

Sexual practices and willingness to use female condoms among female undergraduate students of the University of Port Harcourt, Rivers State, Nigeria

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Abstract

Background: The female condom is useful in empowering women to protect themselves from adverse consequences of sexual intercourse but there is a dearth of information about willingness to use this device by young women in Nigeria. This study assessed sexual practices and willingness to use female condoms among female undergraduate students of the University of Port Harcourt, Rivers State, Nigeria.

Methods: This cross-sectional study conducted among 600 female undergraduate students utilized a cluster sampling technique. Thirty out of 78 off campus hostels were selected by simple random sampling. A pre-tested, semi-structured, self-administered questionnaire was used. Data were analysed using descriptive and inferential statistics with significance set at $p=0.05$.

Results: Mean age of respondents was 21.5 ± 2.5 years. Majority of the sexually active respondents (285, 81.7%) had multiple sexual partners 92 (26.4%) while 266 (76.2%) had ever used contraceptives. Only 17 (6.3%) of the 270 respondents who had ever seen the female condom had used it. Main reasons for non-use of female condom were unavailability (32.7%), insertion difficulty (20.1%) and discomfort (17.1%). About a quarter, 154 (27.1%) indicated willingness to use a female condom. Predictors of willingness to use the female condom were being in a relationship (OR=0.49; CI=0.26-0.93) and level of study (OR=1.86; CI=1.2-2.9).

Conclusion: Most respondents were sexually active with evidence of contraceptive use but poor use and a moderate level of willingness to use the female condom. Interventions aimed at improving access and demonstrations of how to use female condoms by health workers can improve use of this method.

Keywords: *Sexual practices, female condom, female undergraduates*

Résumé

Contexte: Le préservatif féminin est utile pour permettre aux femmes de se protéger contre les conséquences néfastes des rapports sexuels, mais il y a un manque d'informations concernant la volonté d'utiliser ce dispositif chez les jeunes femmes au. Cette étude a évalué les pratiques sexuelles et la volonté d'utiliser des préservatifs féminins parmi les étudiantes en licence de l'Université de Port Harcourt, dans l'État de Rivers, Nigéria.

Méthodes : Cette étude transversale menée auprès de 600 étudiantes en licence a utilisé une technique d'échantillonnage en groupement. Trente des 78 auberges hors campus ont été sélectionnées par simple échantillonnage aléatoire. Un questionnaire pré testé, semi-structuré et auto-administré a été utilisé. Les données ont été analysées à l'aide de statistiques descriptives et d'inférence, avec la signifiante fixée à $p = 0,05$.

Résultats: L'âge moyen des répondantes était de $21,5 \pm 2,5$ ans. La majorité des répondantes sexuellement actives (285 ; 81,7%) avaient plusieurs partenaires sexuels 92 (26,4%), tandis que 266 (76,2%) avaient déjà utilisé un moyen de contraception. Seulement 17 (6,3%) des 270 répondants qui avaient déjà vu le préservatif féminin l'avaient utilisé. Les raisons principales de non utilisation du préservatif féminin étaient l'indisponibilité (32,7%), la difficulté d'insertion (20,1%) et le malaise (17,1%). Environ un quart, 154 (27,1%) ont indiqué leur volonté d'utiliser le préservatif féminin. Les prédictors de la volonté d'utiliser le préservatif féminin étaient d'être dans une relation (OR = 0,49; IC = 0,26-0,93) et le niveau d'étude (OR = 1,86; IC = 1,2-2,9).

Conclusion : La plupart des répondantes étaient sexuellement actives et présentaient des preuves d'utilisation de contraceptifs, mais faible utilisation et une volonté modérée d'utiliser le préservatif féminin. Les interventions visant à améliorer l'accès et les démonstrations sur l'utilisation des préservatifs féminins par les agents de santé peuvent améliorer l'utilisation de cette méthode.

Mots clés: *Pratiques sexuelles, Préservatif féminin, Étudiantes en licence*

Introduction

Sexual activity has become increasingly prevalent among university undergraduates and has been associated with risky sexual practices among them [1,2]. This may result in the adverse consequences of unprotected sex such as sexually transmitted infections, unwanted pregnancies and abortions with women bearing a disproportionate burden of these consequences [1,2].

Universities provide the highest level of education in the country and their role in national development through the generation of knowledge and provision of skilled labour for both the public and private sector is vital. Upon entry into university, undergraduates acquire independence from parental and secondary school restrictions. When young people move out of their parents' homes, direct parental control ceases and identification with the peer group increases. This increase in autonomy manifests in very permissive attitudes and increased sexual experimentation, associated with risky sexual practices [3]. Young people who make up the majority of any undergraduate population and who are aged 15-24 account for an estimated 45% of new HIV infections worldwide [4]. Reports for Sub-Saharan Africa indicates that the percentage of young women aged 15-24 living with HIV are twice that of young men of the same age [5, 6]. National data in Nigeria indicate that Rivers State has the highest HIV prevalence rate at 15.2% [7].

An essential step in controlling the pandemic of HIV and STIs is through helping young people to reduce or avoid unsafe sexual behaviour. Condoms can be used to achieve this goal. The condom is a type of barrier contraceptive which could be of the male and female kind which has the advantage that it can be used during sexual intercourse to reduce the probability of pregnancy and spread of sexually transmitted diseases including HIV/AIDS [8]. Condoms are most often made from latex, but some are made from other materials such as polyurethane, polyisoprene, or lamb intestine [9]. The need for a female condom has been driven by the recognition that the nature of women's intimate relationships often render it difficult for them to request, much less insist on, male condom use [10].

The female condom is of particular interest because it is seen as a product that can give women the ability to initiate their own protection from unwanted pregnancy, HIV and other sexually transmitted diseases which are all extremely urgent health concerns for women of reproductive age. However, available information on contraceptive use in Nigeria, indicates that male condom use is 67.0%

while female condom was found to be 29.0% as documented in a nationally representative survey [11]. Few studies have looked at the prevalence of female condom use. A study among undergraduates in Enugu revealed that male condom use was 62.0% while female condom use was found to be 15.9% [12, 13]. Another study in the Eastern part of Nigeria also documented the prevalence of female condom use as 15.7% [14]

There is little information about reasons for non-use of female condoms and willingness to use among young women. The objective of this study was to determine the sexual practices of female undergraduates at the University of Port Harcourt, as well as their awareness and willingness to use female condoms.

Materials and methods

A cross-sectional study design was utilized. The study population consisted of female undergraduate students of the University of Port Harcourt. The University of Port Harcourt was established in 1975 and has a student population of about 38,000 with a total of ten faculties. There are on-campus hostels for students which are specifically for 100 level students while other students are required to live off-campus in privately owned housing units near the University.

A cluster sampling technique was utilized. Seventy-eight housing units in 3 main neighbourhoods near the campus were identified and thirty were selected by simple random sampling. Ten housing units comprising of five small (10-30 rooms) and five large (40-60 rooms) housing units were selected in each of the three neighbourhoods. All female students in the selected housing units were recruited following informed consent. All research participants expressed willingness to participate in the study.

The research tool was a self-administered questionnaire with sections for obtaining information on socio-demographic characteristics, sexual practices, knowledge of the female condom, its use as well as willingness to use. Questionnaires were administered by four trained female research assistants of graduate and undergraduate educational status.

The data obtained were edited and manually cleaned and recoded where necessary. Data were entered into the computer and analyzed using the Statistical Package for Social Sciences (SPSS 16.0 Microsoft Inc., 2007). Data analysis was done using both descriptive and inferential statistics. The dependent variable was willingness to use the female

Table 1: Socio-demographic characteristics of the respondents (N= 600)

Variables	n	%
<i>Faculty</i>		
Arts	123	20.5
Sciences	268	44.7
Social sciences	69	11.5
Education	140	23.3
<i>Study Level</i>		
200	390	65
300	115	19.2
400	76	12.7
500	10	1.7
600	9	1.5
<i>Age range 16-30 years</i>		
<i>Age group (in years)</i>		
≤18	71	11.8
19-21	245	40.8
22-24	208	34.7
≥ 25	76	12.7
<i>Marital status</i>		
Single	59	98.8
Married	37	1.2
<i>Religion</i>		
Christianity	590	98.3
Islam	5	0.8
Others (free thinkers)	2	0.3

condom while sociodemographic characteristics served as the independent variables. Chi-square test was used to test the statistical associations between categorical variables at 5% level of significance. Multivariate analysis using binary logistic regression was used to

identify predictors of willingness to use the female condom. The independent variables entered into the logistic regression model were those that were significant at 10% ($p < 0.01$) on bivariate analysis.

Ethical clearance was obtained from the University of Port Harcourt Ethics Review Board. Each participant was provided with information on the study objectives. Written informed consent was obtained from respondents. Participation in the study was voluntary and participants were at liberty to decline at any stage of the study without consequence. Respondents' privacy and confidentiality was guaranteed by ensuring the anonymity of respondents and limited access to the data collected. Research assistants were required to sign a declaration of non-disclosure of all information provided by participants in the course of data collection.

Results

The mean age of the respondents was 21.5 ± 2.5 years with a response rate of 100%. Majority of the respondents were single 593 (98.8%), Christian 590 (98.3%) and were in 200 and 300 levels of study 505 (84.2%). About a quarter 140 (23%) of the respondents were from the Faculty of Education, 123 (20.5%) from Faculty of Humanities, 96 (16.0%) from Management Sciences while Faculty of Dentistry had the least number of respondents 3 (0.5%). The socio-demographic characteristics of the respondents are highlighted in Table 1.

Table 2: Sexual practices of respondents

Variables	(N=600)n	%
Ever had sex		
Yes	356	59.3
No	244	40.7
Age at first sex		
≤ 16	38	10.7
17-20	248	69.7
≥21	67	18.8
Mean age at first sex married	21.1± 2.1	
Mean age at first sex single	18.5± 3.5	
Sex in the last 12 months preceding the survey among single respondents		
Yes	285	81.7
No	64	18.3
Multiple sexual partners in the last 12 months		
Yes	92	26.4
No	192	26.4
No response	65	18.6

Table 3: Contraceptive Use among singles that had ever had sex N=349

Variable	(N=349) n	%
<i>Ever used contraceptives</i>		
Yes	266	76.2
No	83	23.8
<i>Contraceptive method used*</i>		
Male condom	153	41.9
Pills	129	35.3
Withdrawal	58	15.9
Periodic abstinence	20	5.5
Female sterilization	2	0.5
Injectable	2	0.5
Implants	1	0.3
<i>Current use of contraceptives</i>		
Yes	202	57.9
No	64	18.3
<i>Contraceptive method used*</i>		
Male condom	104	43.8
Pills	70	29.4
Withdrawal	40	16.8
Periodic abstinence	22	9.2
Female sterilization	2	0.8

*Multiple responses

Table 2 highlights the sexual practices of the respondents. More than half had ever had sex 356 (59.3%) with mean age of sexual debut for single respondents being 18.5 ± 3.5 years and mean age for married respondents being 21.1 ± 2.1 years. Majority of the respondents who had ever had sex were sexually active 285 (81.7%) having had sexual intercourse within the preceding 12 months. About a quarter of sexually active respondents 92 (26.4%) were involved in multiple sexual partnering. With respect to contraceptive use, of the single respondents that had ever had sex, 266 (76.2%) had ever used contraceptives and 202 (57.9%) were currently using contraceptives with male condoms being the contraceptive that was used by most of the respondents 153 (43.8%).

Majority of the respondents 569 (94.8%) had ever heard of the female condom with friends being the main source of information, 228 (38.0%). Almost half of the respondents who had heard of the female condom 270 (47.5%) had ever seen one with only 17 (3.0%) respondents reporting ever having used a female condom. Only three respondents (17.6%) out of those that had ever used a female condom were currently using it (Table 4). Intent to use the female condom in the future was reported by 27.1% of the

Table 4: Awareness, sources of information and use of the female condom N=600

Variables	(N=600) n	%
<i>Ever heard of female condom</i>		
Yes	569	94.8
No	31	5.2
<i>Source of information for female condom (N=569)</i>		
Internet	26	4.3
Friends	228	38.0
Media	109	18.2
Parents	7	1.2
School	90	15.8
Health workers	109	19.2
Non response	31	5.2
<i>Source from which to obtain female condom</i>		
Government hospitals/health Centers	90	15.0
Chemist	19	3.2
Pharmacy	201	33.5
Others (friends, NGOs)	5	0.8
Don't know	285	47.5
<i>Ever seen a female condom</i>		
Yes	270	47.5
No	299	52.5
<i>Ever used female condom</i>		
Yes	17	3.0
No	552	97.0
<i>Current use of female condom (N=17)</i>		
Yes	3	17.6
No	14	82.4

Table 5: Willingness to use female condom and reasons for non-use

Variable	(N=569)n	%
<i>Willingness to use female condom</i>		
Yes	154	27.1
No	415	72.9
<i>Reasons for not using the female condom</i>		
Not sexually active	23	6.8
Partners disapproval	38	11.2
Discomfort	58	17.1
Insertion difficulty	68	20.1
Unavailability	111	32.7
Cost	7	2.1
Religious reasons	21	6.2
No response	89	21.4
<i>Reasons for using the female condom</i>		
Prevention of pregnancy and sexually transmitted diseases	23	6.8

Table 6: Association between respondents' background characteristics and willingness to use the female condom among those who had heard of the female condom

Background characteristics	Willingness to use the female condom N= 559		Chi square	P value
	Yes n(%)	No n(%)		
<i>Age group (in years)</i>				
≤ 18	15 (21.1)	56 (78.9)	6.053	0.109
19-21	68 (28.1)	174 (71.9)		
22-24	67 (32.8)	137 (67.2)		
≥ 25	15 (20.5)	58 (79.5)		
<i>Level</i>				
200-300	127 (25.7)	368 (74.3)	8.140	0.004
> 400	38(40)			
<i>In a relationship</i>				
Yes	151 (30.3)	348 (69.7)	8.454	0.002
No	14 (15.4)	77 (84.6)		
<i>Ever had sex</i>				
Yes	111 (31.6)	240 (68.4)	5.755	0.010
No	54 (22.6)	185 (77.4)		

Table 7: Predictors of willingness to use the female condom

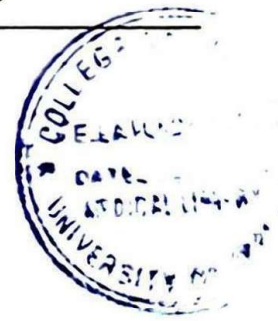
Variables	Odd's ratio	95% Confidence interval	P-value
<i>Being in a relationship with the opposite sex</i>			
Yes	0.496	0.26 – 0.93	0.030
No	Ref.		
<i>Ever had Sex</i>			
Yes	0.75	0.5 – 1.11	0.153
No	Ref.		
<i>Level of study</i>			
200-300	1.86	1.2 - 2.9	0.009
≥400	Ref		

respondents with unavailability (32.7%), insertion difficulty (20.1%), discomfort (17.1%) and partners disapproval (11.2%) being the main reasons why respondents were not willing to use the female condom (Table 5). However, a total of 154 (27.1 %) indicated a willingness to use the female condom. Level of study, relationship status and ever having sex were significantly associated with the willingness to use female condoms on bivariate analysis. Those who were in 200-300 level, respondents that were in a relationship and those who had never had sex were less likely to be willing to use a female condom (Table 6). Being in a relationship and level of study also predicted the willingness to use the female condom as they remained significant in the logistic model (Table 7).

Discussion

Almost all the respondents were single. More than half of the single respondents had ever had sex with mean age at sexual debut being 18.5 ± 3.5 . This is similar to what was observed in a study by Cadmus and Owoaje at the University of Ibadan where mean age of sexual debut was 19 years [15]. However, the mean age in a study carried out among young female undergraduates in Nnamdi Azikiwe University, Anambra by Adinma and Okeke revealed a higher mean age at sexual debut of 21.8 years [16].

Majority of the single respondents were sexually active, reporting sexual activity within the 12 months preceding the survey (81.7%). This is comparable to findings from a study by Duru et al where almost three quarters of respondents who had



ever had sex reported being currently sexually active [17]. About a third of single respondents who were currently sexually active had multiple sexual partners. This is similar to the findings of Ibe [18] who reported that 42% of students of tertiary institutions in Rivers State had multiple sexual partners and the findings of 40.3% reported by Tobin et al among undergraduate students of University of Port Harcourt [19].

Contraceptive use

About three quarters of the respondents in this study who had ever had sex (76.2%) had ever used contraception which is similar to what was reported by Cadmus and Owoaje who found contraceptive use to be 63.9% among female undergraduates in Ibadan [15]. However this finding is in contrast to a study by Duru et al which reported 54.4% [17]. This finding is also higher than 54.0% that was reported among female undergraduates in Lagos State [20] and 32.4% reported by Ejembi and colleagues from the Ahmadu Bello University [3].

Current use of contraceptives among the respondents in this study was 57.9%. The main type of contraceptives used was the male condom (ever used 41.9%, current use 43.8%) followed by oral contraceptive pills (ever used 35.3%, current use 29.4%). Use of contraceptives among sexually active young people is critical in the prevention of unwanted pregnancy as well as other negative consequences of unprotected sexual intercourse [21]. The prevalence of unwanted pregnancy among young people in Nigeria has been found to vary with reports of 33.6% in Calabar [22], 27.4% in Ekiti [23], 21% in Lagos [24] and 5.7% in Ilorin [25]. In this study, unwanted pregnancy was reported to be 15.6% with (79) 84.0% of these being aborted. The reasons for these variations in the prevalence of unwanted pregnancy are unclear, however, cultural perceptions towards premarital sexual intercourse and subsequent pregnancy out of wedlock may play a role. Reports from other studies show that undergoing an abortion is the way majority of young girls handle unwanted pregnancy with abortion rates ranging from 51.2% to 100% [22, 23, 25]. This is similar to what was observed in this study where 84.0% of unwanted pregnancies ended up in an abortion.

Majority of the respondents in this study had heard about the female condom. This was also reported by Oladeinde et al in Ilorin where awareness of female condom among female undergraduates was very high [26]. Many of the respondents heard about the female condom from friends, which was similar

to what was found by Oladeinde [26]. Almost half of the respondents in this study had ever seen the female condom (47.5%). Similar observations have been made by other researchers within Nigeria with Nwaokoro reporting 35.7% and Tobin-West reporting 50.3% [14, 19]. However, a study by Mbarushimana and colleagues in Rwanda reported that up to 79% of the respondents had seen the female condom [27]. Differences in contraceptive method mixes that are readily available in various countries and by extension, greater awareness with respect to methods that are available might be a contributory factor to the differences observed. Female condom use was very low in this study which was also seen in other parts of Nigeria [14, 19]. Low utilization was also observed by a study conducted by Dayan et al in Ethiopia as well as that by Mbarushimana *et al* [27, 28]. Among the sexually active respondents in this study, the major reason for not using the female condom was as a result of its non-availability. This was also a major reason highlighted by other researchers within Nigeria [14, 19, 25].

Insertion difficulties and discomfort were other reasons for non-use. Reasons given for the low use as reported by Mbarushimana and colleagues in Rwanda were non-availability, problems with access and difficulties in use while Dayan et al in Ethiopia reported non-availability and a negative attitude. Non-availability of female condoms appears to be a recurring theme as it has been highlighted by other researchers in Nigeria [14, 19, 25] as well as in other parts of Africa [26, 28]. In this study, about 27.1% were willing to use the female condom in the future while the study by Dayan and colleagues, carried out among female college students in Ethiopia reported that 40.9% were willing to use female condoms [28]. Reasons for this disparity in the willingness to use female condoms might possibly be due to cultural differences. Predictors of female condom use have been reported to include multiple sexual partnering, knowledge of female condom use, education and age as seen in the U.S.A [29]. In this study, respondents in a relationship were less likely to be willing to use a female condom in the future compared to those who were not in a relationship. This may not be particularly surprising as young people have been found to be inconsistent in their use of contraception [23].

Respondents who were in 200 and 300 hundred levels (the second and third year of study) were more likely to be willing to use a female condom in the future compared to those who were in 400 level and above. Sexually active female undergraduates in higher levels of study are usually

more experienced and have possibly decided on what methods work for them and this might have contributed to this finding.

Conclusion and recommendation

This study is limited by its cross sectional design which does not allow for causal associations. The possibility of recall bias on the part of the respondents is also acknowledged. Despite this, our findings show that these young females engage in risky sexual behaviour and only a small proportion of them expressed a willingness to use female condoms. Non-availability, insertion difficulty and discomfort represent barriers to use.

Contraceptive programmes should ensure availability of the female condom as well as explore options for its redesign. Health care providers should provide health education and demonstration of the use of female condoms as is done with the male condom. These measures would be useful in addressing insertion difficulties and discomfort reported by this and other studies. Such improvements have the potential to increase uptake of this method.

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