(CIJST) 3007-3847 (Online) Vol. 1(1)

CAVENDISH INTERNATIONAL JOURNAL OF SCIENCE AND TECHNOLOGY (CIJST)

RESEARCH ARTICLE

DETERMINANTS OF CONSISTENT CONDOM USE AMONG STUDENTS IN KAMPALA: A CROSS-SECTIONAL CASE STUDY OF CAVENDISH UNIVERSITY UGANDA

Begekya Mugay Gedeon[1]*; Kimwise Alone[2]; Ismail Lukwago[3]

[1,2]Faculty of Science and Technology, Cavendish University Uganda
[3]St. Peter's University, Uganda

*bm40215@students.cavendish.ac.ug

Open Access

Vol. 1(1):
https://journals.cavendish.ac.ug/index.php/cjst/article/view/18/15

August, 2024

Abstract

Background: This study aimed at assessing determinants of consistent condom use among students in Kampala using a cross-sectional case study of Cavendish University Uganda. Unprotected sex poses a significant public health risk, particularly among young people, including university students, who engage in risky sexual behavior. Studies conducted in Uganda have shown that university students frequently engage in unprotected sex, including the lack or inconsistent use of condoms leading to high risks of Sexually Transmitted Infections and unplanned pregnancies. The importance of addressing the issue of condom use among students at Cavendish University Uganda (CUU) cannot be overstated as the university attracts a diverse student body from various African countries, many of which are highly affected by the HIV pandemic:
Methods: This study used a descriptive cross-sectional design employing quantitative data collection methods.
Results: Age demonstrated a strong negative correlation with consistent condom use. Male students were more likely to report consistent condom use compared to females. Students identifying as Muslim or Protestant were more likely to report consistent condom use than Catholic believers. Positive correlations were observed between consistent condom use and knowledge level, perceived risk, and self-efficacy. Additionally, students who discussed HIV/condom use with their partners and those aware of their partners' HIV status showed a higher likelihood of consistent condom use. Having a single sexual partner and using condoms during the first sexual encounter predicted consistent condom use.
Conclusion: The study concluded that various factors, including age, gender, religion, knowledge, risk perception, self-efficacy, social norms, communication with partners, awareness of partners' HIV status, number of partners, and condom use during first sex, predict consistent condom use among CUU students, and recommended targeted awareness campaigns on sexual and reproductive health, emphasizing condom use among CUU students.

Keywords: *Consistent Condom use, Unprotected Sex, Sexually Transmitted Infections*

INTRODUCTION

Background

Condoms are flexible, sheath-shaped objects used during sexual activity to act as a physical barrier to vaginal and penile contact and to lower the risk of Sexually Transmitted Diseases (STDs) or unintended pregnancies (Brazier, 2017). There are two different kinds of condoms: male condoms, sometimes known as external condoms, and female condoms. Before any contact with the penis, female condoms are placed within the woman's vagina, whereas male condoms are worn on the penis (Gordon, 2022). Evidence from various credible sources indicates that condoms are 85% to 98% effective at preventing pregnancy and protecting against STDs, such

as human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS), chlamydia, and gonorrhea, among others. When condoms are used properly, 98 out of 100 pregnancies are avoided per year, compared to 82–85 when they are not (Khatri, 2021; National Health Service [NHS], 2020). Condoms are the only birth control method that has less severe side effects than other artificial birth control methods, such as emergency tablets, an intrauterine device (IUD), and other injectable contraceptives, which can prevent HIV/AIDS and other STDs (Mayo Clinic, 2022 & NHS, 2020).

This study was guided by the following objectives**;** To assess the personal factors associated with consistent condom use practices among students at Cavendish University, Uganda. To explore the environmental factors associated with consistent condom use among students at Cavendish University, Uganda. To establish behavioral factors associated with condom use among students at Cavendish University, Uganda

According to SOS CHILDREN'S VILLAGES (n.d.), Sub-Saharan Africa (SSA) had over 25.5 million individuals living with HIV/AIDS, and 730,000 people died from the disease in 2016. Furthermore, 29%–33% of all pregnancies in the region are unintended, with over half resulting in unsafe abortions. Given that condom use is believed to help prevent STDs and unintended pregnancies, it is essential to encourage its use in the region.

Despite these facts, studies indicate low levels of condom use among university students in the region. A meta-analysis that included 44 studies conducted among university students in SSA, with a total of 27,948 participants, revealed that a very low proportion of students, only 53 individuals, reported using condoms during their most recent sexual encounter (Izudi et al., 2022). Similarly, a study of female university students in Tanzania found that only 24.3% of them used condoms (Somba et al., 2014). Another study conducted in Ethiopia revealed that approximately eight out of ten university students did not use condoms with non-regular partners during sexual intercourse (Tura et al., 2012).

Similar results have been observed in numerous other studies of students at both national and international universities in Uganda. For instance, around four and five out of ten male and female university students who had ever engaged in sexual activity, respectively, had inconsistently used condoms, according to a study by Mehra et al. (2014). Furthermore, less than three in ten (just 22 percent) students at Kampala International University (KIU) western campus have always used condoms as of 2017 (Arthur, 2017). The above studies have found that only a small percentage of university students in Uganda use condoms during sexual activity. Therefore, this study sought to identify the factors associated with consistent condom use and explore potential interventions to promote condom use among university students.

Study Aim:

The purpose of this research paper was to assess the determinants of consistent condom use among students in Kampala using a cross-sectional case study of Cavendish University Uganda.

Methods:

This used descriptive and cross-sectional design and quantitative data collection techniques. This study explored the characteristics that determine consistent condom use, and numerical data were gathered from a particular population and period

Results:

Personal factors associated with consistent condom use practices among students at Cavendish University. Analyzing the age distribution of respondents, the youngest was 18, the oldest was 30, and the mean age was 25.4, with a standard deviation of 3.7.

Table 1: Description of respondents' age

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
AGE	336	12,00	18,00	30,00	25,4048	3,70274	13,710
Valid N (listwise)	336						

Table 2: Description of demographic data

		Count	Table N %
Gender	Female	160	47,6%
	Male	176	52,4%
	Total	336	100,0%
Marital status	Married	48	14,3%
	Single	288	85,7%
	Total	336	100,0%
Nationality	Burundian	8	2,4%
	Congolese	72	21,4%

	South Sudanese	32	9,5%
	Ugandan	216	64,3%
	Other	8	2,4%
	Total	336	100,0%
Religion	Catholic	88	26,2%
	Muslim	24	7,1%
	Protestant	128	38,1%
	Other	96	28,6%
	Total	336	100,0%
Study program	Bachelor's	256	76,2%
	Diploma	40	11,9%
	Master's	40	11,9%
	Total	336	100,0%

Based on statistics, the majority of respondents were male (52.4%) and single (85.7%). The predominant nationality was Ugandan (64.3%), followed by Congolese (21.4%) and South Sudanese (9.5%). In terms of religion, Protestants constituted the largest group (38.1%), followed by other religions (28.6%), and Catholics (26.2%). Only 7.1% of the respondents were identified as Muslims. The "Other" category included those who identified as born again, Jehovah's Witness, atheist, or having no religion. Regarding the study program, bachelor's students comprised the majority (76.2%), followed by diploma and master's students (11.9% each).

Table 3: Assessment of respondents' condom knowledge

		Count	Table N %
What is a condom for?	Prevent HIV/AIDs and other STDs	47	14,0%
	Stop pregnancies	17	5,1%
	Stop pregnancies and prevent HIV/AIDs and other STDs	235	69,9%
	To enhance sexual pleasure	37	11,0%
	Total	336	100,0%
Which type of condom do you know?	Both male and female condoms	131	39,0%
	Don't know any.	8	2,4%
	Female condom	4	1,2%
	Male condom	193	57,4%
	Total	336	100,0%
Using condoms during sex is an effective way to prevent HIV/AIDs and other STDs	I agree	233	69,3%
	I disagree	95	28,3%
	I don't know	8	2,4%
	Total	336	100,0%
Using condoms during sex is an effective way to prevent pregnancies	I agree	236	70,2%
	I disagree	100	29,8%
	Total	336	100,0%

As depicted above, around 70% of the respondents were aware that condoms serve the purpose of preventing both pregnancies and STDs. However, only 39% of respondents were knowledgeable about both male and female condoms, while 57.4% were only acquainted with male condoms. A significant proportion of

respondents (69.3% and 70.2%) agreed that condoms were effective in preventing STDs and pregnancies, respectively.

Table 4: Assessment of respondents' condom perceived risk

		Count	Table N %
Using a condom during sex interferes with sexual pleasure	I agree	229	68,2%
	I disagree	64	19,0%
	I don't know	43	12,8%
	Total	336	100,0%
Using condoms during sex has negative consequences such as breakage and discomfort	I agree	216	64,3%
	I disagree	94	28,0%
	I don't know	26	7,7%
	Total	336	100,0%
There is a high risk of having allergic reaction to condoms	I agree	230	68,5%
	I disagree	61	18,2%
	I don't know	45	13,4%
	Total	336	100,0%
Using condom affects the emotional intimacy in a sexual relationship	I agree	230	68,5%
	I disagree	72	21,4%
	I don't know	34	10,1%
	Total	336	100,0%

As indicated in the table above, a significant majority of respondents (68.2%, 64.3%, 68.5%, and 68.5%) agreed with the notion that condoms interfere with sexual pleasure, carry negative consequences such as breakage and discomfort, pose a high risk of allergic reactions, and impact emotional intimacy, respectively.

Table 5: Descriptive statistics of respondents' condom use self-efficacy

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Ability to discuss condom	336	4,00	1,00	5,00	2,1488	1,33669	1,787
Confidence in buying/asking for condom	336	4,00	1,00	5,00	2,2411	1,32426	1,754
Confidence in Initiating condom Use	336	4,00	1,00	5,00	2,3393	1,33977	1,795
Ability to refuse sex without condom	336	4,00	1,00	5,00	2,2232	1,42500	2,031
Valid N (listwise)	336						

Participants were asked to rate their confidence and ability to engage in discussions about condom use with a sexual partner, purchase or request condoms, initiate condom use during sexual activities, and decline sexual intercourse without a condom on a one-to-five scale. The mean scores for these categories were 2.15, 2.24, 2.34, and 2.22, with corresponding standard deviation scores of 1.34, 1.32, 1.34, and 1.42, respectively, as presented in the above table.

Table 6: Descriptive statistics of condom knowledge level, perceived risk, and self-efficacy

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Knowledge level	336	5	1	6	4,35	1,251	1,566
Percieved Risk	336	4,00	,00	4,00	,8661	1,01183	1,024
Self Efficacy	336	16,00	4,00	20,00	8,9524	4,12826	17,043
Valid N (listwise)	336						

The respondents' knowledge was evaluated through four items, with two featuring multiple-choice questions scored at four points (one point for each correct answer) and two Likert scale questions scored at two points (one point for each affirmative response). Perceived risk was gauged using four Likert-scale questions scored at four points (1 point for each positive answer). Additionally, self-efficacy was measured using four Likert scale questions on a scale of 1 to 5, resulting in a maximum possible score of 20 points for this variable. The table above indicates that the knowledge level scores ranged from 1 to 6, with a mean score of 4.35 and a standard deviation of 1.25. The perceived risk scores ranged from 0 to 4, with a mean score of 0.87 and a standard deviation of 1.01. Respondents' self-efficacy also ranged from 4 to 20, with a mean score of 8.95 and a standard deviation of 4.13.

Environmental factors associated with consistent condom use among students at Cavendish University.

Table 7: Description of respondents' Discussion about HIV and condom use with partners and Knowledge of partner's HIV status

		Count	Table N %
Discuss HIV/Condom use with sexual partner	No	128	38,1%
	Yes	208	61,9%
	Total	336	100,0%
Knowing HIV status of sexual partner	No	104	31,0%
	Yes	232	69,0%
	Total	336	100,0%

As indicated in the aforementioned table, over half of the respondents (61.9% and 69%, respectively) reported having engaged in discussions about HIV or condom use with their sexual partners and were aware of their partners' HIV status.

Behavioral factors associated with condom use among students at Cavendish University, Uganda.

Table 8: Description of respondents' Number of sexual partners, condom use during fist sex, and alcohol/drug use during sex

		Count	Table N %
Number of sexual partners	I don't have any	120	35,7%
	One	136	40,5%
	Two or more	80	23,8%
	Total	336	100,0%
Used condom during first sex sexual activities	Yes	113	33,6%
	No	223	66,4%
	Total	336	100,0%
Alcohol/drug use during sex	No	264	78,6%
	Yes	72	21,4%
	Total	336	100,0%

As highlighted above, less than half of the respondents (40.5%) reported having only one sexual partner, whereas nearly a quarter (23.8%) acknowledged having multiple partners. Concerning the use of condoms during their first sexual encounter, a majority of respondents (66.4%) indicated using condoms. Additionally, most respondents (78.6%) reported abstaining from or not using any drugs or alcohol during or before participating in sexual activities.

Table 9: Descriptive statistics of age at first intercourse

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Age at first sex	336	17,00	9,00	26,00	14,3750	3,17300	10,068
Valid N (listwise)	336						

As outlined in the table, the youngest reported age at the first intercourse was 9 years, while the oldest was 26. The mean age at first intercourse was 14.38, with a standard deviation of 3.17.

Table 10: Association between consistent condom use and age

			95% Confidence Intervals (2-tailed)[a]	
	Pearson Correlation	Sig. (2-tailed)	Lower	Upper
Age and Consistent condom use	-,625	,000	-,686	-,555

a. Estimation is based on Fisher's r-to-z transformation.

As depicted above table, there is a moderately high negative correlation between consistent condom use and respondents' age, with a Pearson correlation of -0.625 (95% CI: 0.686-0.555).

Table 11: Association between consistent condom use and knowledge level, perceived risk, as well as self-efficacy

			95% Confidence Intervals (2-tailed)[a]	
	Pearson Correlation	Sig. (2-tailed)	Lower	Upper
CONDOM - KNOWLEDGE	,502	,000	,418	,578
CONDOM - Percieved_Risk	,560	,000	,482	,629
CONDOM – Self-efficacy	,667	,000	,603	,723

a. Estimation is based on Fisher's r-to-z transformation.

The table above highlights a significant association between consistent condom use and all the mentioned independent variables. The statistical calculations reveal a strong positive correlation between consistent condom use and knowledge level (Pearson correlation of 0.502, 95% CI: 0.418-0.578), perceived risk (Pearson correlation of 0.560, 95% CI: 0.482-0.629), and self-efficacy (Pearson correlation of 0.667, 95% CI: 0.603-0.723).

Table 12: Association between consistent condom use and discussion about HIV/condom use with partners and Knowledge of partner's HIV status

		Consistent condom use		Exp(B)	95% C.I.for EXP(B)	
		Yes	No		Lower	Upper
Discuss HIV/Condom use with sexual partner	Not	32	96	1,000		
	Yes	64	144	1,333	,811	2,191
Knowing HIV status of sexual partner	No	24	80	1,000		

	Yes	72	160	1,500	,879	2,559

As indicated in the above table, the odds of consistently using condoms were 1.33 and 1.5 times higher among student respondents who discussed HIV/condom use issues with their sexual partners and those who reported knowing their partners' HIV status, respectively.

Table 13: Association between consistent condom use and number of sexual partners, condom use at first sex, and alcohol/drug use during sex

		Consistent condom use		Exp(B)	95% C.I.for EXP(B)	
		Yes	No		Lower	Upper
Number of sexual partners	Two or more	16	80	1,00		
	One	78	106	3,679	1,997	6,780
	Don't have any	2	54	,185	,041	,838
Condom use at first sex	No	55	168	1,00		
	Yes	41	72	1,739	1,066	2,838
Alcohol/drug use during sex	No	80	184	1,00		
	Yes	16	56	,657	,355	1,215

The table above indicates that respondents with single sexual partners were 3.68 times more likely to report consistent condom use compared to those with multiple partners. Condom use at first sex served as a protective factor against inconsistent condom use, with an odds ratio of 1.74 among students who used condoms during their first intercourse. However, there was no significant association between consistent condom use and the use of alcohol/drugs during sexual activities. Students who reported using alcohol/drugs during sex were 0.66 times less likely to report consistent condom use compared to their counterparts.

Table 14: Association between consistent condom use and age at first debut

			95% Confidence Intervals (2-tailed)[a]	
	Pearson Correlation	Sig. (2-tailed)	Lower	Upper
Condom Use – Age at first sex	,027	,624	-,080	,133

a. Estimation is based on Fisher's r-to-z transformation.

As depicted above table, there is a moderately high positive correlation between consistent condom use and respondents' age at first sex, with a Pearson correlation of 0.624 (95% CI: -0.08-0.133).

Discussion:

Personal factors associated with consistent condom use among students at Cavendish University, Uganda.

This study sought to investigate the personal factors associated with consistent condom use among respondents. The findings revealed that, as the respondents' age increased, the consistent use of condoms decreased. Similar findings were obtained in Ethiopia, where younger students were more likely to use condoms during sexual intercourse than older students (G/selassie et al., 2013). Considering that, on average, student participants in this study were 25 years old, a probable reason for this could be that as students age, they tend to engage in more serious relationships such as marriage or cohabitation, have fertility desire, and trust their sexual partners more, thereby preventing them from using condoms. The findings from the present study show that the likelihood of consistently using condoms was much greater among male respondents than among their counterparts. This finding is supported by a cross-sectional study (Moreira et al., 2018), which found a higher likelihood of condom use among male. However, this is contradicted by a Kenyan study (Nesidai et al., 2011), in which female university students used condoms more than males. This confirms that gender plays a critical role in predicting condom use; however, the relationship may not be straightforward and may vary depending on the population being studied. Consistent with previous studies (Agardh et al., 2011; Nesidai et al., 2011), religion-predicted condom use in this study strongly supports the fact that, in the African setting, people still hold

different cultural and religious beliefs that discourage the consumption of Sexual and Reproductive Health services, including condom use. The present study further lent credence to studies that revealed that knowledge, perceived risk, and self-efficacy predict condom use (Nwozichi et al., 2016; Parajuli et al., 2021; Tarkang, 2015) and agree with several health behavior theories. Comprehensive knowledge raises awareness of condom benefits, perceived risks encourage unsafe sex risk preventive measures, and higher self-efficacy enables individuals to overcome safe sex barriers, fostering the adoption of protective behaviors such as consistent condom use.

Environmental factors associated with consistent condom use among students at Cavendish University, Uganda.

Extending the insights from previous studies, this study illustrates the interconnected nature of social norms in shaping condom use. Partners' refusal and cultural/social beliefs emerge as critical aspects of these norms that impact interpersonal dynamics and broader societal values. This concurs with the prior literature that reveals the important role of social norms in impacting condom use (Pinyaphong et al., 2018; Sakeah, 2017). Consistent with a cross-sectional study of two Nigerian universities (Ajayi et al., 2019), this study showed that there was a 33% and 50% increase in the likelihood of using condoms consistently among students who discussed condom use/HIV issues with sexual partners and who knew the HIV status of their sexual partners, respectively. Considering that more than half of the respondents engaged in HIV/condom use dialogues and knew the HIV status of their sexual partners, an evident explanation is that discussing HIV/condom increases acquisition for health education and a greater understanding of risks associated with unsafe sexual practices. Additionally, such discussions serve as a motivational element within the couple, fostering shared commitment and safe sex and family planning. Furthermore, knowing a partner's STD status is a significant factor motivating precautionary measures, especially in instances where one partner is infected.

Behavioural factors associated with consistent condom use among students at Cavendish University, Uganda.

Consistent condom use among CUU students could be influenced by different behavioral factors. In this study, the odds of consistent condom usage were higher among students who reported having one sexual partner and using condoms during first sex. This finding corroborates a study (Tarkang 2013) in Cameroon, which found that students with a single partner were more likely to have condom-protected sex than those with multiple partners. However, in a Nepali study (Parajuli et al., 2021), students with multiple partners were more likely to report condom use. In the present study, the observed higher condom use among students with a single partner may have been influenced by several factors beyond the frequency distribution of the number of sexual partners. While acknowledging this finding, it is important to consider that individual attitudes, relationship dynamics, and risk perceptions can also play pivotal roles in shaping condom use behaviors. On the other hand, using condoms at first sexual encounter was associated with condom use in previous studies (Nkomazana and Maharaj, 2013; Siu et al., 2021), thereby corroborating the findings of the present study. This may be explained by the fact that initiating condom use during the first sex encounter may contribute to the development of a positive perception of condoms. However, this positive perception may diminish over time due to external factors such as discouragement or peer influence. Research has shown that alcohol and drug abuse have detrimental effects on condom usage among students (Mehra et al., 2014). However, the present study did not find any significant association between condom use and alcohol or drug abuse. Very few students (21.4 %) reported alcohol and drug abuse during sex in this study. This could be the probable reason for the lack of a significant association between alcohol and drug abuse and the dependent variable. In this study, age at first sex did not predict consistent condom use, as identified in previous studies (Moreira et al., 2018; Ybarra et al., 2012). The lack of an association between age at first sex and condom use in this study can be influenced by the lack of substantial variation in the age of first sex of the respondents (mean = 14.38, standard deviation = 3.17). However, this research acknowledges that this is not the only reason for this.

Conclusion

This study reveals that the level of consistent condom use among Cavendish University students in Uganda is legal. In terms of personal factors, this study shows that age is inversely related to consistent condom use, with older students exhibiting a lower likelihood of using condoms consistently. Gender differences were also observed, with male students showing a significantly higher probability of consistently using condoms than their female counterparts. Additionally, religious beliefs play a role, as individuals identifying as Muslims or Protestants are more likely to report consistent condom use than Catholics. Knowledge, perceived risk, and self-efficacy have also emerged as significant predictors of condom use, aligning with health behavior theories that emphasize the importance of comprehensive knowledge, risk perception, and self-efficacy in promoting protective behaviors. Environmental factors, such as discussions about HIV and condom use with sexual partners and knowledge of partners' HIV status, were associated with a higher likelihood of consistent condom use. Social norms, partner dynamics, and cultural beliefs also played a crucial role in shaping condom use practices among the study participants. Behavioral factors highlighted the importance of having a single sexual partner and using condoms during the first sexual encounter as factors associated with consistent condom use. However, the study did not find a significant association between alcohol/drug use during sex and condom use, possibly because of the low prevalence of such behaviors among the respondents.

Acknowledgment

The lead author wishes to extend his heartfelt gratitude to all co-authors for their contribution to the success of the manuscript.

Competing Interests

The author declares that there are no conflicts of interest related to this study.

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