores and risky behaviors among high school adolescents (Khajouei & Saleh, 2017). HIV comprehensive knowledge is at the core of health literacy that could protect the youth from engaging in risky sexual practices. The 2016 Ethiopia Demographic Health Survey (EDHS) highlighted that only 1,746 (39.6%) adolescent boys and 1,492 (24.3%) girls in the age group of 15–24 and among the survey participants had comprehensive knowledge about HIV/AIDS at the national level (CSA & ICF, 2017). Similarly, in the Southern Region, only 849 (35.8%) boys and 516 (15.7%) girls among the survey participants in the same age group had comprehensive HIV knowledge (CSA & ICF, 2017). An observational study on risky sexual behaviors among high school students in the urban areas of Central Ethiopia revealed that of 110 participants who had a sexual experience with a casual partner, 52 (47.3%) reported sexual intercourse with casual partners without condoms (Wana et al. 2019). Studies in Nigeria and South Africa revealed that young adolescents with a higher HIV comprehensive knowledge had lower odds of engaging in risky sexual behaviors (Adeboye et al., 2016; Ajide & Balogun, 2018).

Conversely, a high HIV comprehensive knowledge may not always guarantee safer sexual practices. Observational studies in West African countries revealed that despite having a higher HIV comprehensive knowledge, adolescents were found to engage in risky sexual behaviors (Badru et al., 2020; Gonzalez et al., 2019; Nubed & Akoachere, 2016; Ochieng et al., 2011). These findings highlight the public health importance of other social determinants of health that negatively influence the sexual behavior of young adolescents (Auerbach et al., 2011; Dean & Fenton, 2010, Khuzwayo & Taylor, 2018).

Moreover, condom use self-efficacy—a perceived confidence to get condoms to perform a safer sexual practice—may be one of several social determinants of health that make young adolescents vulnerable to engaging in risky sexual behaviors. Locke and Latham (1990) contended that perceived self-efficacy could entrust individuals with stronger intentions to perform the desired behavior, even during difficult life circumstances (as cited in Bandura, 1995). However, Gløppen et al. (2010), in their systematic review, noted that the direct protective effect of self-efficacy against risky sexual behavior was inconclusive. But self-efficacy appeared to mediate the effect of communication with peers about sex and negotiation about safer sex, which increased the intention for condom use among adolescents. Hence, the inconsistencies and methodological issues in previous studies highlight the need for the current study to bridge the knowledge gap in the literature. The fact is that the above referenced study used various scales of self-efficacy measurement, which could affect its observed predictive association with risky sexual behavior (Bandura, 1995; Forsyth & Carey, 1998).

## Purpose of the Study

The current study aimed to determine the association between predictor variables, including comprehensive HIV knowledge and condom use self-efficacy and an outcome variable of risky sexual behavior among high school adolescents in the Angacha District of Southern Ethiopia.

## Research Questions and Hypotheses

The following were the research questions and hypotheses for this study.

**RQ1:** Is there an association between comprehensive HIV knowledge and the sexual behavior of the student?

*H01:* There is no statistically significant association between comprehensive HIV knowledge and the sexual behavior of the student.

*H01:* There is a statistically significant association between comprehensive HIV knowledge and the sexual behavior of the student.

**RQ2:** Is there an association between condom use self-efficacy and the sexual behavior of the student?

*H02*: There is no statistically significant association between condom use self-efficacy and the sexual behavior of the student.

*H02*: There is a statistically significant association between condom use self-efficacy and the sexual behavior of the student.

## Method

In this study, we employed a quantitative approach using a cross-sectional study design to answer the research questions. The study populations were high school students in Angacha District, one of the districts of the Kembata Zone in the Southern Regional State of Ethiopia. A stratified random probability sampling technique was used to select the study samples among high school students. In stratified random probability sampling, the chances of selection are known for each stratum and study unit, which provides the basis for the statistical inference from the sample to the study population (Creswell, 2014; Fowler, 2009). The sample size was determined based on the following considerations: (a) risky sexual behavior prevalence rate of 50%; (b) 95% confidence interval; and (c) 5% margin of error or 95% statistical power, which is related with the data analysis plan of the study (Creswell, 2014). Accordingly, the calculated sample size for this study was as follows:

$$n = \frac{(z\alpha/2)^2 p (1 - p)}{d^2}$$

$$d^2$$

$$n = \frac{(1.96)^2 0.50 (1 - 0.50)}{(0.05)^2}$$

$$(0.05)^2$$

$$n = 384$$

We considered the final sample size of 403 after adding 5% of the sample to compensate for the possible nonresponse rate. After determining the total sample size, it was stratified into the male and female populations in the same proportion as they appear in the entire study population to ensure their representation (Creswell, 2014).

For this research, the theoretical framework was the socioecological model. This theory explains behavior as an outcome of the interaction between the different levels of the social determinants of health in the socioecological model (Bronfenbrenner, 1993). The model explains the determinants of health behavior or risk factors at three levels: micro, meso, and macro. The micro level of the model explains the individual characteristics and face-to-face reciprocal interactions in specific settings. At the same time, the meso system alludes to the individual's interrelations among the various settings in which they are involved (Bronfenbrenner, 1974, as cited in McLeroy et al., 1988). The focus of this research was on the micro and meso levels of the socioecological model to examine the association of the broader determinants of risky sexual behavior among high school students.

Ethical approval was obtained from the Institutional Review Board (IRB) of Walden University (reference ID 06-25-21-0769877). Ethics clearance and a permission letter were obtained from the Ethics Review Committee of the Southern State Regional Health Bureau of Ethiopia. A support letter was also obtained from the school to access the research participants. Research participants were provided adequate information on the purpose and benefits of the research to obtain informed consent. Consent was obtained directly from those students older than 18 years. Parents or legal guardians signed a consent form for participants less than 18 years. Additionally, an implied consent (assent) was obtained from those students below 18 years old.

## Instrumentation

Comprehensive HIV knowledge—a composite variable—was measured at a dichotomous scale level using seven items. The participants were categorized as having a high HIV comprehensive knowledge if they identified at least two of the major ways of HIV prevention (abstinence from premarital sex, having a single faithful partner, and consistent use of condoms) and rejected at least three common local misconceptions about HIV transmission (a healthy-looking person cannot have HIV; HIV can be transmitted by mosquito bites; HIV can be transmitted by supernatural means; and a person can be infected by sharing food with a person who has HIV). Each item was measured by “yes,” “no,” and “do not know” responses. The response was finally coded as “1” for correct “yes” responses and as “0” for “no” and “do not know” responses. Then, the responses were dichotomized as having “low” and “high” comprehensive HIV knowledge after considering a total benchmark score of 5. The instrument was adapted from WHO in 2001 and used by CSA and ICF (in 2005, 2011, and 2016 in EDHS), Oljira et al. (2013), and Badru et al. (2020).

Moreover, condom use self-efficacy was measured at scale level using a 5-point Likert scale that ranged from “strongly disagree” to “strongly agree.” The instrument constitutes three components of self-efficacy measures: assertiveness (4 items), fear of partner rejection (3 items), and intoxicant control (3 items).

Shaweno and Tekletsedik (2013) validated a nine-item condom use self-efficacy score instrument (CUSES—Ethiopia) among multicultural college students in Southern Ethiopia. According to Shaweno and Tekletsedik (2013), the reliability coefficients (Cronbach’s  $\alpha$ ) of the instrument for assertiveness, fear of partner rejection, and intoxicant control were 0.86, 0.86, and 0.92, respectively. Finally, the score of CUSES of 30 was considered to dichotomize the student’s condom use self-efficacy as low and high. It was coded as 0 = low condom use self-efficacy (<30) and 1 = high condom use self-efficacy ( $\geq 30$ ). The outcome variable, risky sexual behavior, was measured as a dichotomous nominal variable. The question asked was: “have you ever had sexual intercourse?” where 0 = no and 1 = yes. If yes, the next question was: “In the last 12 months you had sexual intercourse, did you or your partner consistently use condoms?” where 0 = no, and 1 = yes. Gender, parent education, and perceived socioeconomic status of the parents were the external variables (covariates) of the study.

## Data Collection

Primary data were collected between October 12 and October 21, 2021, using self-administered questionnaires. A total of 374 students participated in the study. Qualified male and female facilitators were recruited and trained on the purpose, significance, definition of key terms, and data collection instrument to facilitate data collection. The facilitators, who were recruited from the Kedida Gamela District of the same zone, were only involved in clarifying the concepts when the respondents needed them.

## Data Analysis

Using *SPSS Version 25*, descriptive analysis was conducted for independent and dependent variables. The Cronbach’s alpha statistics were computed to check for the internal consistency of condom use self-efficacy. Moreover, a continuous variable (age) of the participants was analyzed to check the normality of the data using the Kolmogorov–Smirnov test (Ghasemi & Zahediasl, 2012; Pallant, 2016). A significant Kolmogorov–Smirnov test ( $P < 0.05$ ) indicated that the data were not normally distributed (Ghasemi & Zahediasl, 2012). Therefore, instead of an independent *t-test*, a Mann–Whitney U, a nonparametric test, was used to compare the mean CUSES among male and female students (Daniel & Cross, 2013). Further, a bivariate logistic regression analysis was conducted to examine the association between independent and dependent variables and evaluate the hypotheses. Then, a stepwise multivariate logistic regression was computed to infer the value of the dependent variable (risky sexual behavior) by controlling for gender, parent education, and perceived socioeconomic status of the parent (Creswell, 2014; Daniel & Cross, 2013; Frankfort-Nachmias & Leo-Guerrero, 2018).

## Results

As shown in Table 1, the Kolmogorov-Smirnov test was statistically significant ( $P < 0.001$ ), indicating abnormally distributed data.

**Table 1:** *Test of Normality*

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Student age	.210	374	.000	.926	374	.000

a. Lilliefors Significance Correction

As depicted in Table 2, 217 (58.3%) of the research participants were male students and 155 (44.7%) were female students. Moreover, 246 (65.8%) of the research participants were 10th- and 11th-grade adolescents. The majority of the research participants, 337 (90.1%), belong to the Kembata ethnic group and 252 (67.6%) follow the Protestant religion. Regarding the place of residence, 150 (40.1%) were from rural areas and 224 (59.9%) were from urban areas.

**Table 2:** *Demographic Characteristics of Survey Participants, Angacha District, Southern Ethiopia*

Construct/variable	Frequency	Percent	Valid percent
<b>Gender</b>			
M	217	58.0	58.3
F	155	44.4	44.7
Total	372	99.5	100
<b>Grade</b>			
9	53	14.2	14.2
10	114	30.5	30.5
11	132	35.3	35.3
12	75	20.1	20.1
Total	374	100	100
<b>Ethnicity</b>			
Kembata	337	90.1	90.1
Hadiya	12	3.2	3.2
Amhara	15	4.0	4.0
Others	10	2.7	2.7
Total	374	100	100
<b>Place of residence</b>			
Rural	150	40.1	40.1
Urban	224	59.9	59.9
Total	374	100	100
<b>Religious affiliation</b>			
Protestant	252	67.4	67.6
Catholic	29	7.8	7.8
Orthodox	55	14.7	14.7
Muslim	13	3.5	3.5
Others	24	6.4	6.4
Total	373	99.7	100



Research participants were assessed on their level of knowledge of major HIV preventive measures and prevailing misconceptions about HIV in the study area. Accordingly, of the 374 participants, 218 (58.4%) had low comprehensive HIV knowledge and 155 (41.6%) of the adolescents had high comprehensive HIV knowledge. Moreover, of 153 participants who had high comprehensive HIV knowledge, 90 (58.8%) were male students, while 63 (41.2%) were female students. Likewise, a nine-item condom use self-efficacy score was used on a 5-point Likert scale to assess participant perspectives on assertiveness, fear of partner rejection, and intoxicant control components of the variable. Among 374 participants, 192 (51.3%) scored a high condom use self-efficacy score, and 182 (48.7%) scored a low condom use self-efficacy score on the scale (see Table 3).

**Table 3:** *Personal Characteristics of the Respondents, Angacha District, Southern Ethiopia*

Construct/Variable	Frequency	Percent	Valid percent
Comprehensive HIV knowledge			
Low	218	58.3	58.4
High	155	41.4	41.6
Total	373	99.7	100.0
Condom use self-efficacy score			
Low	182	48.7	48.7
High	192	51.3	51.3
Total	374	100	100

Regarding sexual behavior (as depicted in Table 4), from the total of 373 participants, 163 (43.7%) reported they had experienced sexual intercourse. Those who have had sexual experience were asked whether they had consistently used condoms during sexual intercourse in the last 12 months prior to the survey. Among 163 participants, 87 (53.4%) reported consistently using condoms during sexual intercourse, and 76 (46.6%) reported not consistently using condoms. This finding was in line with other studies in South Africa and Cameroon (Awotidebe et al., 2014; Nubed & Akoachere, 2016). However, the proportion was lower when compared with other study findings in Adama, Ethiopia, which was 52.7% (Wana et al., 2019); in Jiga High School in Northern Ethiopia, which was 83.3% (Kasahun et al., 2017); and in Eastern Cape, South Africa, which was 72.8% (Adeboye et al., 2016). The prevalence of risky sexual behavior in the study site was 30.04/1,000 population.

**Table 4:** *Characteristics of Participants by Exposure to Risky Sexual Behavior, Angacha District, Southern Ethiopia*

		Frequency	Percent	Valid Percent
Ever had sexual intercourse	No	210	56.1	56.3
	Yes	163	43.7	43.7
	Total	373	99.7	100
Engaged in unprotected sex	No	87	23.3	53.4
	Yes	76	20.3	46.6
	Total	163	43.6	100.0

*Note.* Under ever had sexual intercourse, one response was missing, and under engaged in unprotected sex, 211 responses were missing.

The reliability test was computed to assess the internal consistency of the 5-point Likert scale used to assess the perspectives of the adolescents about their confidence to use condoms during sexual intercourse with a casual partner. As shown in Table 5, the Cronbach's Alpha is 0.79, 0.75, and 0.83 for the full sample, male, and female sub-samples of the high school students respectively, indicating moderately high reliability of the scale that is consistent with previous studies (Barkley & Burns, 2000; Shawano & Tekletsedik, 2013).

**Table 5:** Reliability Statistics for Condom Use Self-Efficacy Score

	Cronbach's alpha	Cronbach's alpha based on standardized items	N of items
Full sample	.786	.788	9
Male	.746	.750	9
Female	.834	.834	9

Further analysis was conducted to determine if there was a difference in mean condom use self-efficacy score between male and female students (see Table 6). A Mann-Whitney U test revealed that the mean condom use self-efficacy score for males ( $M = 3.44$ ) was significantly higher than females ( $M = 3.22$ ),  $U = 14523.5$ ,  $P = 0.025$ ,  $\eta^2 = 0.016$ . However, the effect size was small.

**Table 6:** Mann-Whitney U Test for Comparing Mean Condom Use Self-Efficacy Score Among Male and Female Students, Angacha District, Southern Ethiopia

Report		
Mean		
Gender of the student	Mean CUSES	
Male	3.4444	
Female	3.2222	
Total	3.3333	
Test statistics <sup>a</sup>		
Mean CUSES		
Mann-Whitney U	14523.500	
Wilcoxon W	26613.500	
Z	-2.247	
Asymp. Sig. (2-tailed)	.025	
Measures of association (effect size)		
	Eta	Eta squared
Mean CUSES * Gender of the student	.126	.016

a. Grouping Variable: Gender of the student

A bivariate logistic regression was conducted to determine if there was an association between the independent variable (comprehensive HIV knowledge and condom use self-efficacy score) and the outcome variable (risky sexual behavior of the students). The association between comprehensive HIV knowledge and



risky sexual behavior of the student was not statistically significant,  $P = 0.562$ ,  $OR = 1.209$ , 95% CI [0.636, 2.296]. The association between condom use self-efficacy score and risky sexual behavior of the student was statistically significant,  $P = 0.025$ ,  $OR = 2.296$ , 95% CI [1.109, 4.752]. Further, in the multivariate logistic regression modeling, there was a statistically significant association between condom use self-efficacy score and sexual behavior of the student after controlling for the covariates gender, education status of the parents, and perceived socioeconomic status,  $P = 0.048$ ,  $OR = 2.227$ , 95% CI [1.007, 4.925] (see Table 7).

**Table 7:** Multivariate Logistic Regression Model for Predictor and Outcome Variables

Step 1 <sup>a</sup>	<i>P</i> value	<i>OR</i>	95% CI for <i>OR</i>	
			Lower	Upper
Condom use self-efficacy score of the student(1)	.048	2.227	1.007	4.925
Gender of the student	.153	1.792	.805	3.988
Education level of the student's mother	.553	.859	.519	1.420
Education level of the student's father	.471	.852	.552	1.315
Perceived socioeconomic status of student's parent	.043	.541	.298	.980
Constant	.055	4.635		

*Note:* a. Variable(s) entered on Step 1: Condom use self-efficacy score of the student, gender of the student, education level of the student's mother, education level of the student's father, and perceived socioeconomic status of student's parent.

## Discussion

In the current study, we found that 153 (41.2%) participants had high comprehensive HIV knowledge. The proportion is far lower than the study finding at Jiga High School in Northern Ethiopia, which was 64% (Kasahun et al., 2017). However, the proportion of adolescents with high comprehensive HIV knowledge appeared to be higher when compared with the EDHS findings of the national average (41.2% versus 24.3%) and the average for the Southern Region of Ethiopia (41.2% versus 15.7%; CSA & ICF, 2017). Moreover, the proportion is also higher when compared with study findings in Eastern Ethiopia (41.2% vs. 24.5%; Oljira et al., 2013).

However, the association between the HIV comprehensive knowledge and risky sexual behavior of the student was not statistically significant,  $P = 0.562$ ,  $OR = 1.209$ , 95% CI [0.636, 2.296]. This finding highlighted that both adolescents with high and low comprehensive HIV knowledge had similar vulnerability to engage in risky sexual behavior, which was consistent with the finding in Botswana (Letamo & Mokgatlhe, 2013) but is inconsistent with the other studies' findings—where a low HIV comprehensive knowledge increases the risk to engage in risky sexual behavior (Adeboye et al., 2016; Ajide & Balogun, 2018; Awotidebe et al., 2014). This may underscore the influence of other risk factors at the different levels of the socioecological model, as the behavior does not occur in a vacuum.

Self-efficacy refers to a person's judgment of their confidence or capability to perform a certain desired behavior (Bandura, 1995; Burrell et al., 2018). Students' perceived confidence to consistently use condoms in different challenging situations was assessed using a 5-point Likert scale. A statistically significant association was found between condom use self-efficacy and risky sexual behavior after multivariate logistic regression analyses. It was found that adolescents with a high condom use self-efficacy score were 2.2 times more likely to consistently use condoms during sexual intercourse compared to those with a low condom use self-efficacy

score ( $P = 0.048$ ,  $OR = 2.227$ , 95% CI [1.007, 4.925]). The finding confirms other study findings that higher condom use self-efficacy appears to protect from risky sexual behavior (Bogale et al., 2010; Gebreselassie et al., 2013; Letamo & Mokgathe, 2013). Nonetheless, a methodological difference in measuring condom use self-efficacy score exists in the literature, and some researchers used a dichotomous versus a two items Likert-type response choice; as a result, the study findings here need to be interpreted with caution.

Even though the effect size is small, there was a statistically significantly higher condom use self-efficacy score among male students compared with female students. This finding provides an important clue to all stakeholders to design interventions that empower female adolescents to demonstrate higher condom use self-efficacy to protect themselves from HIV and related risks. Women may be at increased risk of acquiring HIV because of the complex biological, social, and economic factors surrounding their sexual life.

### **Limitations of the Study**

This study was not without limitations. First, cross-sectional studies cannot be used to infer causality because of the difficulty of determining the temporal sequence between the risk factors and the outcome. Second, as premarital sex is not a socially desirable behavior in many cultures, some respondents may have concealed their experience of exposure to a risky sexual behavior leading to a social desirability response bias, which in turn results in a lower prevalence of risky sexual behavior in the area. However, the use of a self-administered questionnaire in this study should have reduced the social desirability bias by providing privacy and anonymity for the respondents. Third, the exposure factors that were not measured in this study at all levels of the socioecological model and that were unknown to the researchers could have confounded the association between the independent and dependent variables, leading to a spurious relationship. Fourth, inaccurate responses to sensitive questions could also have caused a measurement bias.

### **Recommendations**

Future research on the social determinants of risky sexual behavior among adolescents should explore the role of intrapersonal characteristics, such as self-esteem, risk-taking, and sensation seeking, in the framework of the socioecological model to address the challenges.

### **Conclusion**

Despite remarkable gains in reducing the incidence and prevalence of HIV/AIDS in the last 3 decades, risky sexual behaviors among adolescents are increasing in Ethiopia. To curb this challenge, policymakers and all stakeholders need to place effective school-based sexual health promotion programs in the framework of the socioecological model to address the various social determinants of sexual health among adolescents. Life skills training on condom use self-efficacy remains one of the essential tools to protect adolescents from HIV. The fact is that no sexual intercourse without condoms appears to be safe, as relationships during adolescence are often short and not with a single sexual partner. Moreover, effective interventions are needed to empower female adolescents to demonstrate higher condom use self-efficacy skills because of their increased vulnerability to HIV infection.

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