

Full Length Research Paper

Male condom: Knowledge and practice among undergraduates of a tertiary institution in Nigeria.

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University students represent a sexually active segment of the Nigerian population. Their acceptance of male condom would help to reduce the spread of sexually transmitted diseases (STDs) and HIV. This study was conducted to determine the level of awareness and utilization of male condom among the undergraduate students of a tertiary institution in Nigeria. In this descriptive survey, a multi stage sampling was used to select 500 students for the study. A structured questionnaire was used to obtain information about their sexual behaviour, perceived and actual knowledge as well as utilization. Frequencies and proportions were calculated for demographic variables while categorical data were explored using Chi square test. Level of significance was set at $p < 0.05$. Majority of the respondents (54.4%) were age 21-25 years. All respondents were knowledgeable about male condom. The main source of information was mass media (45.2%). The main reason for using male condom was for prevention of sexually transmitted diseases/HIV (65.03%). The rate of consistent condom use was 36.4% and 52.63% with steady and casual partners respectively. Age and marital status were positively associated with better knowledge of condom ($P < 0.001$ & $P = 0.039$ respectively). Religious affiliation did not significantly influence knowledge of condom ($P = 0.238$). Although awareness of condom use has increased, there is a wide gap between its knowledge and practice.

Key words: Condom, awareness, sexual partner, HIV-AIDS, consistent use.

INTRODUCTION

Since 1900, knowledge and application of contraception have been encouraged and promoted and in 1960s, contraception teaching and practice became part of the programme in academic medicine (Speroff and Fritz, 2011). Unwanted pregnancy, sexually transmitted diseases (STDs) and their adverse health consequences are widespread public health problems worldwide (Public Health Progress Review, 2005). An estimated 19 million new STDs occur each year in the United States of America of which 50% are among persons between the ages of 15 and 24 (CDC, 2008). In Nigeria, the prevalence rate of HIV infection in adults aged 15 to 49 is

3.7% and 210,000 deaths were due to AIDS in 2011 (USAIDS, 2012).

Condoms work by blocking fluid transfer between sexual partners so that semen, vaginal mucous, anal mucous, menstrual fluid or blood of one person is prevented from coming into contact with a mucous membrane of a sexual partner (Dodds, 2010).

Barrier methods, particularly condoms, protect against sexually transmitted infections and cervical cancer (CDC, 2013). Laboratory studies have demonstrated that latex condoms provide an essential impermeable barrier to particles the size of STD pathogen, human papilloma virus and HIV (CDC, 2013). Latex and polyurethane condoms provide the best available protection against many STDs, including HIV (ACOG, 2011). Male latex condoms when used consistently and correctly can increase rate of human papilloma virus (HPV) clearance and

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cervical intraepithelial neoplasia (CIN) regression (FSRH, 2012).

The male condom is probably the most widely used mechanical contraceptive in the world today (Burkman, 2007). When used consistently and correctly, male condoms are 98% effective in preventing pregnancy but with typical use (which includes incorrect and inconsistent use) the failure rate is 18% (ACOG, 2011).

The use of male condoms can also be advised for oral sex as a means of reducing the risk of HIV transmission (CSRH, 2012). Individuals living with HIV should be advised to use condoms to prevent onward transmission of HIV, superinfection with different HIV strains, and acquisition of other STDs (National Guidelines, 2012).

Additional advantages of condoms as birth control include low cost, easy access, simple disposal, its non-systemic action and minimal side effects, non-interference with breastfeeding. It can also enhance sexual pleasure by reducing anxieties about the risk of infection and pregnancy (Trussell, 2011).

There are known limitations to condom use. These include non-cooperative partner, irritation and sensitivity to latex, difficulty using condoms correctly and having to use a new condom with every sex act.

Furthermore, condoms may interfere with the process of paternal tolerance, by which exposure of a woman's immune system to semen during unprotected sex may decrease the risk of pregnancy complications like miscarriages and pre-eclampsia in subsequent pregnancies (Einarsson et al., 2003). Continued exposure to partner's semen has a strong protective effect against pre-eclampsia, largely due to the absorption of several immune modulating factors present in seminal fluid (Matter et al., 2005; Bonney EA, 2007).

The failure of all condoms is due to imperfections of manufacturer (about 3 per 1000); and errors in technique. The centre for disease control and prevention provide the following instructions for correct use of male condom (CDC, 1998): A new condom should be used with each act of sexual intercourse; careful handling to avoid damaging it with fingernails, teeth or other sharp object; condoms should be put on after the penis is erect and before any genital contact with the partner; it should be ensured that no air is trapped in the tip of the condom; and adequate lubricant during intercourse.

Only water based lubricant should be used with latex condoms (oil-based lubricants can weaken latex). The condom should be held firmly against the base of the penis during withdrawal and should be withdrawn while the penis is still erect.

Ambivalence about contraception and pregnancy, method side effects, difficulties using methods, and lack of satisfaction with or availability of providers are among the reasons cited for limited utilization of contraceptives

(Frost et al., 2007). A recent report on risky sexual behaviours among American adolescents aged 10-24 years old indicated that 47.8% had engaged in sexual intercourse, and 38.5% of those who were sexually active had engaged in sexual intercourse without a condom (Eaton et al., CDC 2008).

Young people account for a significant proportion of new HIV infections and it is estimated that HIV incidence among persons aged 13-29 years made up 39% of new infections during 2006 to 2009 in the United States (Cai et al., 2013).

Furthermore, young people have high levels of awareness but little in-depth knowledge about pregnancy and HIV prevention (Bankole et al., 2007). The sexual behaviour of undergraduate students which contributes a significant proportion of Nigerian population predisposes them to all forms of sexually transmitted infection, including HIV/AIDS, unwanted pregnancy and unsafe abortion with its associated morbidities (Ekanem et al., 2003, 2005; Ezegwu et al, 2005).

Thus, this study seeks to determine the level of awareness and utilization of male condom among male undergraduate students of the University of Uyo.

AIMS/OBJECTIVES

To determine the level of awareness, perception and utilization of male condom among undergraduate male students of the University of Uyo, Nigeria.

METHODOLOGY

Setting and Study Population

The University of Uyo (Uniuyo) is located in Uyo, the capital of Akwa Ibom State of Nigeria. Akwa Ibom is a major oil producing state in south-south Nigeria. The population of Uyo, according to the 2006 Nigerian Census which comprises Uyo and Itu is 436,606 and area of 1,400km².

The state has major international oil companies although major occupations are farming, trading and civil service. Uyo has an international airport which is about 15 minute drive from the university.

The University was formerly known as the University of Cross River State (Unicross). On October 1991 the Federal government of Nigeria established it as a federal University. University of Uyo has 13 faculties, 73 departments and as at the time of this research, the register showed that 18,657 undergraduate students were enrolled. About ten thousand of this (9722) were males.

Sampling Technique

A multi-stage sampling was used to select participants for this study. In the first stage, simple random sampling technique (balloting) was used to select three (3) faculties. The faculties are: Applied Sciences, Agriculture, and Art/Humanities. Another simple random sampling was used to select two (2) departments from each faculty. All the levels of study in each department were included. The sample size in each class was apportioned according to the numerical strength. In each class the male students were recruited by consecutive sampling until the desired sample size was attained.

Instruments for Data Collection

A structured self administered questionnaire consisting of eighteen questions was used to elicit information from the respondents. The questionnaire was pretested by administering to 30 randomly selected students in the main campus. Content and validity were established using experts from department of public health and statistics.

The study was explained to each participant, confidentiality assured and consent obtained. Section A of the questionnaire obtained information on their demographic profile while section B explored their knowledge on condom including their sexual history. Respondents were asked if they knew about male condom and were asked to rate their knowledge on male condom as excellent, very good, good, fair and poor. This was regarded as perceived knowledge. Six questions on condom including its failure rate, adopted from family planning class of the Teaching Hospital were used to ascertain their actual knowledge on condoms. A score of 3 and above was considered good knowledge, while below 3, poor knowledge. Section C assessed condom utilization, reasons for using condom, consistent and correct use, and reasons for inconsistent use of male condom.

For the purpose of this study, none use of condom was defined as instances where respondents never used a condom with a partner in the last 3 months. Inconsistent condom use was defined as instances where students reported having used condoms sometimes or often but not for every act of sexual intercourse in the last 3 months.

Consistent condom use was defined as instances where respondents always used condom during sex in the last 3 months. Correct use of condom involves consistent use without any of the following: beginning sex without a condom; taking it off before finishing sex; flipping it over; condom breakage or slippage, washing and reusing a condom (Warner et al., 1998).

Data Analysis

Data was entered into Excel Software, coded and analyzed using SPSS version 16. Frequencies and proportion were calculated for demographic data. Association between categorical variables were determined using CHI square test and statistical significant level was set at $p < 0.05$.

RESULTS

Majority of the respondents (54.4%) were between the age of 21 and 25 years. About 9% of them were 20 years and below and only 6% were above 30 years of age. Christianity was the predominant religion (92%), while Islam and traditional African religion faithful accounted for 6.4% and 1.6% respectively.

All the respondents knew about male condom and the main source of information was mass media (45.2%). Parental advice and counseling was an insignificant contribution to the awareness of male condom (1.2%). Figure 1 (Pie chart) gives pictorial analysis of the various means of awareness. The participants were asked to rate their perceived knowledge about male condom and analysis of the data showed that most of them (80%) assumed that they had good knowledge about condom. Using the 6-question scale adopted from the family planning clinic it was found that all those with perceived better knowledge except one scored 3 and above. So the correlation between perceived and ideal knowledge was almost 100%.

In assessing the knowledge of effectiveness of male condom in preventing STDs compared to other forms of contraception, 144 (28.8%) of the respondents strongly agreed that male condom is more effective in preventing STDs/HIV, 220 (44%) agreed, 35 (14%) did not agree while 23 (9.2%) had no knowledge.

Table 1 shows the association between demographic characteristics of the respondents and their knowledge of condom. Older students (25 years and above) were more likely than the younger ones to have adequate knowledge of male condom 91.4% versus 73.2%, $p < 0.0001$. Also, being married was significantly associated with better knowledge of male condom ($p = 0.039$). However, religious affiliations did not significantly affect their perceived knowledge of condom ($p = 0.238$).

Three hundred and sixty two (72.4%) of the respondents admitted having current sexual partners in the last three months. Among them, two hundred and four (56.4%) had one current sexual partner while one hundred and fifty eight (43.6%) had more than one sexual partner.

All these 362 respondents claimed they had used condom

Figure 1. Sources of awareness about male condom

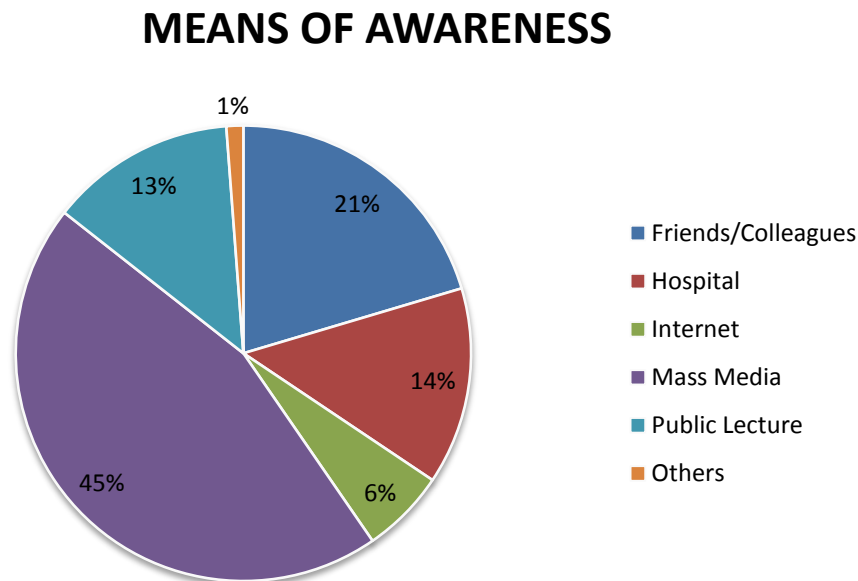


Table 1. Knowledge of condom and demographic characteristics of respondents.

Variable	Good (N=400) Frequency (%)	Poor (N=100) Frequency (%)	Total (N=500)	p-value
Age (years)				
<25	230(73.2)	84(26.8)	314	
≥25	170(91.4)	16(8.6)	186	p=<0.0001
Total	400(80.0)	100(20.0)	500	$\chi^2=24.05$
Marital status**				
Currently married	37(92.5)	3(7.5)	40	
Not married	363(78.9)	97(21.1)	460	p=0.039
Total	400(80.0)	100(20.0)	500	
Religion				
Christianity	372(80.9)	88(19.1)	460	p=0.238
Islam	22(68.8)	10(31.3)	32	$\chi^2=2.87$
Others	6(75.0)	2(25.0)	8	
Total	400(80.0)	100(20.0)	500	

** fischer's exact test.

in the preceding 3 months out of which 132 (36.5%) of them used condom consistently in the last five intercourse with a steady partner and 160 (44.2%) used condom consistently with a casual partner. However, 70

(19.3%) of them had not used condom consistently in the last 5 vaginal intercourse. The main reason for using male condom was for prevention of sexually transmitted diseases/HIV (65.03%).

Table 2. Association between Knowledge and Utilization of male condoms.

Variable	Male Condom Use		Total (N=500)	p-value
	Yes (N=362) Frequency (%)	No (N=138) Frequency (%)		
Knowledge				
Good	310(77.5)	90(22.5)	400(80.0)	p<0.0001 $\chi^2=26.03$
Poor	52(52.0)	48(48.0)	100(20.0)	
Total	362(100)	138(100)	500(100)	

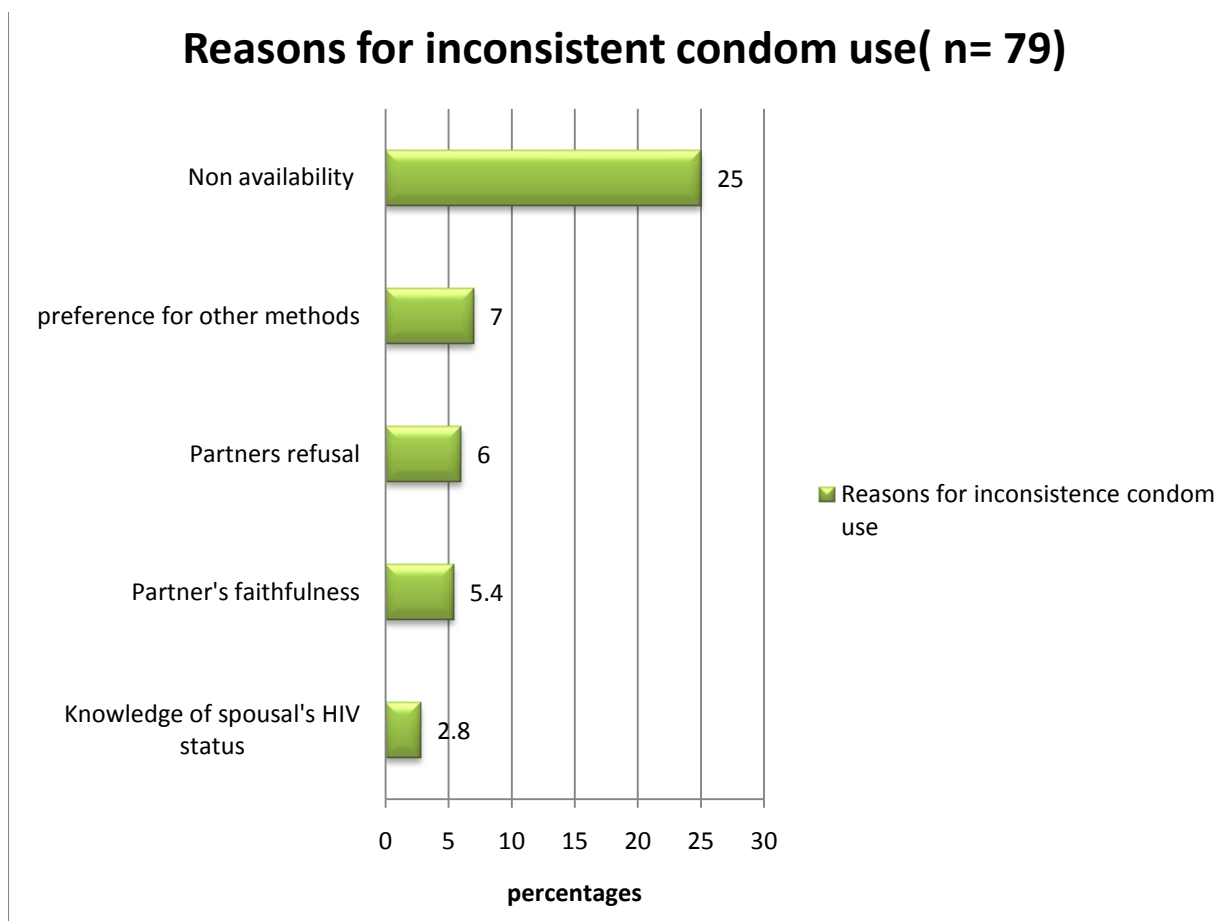
Table 3. Reasons for condom use.

Variable	Marital status		Total (N=362)	p-value
	Married (N=40) Frequency (%)	Not currently married (N=323) Frequency (%)		
Factors				
Availability	15(6.6)	213(93.4)	228	p<0.0001 $\chi^2=31.72$
Affordability	12(21.4)	44(78.6)	56	
Ease of use	1(2.6)	38 (97.4)	39	
Efficacy/ Prevention of STIs/ HIV	12(30.8)	27(69.2)	39	
Total	40(11.1)	322(88.9)	362	

Table II assessed the association between knowledge and utilization of male condom, we found that, overall, those adjudged by the rating to have good knowledge were more likely to utilize condom and the difference was statistically significant at $p<0.0001$, $\chi^2=26.03$.

Table III showed that availability of condom was a major factor that determined its utilization among the unmarried students whereas the married respondents were more likely to use condom because of its efficacy in preventing pregnancy and STDs and affordability ($p<0.0001$, $\chi^2=31.72$).

In assessing for correct and consistent use of condom among the students, only 94 (25.97%) of the condom users did not report any error in the last 3 months. Majority of them did not use condom consistently and the reasons for this are shown in the bar char (figure 2). The commonest factor associated with inconsistent condom use among the respondents was non-availability of condom at the time of sexual intercourse. This was followed by preference for other methods of contraception. Among the older age group, partner's refusal also influenced consistent use of condom.

Figure 2. Reasons for inconsistent Use of condom.

DISCUSSION

There is, currently, increased awareness of male condom as a means of contraception and prevention of STDs/HIV among university students in Nigeria. This is evident by the fact that 100% of the respondents in this study reported knowing about male condom. This may be attributed to their belonging to one of the most educated segments of Nigerian societies. And the fact that majority of the participants in this study are adolescents and young adults (25 years and below) is a good indication that prevention of unwanted pregnancy and unsafe abortion and prevention of STDs/HIV among this at risk population, according to (Cadmus and Owoaje, 2011) is receiving a boost.

Mass media is such a good, effective and reliable means of spreading health information as in this study where 45% of the respondents were informed about the male condom through this source. This is in keeping with findings from other studies (Long et al., 2012; Lou et al.,

2006 and Zhou et al., 2009). In assessing factors associated with condom use among male college students in China by Long et al. (2012), mass media which replaced the school education was recognized as the most important source of reproductive health knowledge among youths. According to Lou C H et al. (2006) and Zhou YZ et al. (2009), mass media is a practical way of delivering health information to young people. Sources of information are important issues in the acquisition of knowledge. This therefore indicates the use of mass media as an important strategy to promote condom use for prevention of STDs. This informs policy makers and health educators on important areas to target in disease control (Ogbe, 2011).

We also discovered a significant knowledge gap between perceived knowledge (what they think they know) and actual (ideal) knowledge. This indicates an information gap that needs to be addressed.

This study revealed that a very high proportion of higher institution students indulged in sexual activity as evident by

72.4% of the respondents who reported sexual intercourse in the last 3 months. A significant proportion of them (43.6%) have multiple sexual partners. This is consistent with findings by Eaton (2008) who reported that 47.8% of American adolescents studied, aged 10-24 years, had engaged in sexual intercourse. However, lower figures were reported in other studies in Nigeria: In the 2008 National Demographic Health Survey (NDHS), 15% of men who had sex in the past 12 months had two or more sexual partners during that time. Also, another survey (NDHS, 2009) reported that 20% of married men were having two or more sexual partners and 33% of married women were in polygamous unions. It is also not consistent with a recent study by Sun et al. (2013) among Chinese college students which only 9% of the students reported having had sex and a minute fraction, 3.6%, had multiple sexual partners. This high sexual promiscuity may be responsible for high rates of STDs/HIV among this age group. Roche (2005) had suggested that parental education should be recommended on how to bring up their adolescents towards positive lifestyle.

In this study, consistent use of condom was low. Among the current sexually active respondents, 36.5% and 44.2% were using condom consistently with steady partner and casual partner respectively. This showed significant disparity between condom awareness and utilization. Similar findings were obtained from previous studies (Hickson, 2009; NHDS, 2009). In a study assessing the sexual HIV prevention needs of African people in England, Hickson (2009) found that among respondents who had intercourse, 41.4% had always used condom during intercourse in the last year, while one third (32.2%) used condom inconsistently and 25.6% had not used condoms at all. The National Demographic Health Survey, NDHS, 2009, also reported that only 46.3% of married men who engaged in extramarital sex used condoms. This is also supported by Eaton (2008) who found that 38.5% of sexually active American adolescents were not using condoms. Another study in China by Zhang (2011) reported a shocking high level, 60%, irregular condom use among female sex workers. Furthermore, correct use of condom, using the CDC criteria was very low. Only 25.97% of the respondents who used condom did not report errors in the last 3 months. Family planning and STD prevention programs should emphasize correct use of condoms.

In this study, better knowledge of condom correlates positively with its utilization and older age (25 years and above) was associated with better knowledge. The commonest reason for inconsistent condom use especially among the younger age group was non-availability of condom at the time of sexual intercourse. Condoms should be provided free or at subsidized rate and made readily available at strategic places like bars, sexual health clinics and clubs to Nigerian youths. Interventions

such as provision of information and skills on one to one basis will significantly contribute to the reproductive health need of young people. According to Bourne, (2009) intimate sexual partners often think their sex is safe enough to stop using condoms. However, safety will rely upon each partner being screened for HIV and other STDs, and both of them remaining monogamous.

Among the older respondents, partner's refusal was another important reason for inconsistent condom use. Perhaps, this is because of knowing the HIV status of the partner, being married, monogamous relationship or perceived decrease sexual pleasure. A study by Bankole (2007) showed that very young adolescents have high levels of awareness but little in-depth knowledge about pregnancy and HIV prevention. The result of our study showed that younger people who initiated sexual activity early are at greater risk for a wide range of sexual and reproductive health problems, as early onset of activity is associated with reduced condom use. Ma (2009) suggested that sex education strategies should be focused on an earlier age.

Contrary to findings from previous study, this study did not identify any significant influence of religion on condom use. For instance, Titilayo et al. (2009) found that level of religiosity was a significant predictor of attitude towards condom use and knowledge of HIV/AIDS prevention. Hickson (2009) also showed that followers of traditional African religion and those with no religious affiliation were more likely than other groups to sometimes use condom. As this study was done in a Christianity dominated area, further study is suggested to assess of the possible influence any of the different Christian denominations like Catholic, protestant and pentecostal on condom use.

Young people often indulge in unplanned sex. Where condoms are costly or uncomfortable, or where friends, family or potential partners regard them as a sign of sexual promiscuity, they are more likely to be used inconsistently. Hickson et al. (2009) found that one third of respondents indicated they would worry about what people thought of them if they carried condoms. This could have contributed to the low utilization of condom in this study especially among the young adults.

Worthy of note is that only a minute proportion of the condom users did not experience problems/errors in the last 3 months. Similar problems were reported in an American study (Reece, 2007) where substantial proportion of the respondents reported problems with fit and feel of condom and that these were associated with condom failure. People should be informed of availability of various sizes of condoms depending on individual's need. Also, use of lubricant helps to avoid condom breaks (Kalichman SC, 2010).

This study revealed that contrary to the widespread speculations and assumptions about condom use, especially

among the population at high risk of acquiring STDs/HIV, much still needs to be done in terms of in-depth understanding and practices regarding consistency and correctness. There is a demonstrable need for youth intervention to be scaled up. Policies on adolescent sexuality and contraception should be promoted. Greater commitment from the federal government is needed in order to provide enhanced resources for health education.

The strength of the study is that it captured the attitude of the sexually active young segment of the university population towards male condom, a group that is most vulnerable to sexually transmitted diseases and in dire need of interventions to prevent sexually transmitted diseases. The findings from the study could be a reflection of knowledge and usage of male condom by other tertiary institutions in Nigeria. The limitation of the study is that it focused on the views of educated university group of young men so these findings may be different among the less educated sexually active youths in the society.

Another limitation of the study as in most other behavioural and cross-sectional surveys is that these data are based on self-reported sexual practices, and may suffer from the problem of underreporting of risk behaviours. The views of the female students about condom were not included in the study but this does not alter the findings that the students were sexually active and had knowledge about preventive aspect of condom though there were issues with consistent usage.

CONCLUSION

Although awareness of condoms as an effective contraceptive method as well as protection against STDs/HIV has increased tremendously in recent years, a great deal remains to be accomplished as this study show that too many university students are not practicing safe sex. Attention must be given to specific skills that people need to use condom correctly and consistently. Condom should be made available and affordable.

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