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Drivers of Condom use among undergraduate students in Rivers State, South-South Nigeria

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Abstract

Context: There is increasing involvement of young people in unprotected risky sexual practices. This results in unwanted pregnancies and sexually transmitted infections. Condom use is poor among young people. This study assessed drivers of use of condom among undergraduates in South-South Nigeria.
Method: This is a descriptive cross-sectional study conducted among 440 undergraduate students in Rivers State, Nigeria who were selected through multistage sampling. Respondents provided information on their socio-demography, perceptions on condom use, use and reasons for use. Chi square test and logistic regression analysis was done using SPSS version 29. P value was set at $P < 0.05$ and results were presented on tables.
Results: Majority of the respondents were aged 20 – 29 years (n = 283; 64.1%), and single (n = 422, 95.9%). The prevalence of ever users of condom was 91.6%, current users were 30.2% and consistent users were 8.3%. Drivers of condom use were the belief that 'condom is effective in preventing pregnancy/STI' (aOR = 3.013, 95% CI = 1.107 - 8.198); knowing how to effectively use condom competence (aOR = 4.287; 95% CI = 1.578 – 11.644) and level of study (aOR = 0.371; 95% CI = 0.191 - 0.718).
Conclusion: Ever use condom rate was high while current use and consistent use was low. Knowledge of how to effectively use condom, perception of its effectiveness in preventing pregnancy and STIs and level of study were drivers of use. Training programs to encourage consistent condom use and to increase the self-efficacy of adolescents on condom use are recommended.

Keywords: Ever use, current use, consistent use, condom, South-South Nigeria

Introduction

The sexual health of young people is increasingly receiving attention in research and public health programmes and interventions. This is largely because young people who constitute about 23% of world population are more involved in risky sexual behaviour like unprotected sexual activity, transactional sex and having multiple sex partners.[1-3] Furthermore, 70% of them live in developing countries.[4] In Nigeria and elsewhere, young people are increasingly becoming sexually active with declining age of sexual debut.[5] A recent study in Rivers State reported that 27.3% of female adolescents attending a camp meeting have had unprotected sexual intercourse.[6] Similarly 36% of university students in Ogun State were involved in risky sexual behaviour.[7] These risky sexual behaviours expose adolescents and young people to unwanted pregnancies and sexually transmitted infections. According to UNAIDS, young people aged 15-25 years account for about 60% of new HIV infections globally.[3] In Nigeria specifically, the prevalence of HIV among

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undergraduates is higher than the national average due to risky sexual practices of young people. Condoms have been shown as a cost-effective strategy for the prevention of unwanted pregnancies and sexually transmitted infections and to improve the poor indices on sexual and reproductive health of adolescents and young people. Although the knowledge of condoms has been reportedly high among adolescents and young people, its use has remained low despite several intervention programmes to increase uptake. For instance, the task sharing policies of countries in Sub-Saharan African, and effective interpersonal communications between healthcare providers and clients has been implemented to increase access to sexual and reproductive health services including condom.[8,9] Studies has documented the prevalence of condom use among undergraduate students as 27.1% in Malawi, 50.2% and 49.8% respectively among males and females in Uganda and 66.1% in Ethiopia.[10-12] In Nigeria, adolescents and young people who consistently used condom were found to be 38.6% however related studies in parts of Nigeria show a condom use prevalence rate of 27.6% in Plateau State, 33.4% in Nassarawa State, 35.5% in the South-west Nigeria and 35.8% among college students in Kaduna State.[13-16] The rate of condom use among adolescents also varies in Rivers State from 47.3% to 77.6%.[2,17,18]

A systematic review looking at barriers to contraceptive use reported paucity of sexuality education, limited or lack of knowledge of condom, poor access and high sexual risk misperception and also harmful social norms around premarital sex and pregnancy, as barrier to contraceptive use among adolescents in low- and middle-income countries (LMICs).[19] Elshiekh et al. (2023) found that condom users had more risk perception of STI including HIV, more social support and peer norms in favour of condom use, more condoms use cues, higher self-efficacy for condom use and less negative attitude towards condom use and that these factor were determinants of consistent use of condoms.[20]

This study assessed drivers of use of condom among undergraduates in Rivers State, south-south Nigeria. It is hoped that the findings of this study will further inform planners and programme implementers in adolescent sexual and reproductive health space for better programming of adolescent healthcare services.

Materials and Methods

Study Area

This study was carried out in Rivers State in the south-south geopolitical zone of Nigeria. Due to its oil-rich status, the State is cosmopolitan with a vibrant economy. It is also home to a large youth population, many of whom are pursuing higher education in the five higher institutions in the State. Furthermore, Rivers State has an estimated population of 7,183,473 people of which 61% are young people between 15 to 24 years.[21]

Study design

This study adopted a descriptive cross-sectional study design.

Study population

The population for this study were undergraduate students enrolled in institutions of higher learning in Rivers State.

Inclusion criteria

Respondents must be undergraduate students aged 18 years and older, currently enrolled for any of the programs in the Universities in Rivers State and must have been engaged in sexual activity at least once in the past. However, undergraduate students on part-time programs and those with strong cultural or religious beliefs against the use of condoms or who do not have an Android phone were excluded.

Sample size determination

This was estimated using the Cochran formula for single population[21] $n = z^2p\ (1- p)\ /d^2$ where n = sample size; z = the standard normal deviate corresponding to 95% level of significance (1.96); p = prevalence of condom use among undergraduate students in Southern Nigeria, given as 47.3%[18] and e = margin of error, set at 0.05. A minimum sample size of 383 was estimated however, this was increased to 480 to accommodate for non-response.

Sampling technique

Respondents were recruited through a multistage sampling process. Stage One: Two out of the five higher institutions in Rivers State were selected

using simple random sampling by balloting. Stage Two: In each of the two selected institutions, six Faculties were selected by simple random sampling method by balloting resulting in a total of twelve Faculties participating in the study. Stage three: Two Departments were further selected from each of the selected Faculties using simple random sampling method by balloting making a total of 24 Departments. Stage Four: A total of five students per level were selected from four levels in each Department by simple random sampling. Consequently, a total of 480 respondents were selected for the study.

Study data collection

Real-time online data was collected through a self-administered structured questionnaire on Google forms, whose link was sent to phone numbers or email addresses provided by respondents. Respondents provided information on their socio-demographic characteristics, perceptions on condom use, utilization and reasons for its use. To enhance the quality and completeness of data collected, key questions were made mandatory and duplicate submissions were prevented by limiting each respondent to only one entry. Responses were followed up with reminders to respondents whose responses were not received after two weeks.

Data Analysis

Data was cleaned in Microsoft Excel (2022) and exported to the Statistical Package for Social Science (SPSS) statistical software version 29.0 for analysis. Descriptive statistics were conducted and reported as means and standard deviation for continuous variables, and frequencies and percentages for categorical variables. Chi square test was used to determine the association between the explanatory and outcome variables while multinomial logistic regression analysis was done to assess the drivers of condom use. P value was set at < 0.05. Results were presented on frequency tables.

Outcome Variables

Ever use of Condom: This was determined as percentage of participants, or their partners who have used condom during sexual intercourse at any time in the past up to three months prior to data collection.

Current users: proportion of respondents or their partners who used condom during sexual encounters in the last three months prior to data collection.

Consistent use: the proportion of respondents or their partners who used condom regularly during sexual encounters in the last three months prior to data collection.[20]

Ethical considerations

The Rivers State University Teaching Hospital Ethical Review Committee gave ethical approval for the study (RSUTH/REC/2024/638). However informed consent was obtained through the consent form in the Google form which provided the details of the study and an assurance of the confidentiality of information volunteered and their voluntary participation in the study. It was mandatory for respondents to give their informed consent before proceeding.

Results

A total of 480 questionnaires were distributed, and 440 responses were received giving a response rate of 91.7%.

Table 1: Socio-demographic characteristics of respondents

Variables	Frequency (n=440)	%
Age (Years):		
10 – 19	143	32.5
20 – 29	282	64.1
30 – 39	15	3.4
Sex		
Male	232	52.7
Female	208	47.3
Religion		
Christian	438	99.5
Islam	2	0.5
Marital status		
Single	422	95.9
Married	18	4.1
Faculty		
Agriculture	40	9.1
Applied science	60	13.6
Basic Med. Sci.	40	9.1
Engineering	60	13.6
Environmental Studies	60	13.6
Humanities	40	9.1
Management Sciences	100	22.7
Science	40	9.1
Level		
100 level	110	25
200 level	110	25
300 level	110	25
400 level	110	25

Table1 shows that more than half of the participants were aged 20 – 29 years (n = 283; 64.1%), nearly half of them were females (n = 208, 47.3%), almost all of them were Christians (n =438, 99.5%) or single (n = 422, 95.9%).

Table 2: Sex distribution of use of condom among respondents

Variable	Male	Female	Total	Percent
	Frequency (%)	Frequency (%)		
Have you ever had sex				
Yes	232 (52.7)	208 (47.3)	440	100
No	0	0	0	0
Do you currently have a sex partner?				
Yes	220 (52.8)	197 (47.3)	417	94.8
No	12 (52.2)	11(47.8)	23	5.2
Have you ever used a condom?				
Yes	216 (53.6)	187 (46.4)	403	91.6
No	16 (43.2)	21 (56.8)	37	8.4
Currently use condom				
Yes	72 (54.1)	61 (45.9)	133	30.2
No	160 (52.1)	147 (47.9)	307	69.8
Consistent use (n =133)				
Yes	8 (72.7)	3 (27.7)	11	8.3
No	64 (52.5)	58 (47.5)	122	91.7

Table 2 shows that all the respondents (n = 440; 100%) have been sexually exposed, 417 (94.8%) currently have sex partners, 403 (91.6%) have ever used condom and 133 (30.2%) were currently using condom with only 11 (8.3%) of these consistently using condom during sexual intercourse.

Table 3: Reasons for the use of condoms among study respondents who have ever used condoms

Variable	Frequency(n = 403)*	Percentage(%)
It protects against STI's	309	76.7
It prevents pregnancy	286	71.0
Personal beliefs	264	65.5
Partner's preference	232	57.6
Peer influence	76	18.9
Availability of condoms	52	12.9
Cultural beliefs	11	2.7

*Multiple options

The protection from STIs (n = 309; 70%) and prevention of pregnancy (n =286, 65%) were the commonest reasons for the use of condoms by the respondents (Table 3).

Table 4 shows that there is a statistically significant associations between current use of condom and the belief that 'condom makes a partner unfaithful' ($\chi2$ = 3.976; P = 0.046), 'condom is effective in preventing pregnancy/STI' ($\chi2$ = 4.963; P = 0.026), knowing how to effectively use condom ($\chi2$ = 18.890; P < 0.0001) and level of study of respondent ($\chi2$ = 13.395; P = 0.004). However, the belief that 'condom is effective in preventing pregnancy/STI', knowing how to effectively use condoms and the level of study of respondents were predictors of current use of condoms. Respondents who belief that 'condom is effective in preventing pregnancy/STI' were three times more likely to use condom than those who do not (aOR = 3.013, 95% CI = 1.107 - 8.198, p = 0.031); those who know how to effectively use condom were four times more likely to use condom compared to those who lack the competence (aOR = 4.287; 95% CI = 1.578 – 11.644, p = 0.004) while those at 200 level of study were approximately three times less likely to use condom compared to those at 400 level (aOR = 0.371; 95% CI = 0.191 - 0.718, p = 0.003).

Table 4: Drivers of current use of condom among respondents

Variable	Yes	No	χ^2 (P value)	cOR (95% CI)	P value	aOR (95% CI)	P value
Condom makes partner unfaithful							
Disagree	129	282	3.976 (0.046)	0.350 (0.119 - 1.026)	0.056	2.928 (0.971 - 8.829)	0.056
Agree (Ref)	4	25					
I know how to effectively use condom							
Yes	125	236	18.890 (<0.0001)	7.062 (2.142 – 23.286)	0.001	4.287 (1.578 – 11.644)	0.004*
No	3	40		3.284 (1.246 – 8. 655)	0.016	0.630 (0.136 - 2.921)	0.555
Not sure (Ref)	5	31			<0.0001		
Level of Study							
100L	39	71	13.395 (0.004)	1.000 (0.574 - 1.743)	1.000	1.112 (0.621 - 1.990)	0.722
200L	18	92		0.961 (0.552 – 1.672)	0.888	0.371 (0.191 - 0.718)	0.003*
300L	38	72		2.698 (1.422 – 5.116)	0.002	1.023 (0.569 - 1.840)	0.938
400L (Ref)	38	72			0.005		
Multiple Partners							
Yes	84	163	3.817 (0.051)	-	-	-	-
No (Ref)	49	144					
Condom is effective in preventing pregnancy/STI							
Yes	128	276	4.963 (0.026)	2.875 (1.093 – 7.566)	0.032	3.013 (1.107 - 8.198)	0.031*
No (Ref)	5	31					
Partner's Refusal influences condom use							
Agree	9	9	3.479 (0.062)	-	-	-	-
Disagree (Ref)	124	298					

cOR= crude Odd's ratio, aOR-adjusted Odds ratio; Ref= Reference, CI= Confidence Interval

Discussion

The consistent use of condoms for the prevention of unwanted pregnancy and sexually transmitted infections is essential to attainment of sexual health and reproductive rights of adolescents and young people. This study assessed the utilization of condom and its drivers among undergraduate students in Rivers State Nigeria. The findings of this study show that all the respondents were sexually active with nearly all of them (91.6%) as ever users of condom and the prevalence more among males (53.6%) than females (46.4%). Furthermore, current users were 30.2% with males constituting 54.1% and females 45.9% but consistent users were only 8.3% (males: 72.7%; females: 27.3%). Although the prevalence of ever use of condom is high among adolescents and young people in Rivers State, current use is low and consistent use abysmally low to offer adolescents the dual protection of condom from pregnancy and STI. The marked disparity in consistent use of condom between males and females found in this study and in another study among undergraduate students in Ghana,[11] may suggest an inherent inequality in access to condom between both sexes. This may be due to existing male dominance in reproductive health decision making and choices may be inferred by partner's preferences given by respondents as reasons for use of condom. Furthermore, socio-cultural norms on sexual behavior and barriers due to stigmatization, parental influences and the feeling of embarrassment in accessing condom have also been reported as more among females than males in other studies.[22-26] Similarly, females who demand for condom during sexual intercourse are presumed to be promiscuous by their sex partners. In this study there was a statistically significant association between respondents who disagree that 'condoms make a partner unfaithful' and those who agree. This wrong perception that condoms make a partner unfaithful also reinforces these socio-cultural barriers and thus limits access to condom by females.

A lower prevalence of condom use among adolescents has been reported in other studies. For instance, ever use of condom was reported as 38.9% among out of school adolescents in in Oyo State Nigeria,[27] 61.7% among adolescents in Rivers State,[2] 77% among undergraduate students in Nigeria has ever used condom,[28] and 77.6% among undergraduate students in Port Harcourt.[17] Although, a lower prevalence of condom use were reported in these studies, consistent use was higher among university students in Port Harcourt because of the older age of respondents.[17] Furthermore, a much lower prevalence of 53.7% was reported among Gulu University students in Ghana however, it similarly reported that more males (50.2%) than females (49.8%) use condom.[11]

This study showed that majority of respondents were single adolescents and young people who may not be desirous of pregnancy. The fear of unwanted pregnancy and protection from sexually transmitted infection have been documented in related studies as reasons for use of condoms among adolescents.[29,30]

The result further shows that 65.5% of the adolescents have personal beliefs in their ability to use condom and that those who know how to effectively use condoms were four times more likely to use condom during sexual intercourse compared to those who lacked this skill (aOR = 4.287; 95% CI = 1.578 – 11.644). This finding may reflect the role of self-efficacy of adolescents as a driver for the exercise of positive behaviors like the consistent use of condoms. This behaviour during sexual intercourse is required to protect themselves from sexually transmitted infections and pregnancy, which were the major reasons for their use of condoms in this study. Sexual freedom, peer influence, absence of sex education, partner's distrust, reduced sexual pleasure following use of condom and the need to gratify sex urges has also been reported in similar studies as reasons for risky sexual behaviours of adolescents.[22,31] The fact that some adolescents and young people still have these as reasons for non-use of condoms may mean that some of them still hold on to unrealistic ideas and myths on condom which may affect their self-efficacy to use of condoms. These findings have brought to the fore the need for youth-friendly services to ensure proper skills development and building of confidence among young people in the use of condoms through training at the points of services.

This study also found that respondents who perceive that condoms are effective in preventing STI and pregnancy were thrice more likely to use condoms

compared to those who perceive condom as ineffective (aOR = 3.013, 95% CI = 1.107 - 8.198). Furthermore, the protection from unwanted pregnancy and sexually transmitted infections were the most common reason for the choice and use of condoms by respondents in this study. Studies have reported high level of awareness and knowledge of modern contraceptives among adolescents.[32,33] The perception of the effectiveness of condom may be due to its high level of awareness and knowledge among adolescents or through the influence of peers and perceived social approval of important others who the adolescents discuss reproductive health issues with. These factors are strong motivation of sexual behavoiurs among adolescents. Calhoun et al (2022) reported that the perception of peers influences modern contraceptive choices and condom use among adolescents.[34] Similarly Meeker and van Rossem (2011) reported that the contraceptive decision making of adolescents and young people is influenced by the social approval of important other persons whom the adolescent looks up to.[35] Respondents who perceived condom as effective are therefore more likely to use it and thus the perception of its effectiveness may also act as driver for its use.

The level of education of respondents was also found to be driver for condom use. Respondents at 200 level were thrice less likely to use condoms compared to those at 400 level (aOR = 0.371; 95% CI = 0.191 - 0.718). This finding may suggest that as students advance in their academic levels, they may gain better exposure to sexual health education or develop a heightened sense of responsibility toward their sexual health.

The findings of this study may be limited by social desirability bias because of the socio-cultural norms which could affect reporting of sexual issues. However, efforts were made to ensure anonymity of information which could minimize this bias. Furthermore, information obtained from respondents was self-reported. This may be affected by recall bias which may also be a limitation.

Conclusion

There is high prevalence rate of ever use of condoms, however its current use is low and consistent use, abysmally low. Knowledge of how to effectively use condoms, perception of their effectiveness and level of study were drivers of use. Training programs to increase the self-efficacy of adolescents on condom use is recommended.

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