

Factors Associated with Condom Use Self-Efficacy Among Preparatory School Students in Sodo Town, Southern Ethiopia 2020: A Cross-Sectional Study

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Natnael Atnafu Gebeyehu¹
Kebreab Paulos Chanko¹
Yibeltal Mesfin Yesigat²

¹Department of Midwifery, College of Health Science and Medicine, Wolaita Sodo University, Wolaita Sodo, Ethiopia;

²Department of Midwifery, College of Health Science and Medicine, Wolikite University, Wolkite, Ethiopia

Background: Condoms are playing a central role in the prevention of sexually transmitted infections, human immune virus, and unintended pregnancy particularly among young peoples. Therefore, this study aimed to assess factors associated with condom use self-efficacy among preparatory school youths in Sodo town, Ethiopia.

Methods: This institution-based cross-sectional study was conducted among 424 study participants from January 25 to February 20, 2020. Data were collected using a validated pretested structured questionnaire. Descriptive analysis was done and results were presented in texts and tables. Those variables at bivariate analysis with p-value <0.2 at 95% confidence level were moved to a multivariate logistic regression model to control potential confounding variables. Odds ratio with 95% confidence interval was computed to ascertain association during multivariate analysis model. Statistical tests at P-value <0.05 were considered as cutoff point to determine statistical significance.

Results: Out of a total of 424 youths, only 416 had participated in the study yielding a response rate of 98.1%. The prevalence of higher self-efficacy among respondents was 70%. Factors that were independently associated with condom use self-efficacy in multivariate analysis were having sexual experience (AOR=2.047,95% CI:1.141–3.675), having life goals (AOR=1.736, 95% CI: 1.021–2.951), having social support (AOR=2.395,95% CI:1.501–5.458), and having good knowledge about condoms (AOR=2.535,95% CI:1.499–4.282).

Conclusion: The finding of this study showed that participants who had sexual experience, social support, knowledge of the human immune virus, and having life goals were found to be significantly associated with condom use self-efficacy. These results suggest ways to increase self-efficacy for condom use among youth that can increase the effectiveness of future interventions for youth.

Keywords: condom use, condom use self-efficacy, youth, Sodo Town

Introduction

Condoms have played a crucial role in the prevention of sexually transmissible infections (STIs) and HIV/AIDS over the past decade. The transmission of STIs including HIV/AIDS can be prevented by almost 100% through correct and consistent condom use.¹ However, evidence shows inconsistent condom use among young people, which can be related with behavioral, personal and cultural reasons, is one of the major risk factors in the expansion of the HIV epidemic.²

Correspondence: Natnael Atnafu Gebeyehu
Tel +251947326676
Email natnaelatnafu89@gmail.com

This study focused on adolescents and young adults since, having survived childhood disease while not yet experiencing health conditions that are faced in later adulthood, they are in the highest stage of life.^{3,4} However, AIDS-related mortality among youth has been increasing in recent years, even while a decrease in all other age groups has been observed.⁵ This is due to the prevalence of HIV among youth in sub-Saharan Africa, which constitutes up to 85% of global HIV infections.⁶ In Ethiopia, a report found that 87,000 young people are living with HIV, with only 8700 new infections among young people living across the country.⁷

A high proportion (60%) of unsafe abortion in Africa occurs among women under the age of 25 years.⁸ In Ethiopia, unwanted pregnancy among youth and adolescents is a major sexual and reproductive health challenge. Fifty-four percent of women under age 15 and 37% of youth aged 20–24 years have an unwanted pregnancy.⁹ Furthermore, unprotected sexual intercourse is the main route of HIV transmission among young people in Ethiopia, as they are the most likely to engage in high risk sexual behavior.¹⁰ The sustainable development goals of several initiatives, including the World Health Organization (WHO), United Nations Aid for International Development (UNAIDS), United Nations Population Fund (UNFPA),¹¹ have focused on promoting condom negotiation strategies including increasing self-efficacy regarding condom use as a means to improve safe sexual behavior and reducing the risk of HIV, STIs, and unwanted pregnancy.⁵ Though, consistent condom use plays a central role in the prevention of HIV transmission,^{12,13} utilization among young people requires exercising control on their condom use behavior.

Literature reported that self-efficacy is one of the most significant predictors of condom use.^{14–18} According to social cognitive theory, self-efficacy is a central concept in which both outcome and efficacy of expectations are critical in the promotion of health and behavioral change.¹⁹ Bandura²⁰ defines the term “self-efficacy” as a “judgment of one’s capability to accomplish a certain level of performance”. The social cognitive theory posits that there is a dynamic interaction between environmental factors, personal factors, and human action.²¹ Condom efficacy is defined as a person’s confidence in his or her ability to effectively use a condom during sexual intercourse.²² People with a high sense of condom use self-efficacy are more likely to use condoms than those who have doubts.²³ Hence, increasing self-efficacy is recommended for improving condom use among young adults.^{16,23,24}

Several studies showed that self-efficacy for protective behaviors among youth is associated with effective condom use.^{25–28} A study done in America found that higher self-efficacy for condom use was significantly associated with people who were younger, had higher self-esteem, and communicated better with their sexual partner.²⁹ For young women in South Africa, not using condoms during their first sexual encounter, having a history of unwanted sex, and believing that condom use implies distrust in one’s partner were significantly associated with low self-efficacy whereas understanding how to avoid HIV, speaking with a guardian about HIV/AIDS, and having life goals were factors associated with high self-efficacy.³⁰ Another study in Mozambique showed that demographic variables such as age, education level, and marital status were associated with condom use self-efficacy among women at risk of contracting HIV/AIDS.³¹

In Ethiopia, utilization of condoms among youth is limited even when condoms are available and there is knowledge about their effectiveness in preventing HIV.^{32,33} Consistent condom usage is very low (20%) among secondary school and college students.³³ To the best of the researcher’s knowledge, a study of the factors associated with condom use self-efficacy among preparatory school students in Ethiopia in general and in the study area in particular, has not been conducted. Therefore, this study aimed to assess factors associated with self-efficacy on condom use among preparatory school students in Sodo town, Southern Ethiopia.

Methods

Study Area, Design, and Participation

Cross-sectional study design was conducted in Sodo Town, Southern Ethiopia from January 25 to February 20, 2020. The town is located 320 Km far from the capital city of Addis Ababa. The total population of the town in 2018, received from the town administrative office, was 132,271 (62,340 males and 69,931 females) from these, 3263 were youth people (15–24 years).³⁴ The town has four preparatory schools of which one is governmental. The preparatory school enrolls grade 11 and 12 and were attended a pre-university education. All preparatory school students who attended their education in all schools of Sodo town were considered as a source of the population whereas all preparatory school students attended education in Sodo town during the study period were the study population. Those students who attended their education during the study period, and selected with the sampling procedure were study

units. All volunteer preparatory school students who were available during the study period were included in the study. However, all preparatory school students who were mentally and physically seriously ill during the study were excluded from the study.

Sample Size Determination and Procedures

The sample size was determined by using a single population proportion formula by considering the following assumptions: 50% of condom use self-efficacy to gain a maximum sample size for the study, 95% confidence level, 5% marginal error, and 10% non-response rate. Based on these, a total of 424 youth were taken as a final sample size. After preparing a sampling frame, a systematic random sampling technique was applied to select the study participants. The sampling interval (k-value) was calculated by dividing the total youth population available in all preparatory schools (1898) into the calculated sample size, giving approximately (K=5). After selecting the first study participant by using a lottery method, we used systematic sampling technique to recruit every Kth eligible respondents (K=5th) from the list of the sampling frame until the total sample size reached.

Measures

Measures of Condom Use Frequency

It was measured by asking the respondents “how often did you use condoms with your last sexual partner?”. Response options were “always”, “sometimes” and “never”. Based on the distribution of responses, we dichotomized those who responded “always” versus all others.

Measures of Condom Use

It was measured by asking “The last time you had sex with your most recent sexual partner, did you use a condom?” Response options were “Yes” or “No.”

Consistent Condom Use

It was measured by asking “Did you use a condom at every sexual intercourse?” Response options were “Yes” or “No”.

Measures of Knowledge of Condoms

Knowledge index was built from the answers to 18 questions on a condom with Yes/No answers. Based on the answers to these knowledge questions, the index was classified as good knowledge (score 10–18) and poor knowledge (score ≤9).

Measures of Attitude on Condom Use

It was measured by using seven Likert-scale items (strongly disagree to strongly agree) with a score range of 1 to 4 where the higher score represents a negative attitude and lower scores revealed a positive attitude.

Measures of Condom Use Self-Efficacy

It was measured by using nine validated items. Answers were given in a five-point Likert-scale format: Strongly agree (4), agree (3), neutral (2), disagree (1), strongly disagree (0). In the present study, the Cronbach’s alpha value was 0.821. The mean was calculated with a possible high score of 4 and a possible low score of 0. Higher mean scores (3 and 4) indicated higher self-reported strength of condom use self-efficacy whereas lower scores (0–2) indicated lower self-efficacy of condom use.

Social Support

It was measured by asking “If I were sick I could easily find someone to help me with my daily activities. The response contains: Yes/no

Data Collection Tool, Quality, and Procedures

A pretested structured self-administered questionnaire was used to collect the data by using every fifth interval of students from the sampling frame. The tool was prepared first in English and translated to the local language (Woliatagna), and then translated back to the English language to keep internal consistency. The tool was adapted from validated previous studies and customized with local situations.^{35–39} The questioner contains socio-demographic characters, knowledge of condom, attitude towards condom usage, and condom use self-efficacy related questions were used to conduct the research. Four data collectors and one supervisor were recruited and trained about procedures of data collection and research ethics for one day. The tool was checked for content validity by a panel of experts provided 90.8% of the content validity index and also checked for the reliability of the instrument with a score of 0.924%. A pretest was conducted on 22 preparatory school students in Hosanna Town. Data were checked for completeness and consistency by the supervisors and principal investigator.

Data Processing and Analysis

The data were cleaned and entered using Epi-data manager version 4.2 and exported to SPSS version 24 for statistical analysis. Descriptive statistics were done and presented in the

form of tables and texts. The goodness of fit model was checked by using Hosmer Lemeshow test which was found to be greater than the significance level (P -value = 0.05) was accepted and the final model was checked for the multicollinearity test by using tolerance and Variance Inflation Factor Bivariate and multivariate models were used to assess the presence of any association between each independent variable and the dependent variable. Crude and adjusted odds ratios were used to know and ascertain any association between the independent and dependent variables while significance was declared using a 95% Confidence interval. Those candidate variables at Bivariate logistic regression with a p -value < 0.2 were moved to the Multivariate logistic regression model for the dependent variables to control potential confounding variables. Those variables with P -value < 0.05 at multivariate analysis were considered as statically significant to condom use self-efficacy in this study.

Results

Socio-Demographic Characteristics of Participants

Out of a total of 424 respondents, 416 respondents had participated in providing a response rate of 98.1%. Of these more than half of the study participants, 258 (62%) were found under the age of 20–24 years, and the remaining 158 (38%) were categorized under the age of 15–24 years. The mean age of the study participants was 20.24 with \pm SD 2.78. With regards to ethnicity, the majority of study participants 261 (62.7%) were Wolaita, and half of the participants, 217 (52%) were protestant by religion. Three hundred sixty (76%) of the participants had a rating on religious importance. Concerning marital status, the majority of respondents 194 (46.6%) had no sexual partner during the time of study.

Among the study participants, the majority of the 261 (62.7%) had life goals whereas the remaining had not. Of the respondents, the majority of the 326 (78.4) had a previous history of condom use and 336 (80.8%) of the participants had sexual experience. Three hundred thirty-four (80.3%) of the respondents had a history of unintended sex, and 348 (83%) of the study subjects had social support (See Table 1).

Factors Associated with Self-Efficacy on Condom Use Among Study Participants

On bivariate analysis participants who had life goals, sexual experience, rating on religious importance, history of previous condom use, exposure to condom advertising, history of

Table 1 Socio-Demographic Characteristics of Preparatory School Students in Sodo Town, Southern Ethiopia 2020 (n=416)

| Variables | Frequency | Percent |
|--------------------------------|-----------|---------|
| Sex | | |
| Male | 218 | 52 |
| Female | 198 | 46 |
| Age | | |
| 15–19 | 158 | 38 |
| 20–24 | 258 | 62 |
| Marital status | | |
| Married | 84 | 20.2 |
| Living together | 138 | 33.2 |
| Other | 194 | 46.6 |
| Religion | | |
| Protestant | 217 | 52 |
| Orthodox | 98 | 24 |
| Catholic | 54 | 13 |
| Muslim | 47 | 11 |
| Ethnicity | | |
| Wolaita | 261 | 62.7 |
| Gurage | 103 | 24.8 |
| Other ^b | 52 | 12.5 |
| Talk about sex with mother | | |
| Yes | 175 | 42.1 |
| No | 241 | 57.9 |
| Talk about sex with father | | |
| Yes | 158 | 38 |
| No | 258 | 62 |
| Alcohol drink | | |
| Yes | 133 | 32 |
| No | 283 | 68 |
| Smoke | | |
| Yes | 91 | 21.9 |
| No | 325 | 78.1 |
| Drug | | |
| Yes | 138 | 33.2 |
| No | 278 | 66.8 |
| History of previous condom use | | |
| Yes | 326 | 78.4 |
| No | 90 | 21.6 |
| Having life goals | | |
| Yes | 261 | 62.7 |
| No | 155 | 37.3 |
| Sexual experience | | |
| Yes | 316 | 80.8 |
| No | 100 | 19.2 |

(Continued)

Table 1 (Continued).

| Variables | Frequency | Percent |
|-----------------------------|-----------|---------|
| History of unintended sex | | |
| Yes | 334 | 80.3 |
| No | 82 | 19.7 |
| Rating religious importance | | |
| Yes | 316 | 76 |
| No | 100 | 24 |
| Social support | | |
| Yes | 348 | 84 |
| No | 68 | 16 |
| Knowledge of condoms | | |
| Knowledgeable | 182 | 43.8 |
| Not knowledgeable | 234 | 56.2 |
| Attitude | | |
| Positive attitude | 132 | 31.7 |
| Negative | 284 | 68.3 |

Notes: ^aHad no sexual partner at the time of data collection. ^bHadiya.

unintended sex, social support and having good knowledge towards condom use were factors showed statically significant association with self-efficacy of condom use among study participants. On multivariate analysis, participants who had social support, rating of religious importance, having life goals, and good knowledge on condom use were found to be statically significant with self-efficacy on condom use. Participants who had life goals were 2.3 times more likely to have self-efficacy on condom use than their counterparts (AOR=2.305, 95% CI: 1.021–2.951). Respondents who had social support were 2 times more likely to have self-efficacy than those who had no social support (AOR=2.265, 95% CI: 1.501–5.458). Study participants who were previous sexual experience were 3 times more likely to have self-efficacy than their counterparts (AOR=3.072, 95% CI: 1.141–3.675). Those respondents who had good knowledge were 2 times more likely to have self-efficacy than those who had poor knowledge of condom use (AOR=2.242, 95% CI: 1.499–4.282). Participants who had exposure to condom advertising were 3.8 times more likely to have condom use self-efficacy than their counterparts (AOR=3.832, 95% CI: 1.120–3.041). The respondents who had a history of unintended sex were 2.8 times more likely to have condom use self-efficacy than those who did not have a history of unintended sex (AOR=2.787, 95% CI: 2.492–6.827). Study subjects rating as the importance of religious were 2 times more likely to have

condom use self-efficacy than their counterparts (AOR=2.242, 95% CI: 2.082–6.002) (See Table 2).

Discussion

The current study was intended to assess the factors associated with condom use self-efficacy among preparatory school students in Sodo, Ethiopia. As a result, this study contributes to identifying and understanding the issues involved in maintaining the sexual and reproductive health of youths in sub-Saharan Africa.

A significant proportion of the study participants had more than one sexual partner, and only 22% reported that consistent condom use. This finding was lower than studies conducted in Ethiopia (55.8%, 56.7%, and 78.9%),^{40–42} Nigeria (38.6%),⁴³ and China (82.4%).⁴⁴ This discrepancy might be explained by the presence of socio-demographic variations across the population, the availability and accessibility of condoms, the implementation of sexual and reproductive policy, and the quality of the health system infrastructure. Moreover, there were differences in the study populations. The former study was conducted among individuals who were HIV/AIDS positive and had already received antiretroviral therapy. These individuals had the chance to receive counseling about condoms during their follow up, which contributed to more regular condom use. To the best of the researchers' knowledge, there were no findings smaller than the current study so as not to discuss on that manner.

In the current study, multivariate analysis showed that knowledge about condoms was significantly associated with condom use self-efficacy, which was in agreement with findings from South Africa.³⁰ This positive association is important because, although many studies have found that knowledge alone is not enough to cause immediate behavioral change, it may do so in the long term.^{45–47} Knowledge about the efficacy of condoms to prevent STIs and HIV/AIDS may lead an individual to properly use condoms in every instance of sexual contact thereby minimizing risk.

Participants in this study who had social support were more likely to have self-efficacy to use condoms than their counterparts, which was in line with studies done in Mexico⁴⁸ and Bangladesh.⁴⁹ Conversely, these studies showed that participants who experienced a lack of social support were more efficacious to use condoms and that a low level of social support was associated with sexual risk taking.^{50,51} A possible strategy for maximizing self-efficacy for condom use would be to take a social-cognitive

Table 2 Bivariate and Multivariate Analysis of Factors Associated with Self-Efficacy on Condom Use Among Preparatory School Students in Sodo Town, Southern Ethiopia 2020 (n=416)

| Variables | Self-Efficacy on Condom Use | | COR (95%) | AOR (95%) |
|------------------------------------|-----------------------------|----------|----------------------|----------------------|
| | High (%) | Low (%) | | |
| Having life goals | | | | |
| Yes | 200(68.7) | 61(48.8) | 2.306(1.501–3.543)* | 1.736(1.021–2.951)** |
| No | 91(31.3) | 64(51.2) | | |
| History of previous condom use | | | | |
| Yes | 249(85.6) | 77(61.6) | 2.829(2.272–6.012)* | 1.698(0.694–4.156) |
| No | 48(38.4) | 42(14.4) | | |
| Rating on the religious importance | | | | |
| Yes | 259(89) | 77(61.6) | 2.242(2.082–6.002)* | 1.098(0.481–2.506) |
| No | 48(30.4) | 32(11) | | |
| Sexual experience | | | | |
| Yes | 243(83.5) | 73(58.4) | 3.072(2.250–5.779)* | 2.047(1.141–3.675)** |
| No | 52(41.6) | 48(16.5) | | |
| Exposure condom advertising | | | | |
| Yes | 242(83.2) | 91(72.8) | 3.832(1.120–3.041)* | 2.168(0.391–1.526) |
| No | 34(27.2) | 49(16.8) | | |
| History of unintended sex | | | | |
| Yes | 255(87.6) | 79(63.2) | 2.787(2.492–6.827)* | 1.619(0.707–3.708) |
| No | 44(36.8) | 38(12.4) | | |
| Social support | | | | |
| Yes | 262(90) | 86(68.8) | 2.265(2.390 –7.022)* | 2.395(1.501–5.458)** |
| No | 39(31.2) | 29(10) | | |
| Knowledge of condom | | | | |
| Knowledgeable | 144(49.5) | 38(30.4) | 2.242(1.437–3.500)* | 2.535(1.499–4.282)** |
| Not Knowledgeable | 147(50.5) | 87(69.6) | | |

Notes: *p-value<0.2 **p-value<0.05 | =reference.

approach that involves creating a positive social environment that gives cues about acceptable behavior. This tactic could be included within an approach that emphasizes observational learning and skill-building.⁵² This might be because individuals who feel less support may choose to practice by themselves and may need to take personal responsibilities for their health and report more competence.

This study found that participants who had sexual experience were more likely to use condoms than those who had no previous experience using condoms. This result is similar to the findings of a study done in Nigeria.³⁶ This positive association between sexual experience and condom use is due to the fact that self-efficacy is developed through successful accomplishments in previous experience. Having successfully

used condoms in past experience thus contributes to an individual’s sense of self-efficacy regarding condom use.

Our findings revealed that study participants who had life goals were significantly associated with self-efficacy on condom use. This result was in agreement with a finding of research conducted on a sample of 7409 sexually active 15–24 years old South African youth.^{30,53} This is supported by the social cognitive model in which long-range goals and opportunities in life contribute to condom using behavior.

Conclusions

The finding of this study showed that participants who had sexual experience, social support, knowledge of condom, and having life goals were found to be significantly associated with condom use self-efficacy. These results suggest ways to

increase self-efficacy for condom use among youth that can increase the effectiveness of future interventions for youth.

Abbreviations

AIDS, acquired immune deficiency syndrome; AOR, adjusted odds ratio; COR, crude odds ratio; HIV, human immune virus; United Nations Aids for International Development; UNEFPA, United Nations Fund for Population Activities; SPSS, Statically Package for Social Science; STI, sexually transmitted infection; WHO, World Health Organization.

Data Sharing Statement

The data that support the findings of this study are available but some restrictions may apply to the availability of these data as there are some sensitive issues. However, data are available from the corresponding authors upon reasonable request.

Ethical Approval

Ethical clearance letter was obtained from Wolaita Sodo University, College of Health Sciences; Department of Midwifery institutional review board. Written permission letters were obtained from Sodo town educational office. According to the basic principles of the declaration of Helsinki, participants were informed about the right to self-determination and right to make an informed decision regarding participation in the research, the welfare of the subject taken precedence over the interest of science and society, ethical considerations were taken based on laws and regulations, and also their rights were kept. The participants were told about the objectives of the study and reassured about the confidentiality of the findings. Written consent was obtained from each participant. For those who were at the age of less than 18 written parental consent was also taken from each respondent's parent to participate in the study.

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Author Contributions

All authors contributed to data analysis, drafting or revising the article, gave final approval of the version to be published, and agree to be accountable for all aspects of the work.

Authors' Information

- Natnael Atnafu Gebeyehu and Kebraab Paulos Chanko are Lecturers in the Department of Midwifery, College of Health Science and Medicine, Wolaita Sodo University, Wolaita Sodo, Ethiopia
- Yibeltal Mesfin Yesigat is a lecturer in the Department of Midwifery, College of Health Science and Medicine, Wolikite University, Wolkitie, Ethiopia

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Disclosure

The authors declare that they have no competing interests.

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