The role of gender and religion as determinants of condom use among university students; a quantitative survey

Abstract

Background: HIV transmission remains a public health concern, with many adolescents and young adults engaging in unprotected sex. Inadequate condom uptake rates have been reported among university students, with women recording relatively lower condom uptake. Religion remains a determinant of condom uptake in certain contexts.

Objective: To examine the role of gender and religion as determinants in condom use among university students.

Methodology: a descriptive cross-sectional survey approach, using a pre-tested structured questionnaire was used to collect data among 132 unmarried undergraduate students. Data was analyzed using the Statistical Package for Social Sciences version 26, using descriptive and inferential statistics.

Results: Results of a cross-tabulation of gender against condom use revealed that males use condoms (73.6%) more than females (63.3%). Also, there was no statistical difference in the mean of both males and females and condom use in a stable relationship based on a student t-test on gender and condom use in a stable relationship ($t=-0.810$, $df=122$, $p>0.05$). Analysis of Variance test of religion and condom use indicated that there was no significant difference between the means of religion and condom use [$F(1,130)=2.759$, $p>0.05$]. The relationship between gender and the barriers to condom use was positive and was statistically significant $r(130)=0.229$, $p<0.05$.

Conclusion and Recommendation: The university curriculum should be reviewed to incorporate reproductive health education as a course for students to acquire more knowledge on current reproductive health issues, including condom use.

Key words: Condoms, contraception, HIV, STI, university, students

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Background

In sub-Saharan Africa, HIV transmission remains a public health concern, with many adolescents and young adults engaging in unprotected sex; including transactional sex; and reporting inconsistent condom use (Ajayi et al, 2017). A relatively slow response to the HIV pandemic and a seeming reluctance to address culturally sensitive issues such as sexual activity before marriage in certain parts of the African continent are to blame for the continuous rising trends in new HIV infections (Gökengin, Doroudi, Tohme, Collins, & Madani, 2016).

Global rates on consistent condom usage rates among young, sexually active people range from 4 to 52.4 % (Wong et al., 2017). These statistics are however inadequate to provide optimum protection and reduce STD transmission. Consistent condom use among young people is even the more important because young people are more likely to contract HIV and other STDs due to certain social, cultural, economic, and systemic factors which make it more likely for them to participate in risky sexual activity. HIV transmission is predominantly as a result of heterosexual intercourse in Africa (UNAIDS, 2014), with evidence suggesting that condom use can be a healthy, inexpensive, and feasible way to avoid not only contracting of HIV and other STIs, but also unplanned births (Asante & Doku, 2010).

Empirical data suggests that STIs, especially HIV, continue to be a source of concern among Ghanaian university students (Appiah-Agyekum & Afi Kayi, 2013; Fiaveh, 2011). These students have been found to not be using condoms regularly. They have also been found to have multiple sexual partners, placing them at risk for STDs such as HIV (Appiah-Agyekum & Afi Kayi, 2013). Available research points to the fact that when young people are given the relevant behavior change knowledge, skills, and resources in an enabling setting, they are more likely to adopt healthier lifestyles such as use of condoms, and this makes them less likely to be vulnerable to STIs including HIV and AIDS (Onokerhoraye, 2012). A recent study conducted by Elsheikh, Hoving, & Hein, (2020) on the factors that influence condom use among Ugandan students found that the majority of sexually active male and female participants had the bulk of their sexual practices being unprotected. Condoms were only used by a few of them regularly. Those who had attended HIV training sessions were more likely to use condoms on a regular basis than those who had not (Elsheikh, Hoving, & Hein, 2020).

Literature on contraception use suggests that almost all sexually active women have used some form of contraception at some stage in their lives. Despite these high rates of contraception use, condom use is still very low. Condoms are used by only 10.2 % of all women. Majority of women have been reported to prefer hormonal methods such as tablets, particularly women who are also university students (Osei et. al, 2014). It has been further reported that some individuals feel the usage of condoms during sexual intercourse is unromantic (Alvarez and Garcia-Marques 2011). Alvarez and Garcia-Marques (2011) further reported that while individuals perceived condom use to be a responsible, safer sex practice, most felt that not using condoms during sexual encounters was more enjoyable. Interestingly, individuals who did not employ safer sex practices in this study believed the lack of condom use conveyed intimacy, commitment, and deep affection. Research further suggests that romanticism may be more important in sexual encounters than safer sex responsibility among college students.

According to Stephen et al. (2011), condom information and understanding are almost universal in Ghana, but condom use is less than optimal. Also, some university students are indifferent to their serological status. University students unaware of the dangers they face can overlook the value of protective behaviors such as condom usage. As a result, they are more prone to HIV/AIDS and other STDs, as well as unintended pregnancy and abortion (Somba, Mbonile, Obure, and Mahande, 2014). According to the literature, there is a clear correlation between socio-demographic characteristics and condom use. Bankole and colleagues found that being exposed to condom usage exhibits, age, sex education, exposure to mass media, religion and education were all important factors in the decision to use condoms among 12–19-year-old males

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and females in Burkina Faso, Ghana, Malawi, and Uganda using data from the 2014 National Adolescent Survey. (Bankole and associates, 2017).

In the light of these issues, there is the need for the development of novel strategies to boost the number of young people who regularly use condoms. This paper thus aims to add on to existing literature by examining gender and other factors such as religion as determinants of condom use among university students.

The specific objectives for this paper are as follows:

1. To assess the differences in condom use among the two genders of university students.
2. To examine the difference in condom use among university students of various religions.
3. To examine the relationship between religion and barriers to condom use among university students

In order to achieve these objectives, the study seeks to test the following hypotheses:

1. H_1: there is a statistically significant difference between gender and condom use
2. H_2: there is a statistically significant difference in condom use among university students of various religions
3. H_3: there is statistically significant relationship between religion and barriers to condom use.

Methodology

The study used a cross-sectional survey design using a structured questionnaire designed from the authors' own construct to collect data in a public university in Ghana. The target population was all unmarried undergraduate students at the University. Inclusion criteria included respondents 18 years and above, sexually active and willing to participate in the study. The estimated population of students in the main campus was about 50000. The sample size was calculated using the Slovin's formula $n=\frac{N}{1+Ne^2}$, where N is the total population, n is the sample size and e is the error tolerance. N=50000, e=5%=0.05

$n=\frac{50000}{1+50000(0.05)^2} = \frac{50000}{1+125} = \frac{50000}{126} = 396.82 \approx 397$. The Institution has three campuses, so the estimated population of the campus on which the study was conducted was one-third ($\frac{1}{3}$) of the total population on all three campuses. Therefore, the sample size for student in the study campus, $n=\frac{1}{3} * 397 = 132.33 \approx 132$. Face and content validity for the structured questionnaire were established by experts in sexual and reproductive health. The instrument was further pre-tested in a public training college in the same environment with. A Cronbach's alpha coefficient of 0.68 was obtained, which is indicative of internal consistency and reliability of the data collection instrument. The data was analyzed using Statistical Package for Social Science (SPSS) version 26. Descriptive data were presented in the form of frequencies. Inferential statistics tools

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such as Chi square, independent sample t-test, Analysis of Variance (ANOVA) and Pearson correlation coefficient was used to test the significance difference between the variables. Ethical clearance for the study was obtained from the Nyarkotey College of Holistic Medicine IRB. Respondents were taken through a process of informed consent, after which they signed an informed consent form. They were further assured of privacy, confidentiality and anonymity. No respondent was coerced into participating in the study

Results

Socio-demographic data

This section provides information on the respondents' gender, age category (in years), current level, faculty, and religion of a total of 132 respondents who were employed in the study as shown in table 1. Among the respondents N=72, 54.5% were males whiles N=60, 45.5% were females, majority of them were within the age of 21-30 years (N=88, 66.7%), most of them were in level 100 (N=46, 34.8%), most of them were in the faculty of science education (N=61, 46.2%), and finally, the majority of them were Christians (N=102, 77.3%)

Table 1: Socio-demographic information of respondents

Characteristic	Frequency (N)	Percentage (%)
Gender		
Male	72	54.5
Female	60	45.5
Total	132	100
Age category (years)		
Less than 21	21	15.9
21-30	88	66.7
31-40	21	15.9
41 and above	2	1.5
Total	132	100
Current Level		
Level 100	46	34.8
Level 200	32	24.2
Level 300	30	22.7
Level 400	24	18.2
Total	132	100

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Religion		
Christian	102	77.3
Muslim	27	20.5
Traditional	3	2.2
Total	132	100

Table 2: Cross tabulation of gender against condom use

		Condom use in sexual intercourse		
		Yes	No	Total
Gender	Male	53 **76.6%**	19 **26.4%**	72 100%
	Female	38 **63.3%**	32 **36.7%**	60 100%
Total		91 **68.9%**	41 **31.1%**	132 **100%**

Chi square (χ^2) value of 1.614, (df) =1, and **p > .05**

Males use condoms (73.6%) more than females (63.3%), according to the results of the cross-tabulation, the difference was not significant (p> 0.05).

Table 3: Independent sample t-Test of gender and condom use

						t-test for equality of means		95% C. I	
	F	Sig	T	DF	sig (2-tailed	mean diff	error diff	Lower	Upper
Equal variances assumed	3.045	0.083	-0.810	122	0.420	-0.77	0.96	-0.267	0.112
Equal variances not									

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assumed	-0.816	78.286	0.417	-0.77	0.95	-0.266	0.111

(t=-0.810, df=122, **p>.05**).

As to whether there is difference in condom use among males and females, the results was not statistically significant (t=-0.810, df=122, p>0.05). Thus, we reject H_1 and conclude that there is no statistically significant difference in condom use between male and female university students.

Table 4: Analysis of Variance (ANOVA) on religion and condom use

	Sum of Squares	Df	Mean Square	F	Sig
Between Groups	0.639	1	0.639	2.759	0.099
Within Groups	30.111	130	0.232		
Total	30.750	131			

[F (1,130) =2.759, **p>.05**].

The result from the ANOVA test in the table above indicated that there was no statistically significant difference in the use of condoms among students who belong to the various religions [F (1,130) =2.759, p>0.05]. We therefore reject H_2 at the 95% confidence level.

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Table 5: Pearson correlation coefficient of gender and barriers to condom use

Correlations

	Gender	What are the barriers to condom use

	Pearson Correlation	1	0.229
Gender	Sig. (2-tailed)		0.012
	N	132	120
What Are the barriers to condom use	Pearson Correlation	0.229	1
	Sig. (2-tailed)	0.12	
	N	120	120

Correlation is significant at the 0.05 level (2-tailed)

The correlation between them was positive and the test was statistically significant r (130) =0.229, $p<0.05$. We therefore fail to reject H_3

Discussion

The study found that the majority of the respondents were males (N=72, 54.5%), this finding is similar to a study exploring the determinants of condom use among university students in Sudan (Elsheikh, Hoving & Hein, 2020), also Asante and Doku (2010) in a similar study also found that 54% and 46% of their respondents were males and females respectively. Moreover, Nesidai et.al in their study on Knowledge, Attitude and Practice factors associated with condom use among undergraduate Students of a Public University in Kenya (A case of Jomo Kenyatta University of Agriculture and Technology) found that, out of 461 participants were interviewed, majority of them were males, additionally, a study conducted by Devika et. Al (2014) on Inconsistent condom use among Ugandan university students from a gender perspective: a cross-sectional study, found that, 58.78% of their respondents were males.

This current study further revealed that most of the respondents were within the ages of 21-30 years (N=88, 66.7), the results of this study reflect the findings of Tagoe and Aggor (2009), which revealed that higher education students, the majority of whom are between the ages of 20 and 24, are considered to be at a higher risk of sexually transmitted diseases and unwanted pregnancies than the general public. Moreover, similar study on Behavioral Profile and Attitude toward Condom use Among College Students in Southwest Ethiopia revealed that, the mean age of respondents was 19.95 (±2 SD) ranging from 18 to 30 years, Tewodros & Tadesse (2020).

The majority of the respondents were Christians (N=102, 77.3%), out of the three main religions in Ghana used. These findings are consistent with similar studies on religiosity and condom use with a casual sex partner in Ghana, which found that the majority of the respondents (77.2%) were Christians (Badasu et al., 2014), and cultural adaptation to condom use self-efficacy scale in Ghana (Asante & Doku, 2010).

The cross-tabulation of Gender Against condom use revealed that males use condoms (73.6%) more than females (63.3%), according to the results in Table 2, the difference was not significant ($p> 0.05$). Therefore, we fail to reject the null hypothesis. This is in line with a study on condom use among university students in Zimbabwe: Implications for planning and policy (Njabulo& Pranitha, 2012). There is some evidence of a relationship between genders and reporting of condom use in sub-Saharan Africa (Eisele et. al, 2009). Moreover, a study by Walusaga et al., (2012) Gender Difference in Condom use Among HIV Clients in Uganda revealed that, low rates

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of consistent condom use were observed, particularly among women who reported significantly lower rates of consistent condom use compared to men. Half of the male respondents reported always using condoms, compared to roughly one-third of women. A study conducted in Uganda among university students by Mehra et al, (2014) to investigate whether gender differences regarding individual and social factors determine the association between condom efficacy and inconsistent condom use with a new sex partner. Results showed that a total of 1,179 (60.3%) students reported having had their sexual debut. Of these, 231 (37.4%) males and 209 (49.2%) females reported inconsistent condom use with a new sex partner. This indicate that male use condom than females.

Table 3 further shows that there was no statistical difference in the mean of both males and females and condom use in a stable relationship based on a student t-test on gender and condom use in a stable relationship ($t=-0.810$, $df=122$, $p>0.05$). This matches the findings of a previous study on condom use and attitudes among heterosexual college students, which found that "the most common reason for nonuse, among both males and females, was involved in a steady relationship." (Myers & Clement, 1994). Also, Benefo, (2004) in his study found that, about a third of both male- and female-reported relationships (37% and 33%, respectively) included condom use during the last sexual encounter. Moreover, the current findings add to a body of research that has shown condom use is inversely associated with relational measures that characterize the relationship as long-lasting, durable, stable, and/or exclusive (Manning et al., 2012).

Analysis of Variance test (ANOVA) of religion and condom shown in table 4 indicated that there was no significant difference between the means of religion and condom use [$F(1,130)=2.759$, $p>0.05$]. This is noteworthy that a similar study stated that ‘there is no significant relationship between religion and male condom use’ (Schandorf, 2015). Additionally, a study on Religiosity, sexual intercourse and condom use among university student found that there was no statistical significant association between dichotomous measure religiosity and answers to behavioral questions (Dunne et al. 1994). Furthermore, Agardh et al. (2011) in their study on The Impact of Socio-Demographic and Religious Factors upon Sexual Behavior among Ugandan University Students found that, the role of religion seems to have no impact on condom use.

Pearson correlation coefficient on gender and barriers to condom use

The Pearson correlation coefficient shown in table 5 was used to measure the degree of a linear relationship between gender and the barriers to condom use, the correlation between them was positive and the test was statistically significant $r(130)=0.229$, $p<0.05$. This concurs with a study on Gender Differences in Condom Use Behaviour among Students in a Nigerian University (Olley & Rotimi, 2003). Also, Sally et al (2010) in their study on Barriers to Condom Use among heterosexual Male and Female College Students found that, factors analyses on each gender revealed similar barrier factor structures, but the barriers explained more of variance in condom use among women than men.

Summary, Conclusion and Recommendations

Despite the widely investigated nature of condom use in the healthcare literature, this study has revealed that condom use is still a major issue among university students. Due to this, more

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novel strategies need to be employed in order to encourage university, students who may not be in the position to abstain from intercourse, to consistently use condoms so as to protect themselves from unwanted pregnancies and transmitting STIs such as HIV/AIDS.
Government and relevant stakeholders reevaluate policies sexual and reproductive health education, and implement measures which seek to discourage sexual activities among the youth so as to serve as a barrier to prevent the transmission of STDs and sexually transmitted diseases which are at a peak currently.
Furthermore, the university curriculum should be reviewed to incorporate reproductive health education as a course for students to acquire current knowledge on reproductive health issues.
Finally, there should be frequent health education programs by the university community to teach students how to use condoms and also give fresh insight into the effects of unprotected sex and the benefits of using condoms.

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DECLARATIONS

- **Ethics approval**

Ethical approval for this study was obtained from the Nyarkotey College of Holistic Medicine and Technology

- **Consent for publication**

We, the authors, give our consent for the publication of this paper

- **Availability of data and materials**

Data for the study can be obtained from the corresponding author upon reasonable request

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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