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**FACTORS ASSOCIATED WITH INCONSISTENT FEMALE CONDOM
USE AMONG SEXUALLY ACTIVE YOUNG PERSONS IN WESTERN
NIGERIA**

ABSTRACT

Background: Female condoms are devices used during sexual intercourse as a barrier contraceptive to reduce the risk sexually transmitted infections (STIs) such as HIV, gonorrhoea and syphilis. Consistent and appropriate use of condom is the most effective way of preventing HIV/AIDS transmission and unwanted pregnancies. Hypothesis tested was the influence of educational status on female condom & HIV/AIDS knowledge. This study was aimed at determining the knowledge, attitudes, experiences and factors associated with the inconsistent and incorrect use of female condom among sexually active young persons in Western Nigeria.

Materials & Methods: This cross-sectional study was carried out in Ogun State & Ekiti State, Western Nigeria. The target population was sexually active young persons between ages 15 to 40 years, which included people living with HIV/AIDS and female sex workers. A multi-stage sampling technique was used to select 360 respondents who were administered a well-structured pre-tested questionnaire. All data were statistically analyzed, using Statistical Package for the Social Sciences (SPSS) while statistical test of significance was performed using Chi-Square test.

Results: A total of 360 (37 males & 323 females) respondents participated in the study. Most of them were in the age range of 21- 25 years, with the mean age \pm SD of 22.94 ± 3.78 years. 24.7% of them know how to use female condom but only 12.8% of them have ever used female condom as against 38.1% that have ever used male condom. Only 4.2% respondents are HIV positive, as 50.3% of the respondents preferred male condom mainly due to accessibility, affordability and easier use.

Conclusion: The knowledge about female condom in this study was average while the attitudes towards its use were not favourable mainly due to the preference for male condom as a result of complaints about female condoms including unavailability, higher cost and insertion difficulty. Thus, there is need to extensively educate the entire populace

30 especially women regarding the misconceptions and social stigma about female condom in order
31 to boost its use.

32 (Keywords: female condom, Western Nigeria, female sex worker, sexually active)

33

34 **INTRODUCTION**

35 Female condoms are devices used during sexual intercourse as a barrier contraceptive to
36 reduce the risk sexually transmitted infections (STIs) such as HIV, gonorrhoea and syphilis,
37 though, its protection against them is inferior to that by unintended pregnancy and male
38 condoms (Holmes *et al.*, 2008). Consistent and appropriate use of condom is the most effective
39 way of preventing HIV/AIDS transmission and unwanted pregnancies (Holmes *et al.*, 2008). The
40 use of the female condom is seen as a way of providing protection to women against sexually
41 transmitted infections (STIs) and unwanted pregnancies (Witte *et al.*, 2006). Female condom for
42 instance, provides bi-directional protection to both partners. Studies suggest that women are
43 more likely to get infected with sexually transmitted infections (STIs) than men and to bear the
44 consequences associated with unplanned pregnancies and STDs (Meekers & Ritcher, 2005;
45 Holmes *et al.*, 2008). Female condom has emerged as an acceptable alternative barrier method to
46 the male condom (Witte *et al.*, 2006). However, HIV remains a major threat to public health and
47 well-being of people living especially in sub-Saharan Africa, as it is a region with more than
48 two-thirds (69%) of the world's HIV/AIDS caseload (UNFPA, 2012). Generally, across the
49 world, in order to promote the access to the female condom, its awareness, availability and use,
50 mass media campaigns have been undertaken (Witte and Cecil, 2006). Stockman and Associates
51 recommend to increase the availability of female condom and to provide the populations with
52 education on their use (Stockman *et al.*, 2012). A research outcome on the factors associated

53 with inconsistent use of condom showed that 29.6% of the sexually active respondents were
54 using condoms consistently while 32.4% of them agreed that should a condom slip off during
55 sexual intercourse, it will land up in their stomach (Elvis, 2013). The outcome of a 2015 study on
56 the knowledge, attitudes and utilization of female condom in Kumba Cameroon, showed that
57 67.3% of the respondent knew about female condoms, 75.6% of them knew that correct and
58 consistent use of female condoms during sexual intercourse can prevent HIV transmission, with
59 the main source of information regarding female condom being the mass media (64.6%) while
60 perceived decrease in sexual satisfaction with the female condom use was reported by 64.1% and
61 38.7% of them said the female condoms were readily available (Elvis & Luchuo, 2015). In
62 another 2015 publication of research work conducted in Nigeria on female condom use, it was
63 reported that there was a good knowledge of female condom (64.3%), with the majority getting
64 the information through friends (50.8%) while 32.9% of the respondents agreed that female can
65 protect against STIs, HIV/AIDS etcetera (Nwaokoro *et al.*, 2015). In Brasil, a study on the
66 factors associated with condom use in people living with HIV/AIDS revealed that generally
67 82.8% of males and 76.2% of females use condom, 72.3% did not reveal their HIV serum status
68 to the casual partners, 82.3% revealed the positive HIV serum status their fixed partners while
69 99.5% do not reveal their serum status but use condoms (Silva *et al.*, 2015). In Rwanda, it was
70 reported that 79% of the respondents were aware of female condom but only 24% knew how to
71 use it. Most of the respondents believed that the female condom can prevent unwanted
72 pregnancies (78%), STIs and HIV/AIDS (81%) while less than 3% cited female condom as their
73 contraception method (Mbarushimana & Ntaganira, 2013). The aim of the study was to
74 determine the knowledge, experiences and factors associated with the inconsistent and incorrect

75 use of female condom among sexually active young persons especially that belong to the key
76 population of our society.

77 **MATERIALS AND METHODS**

78 This cross sectional study was carried out in towns across the three senatorial districts of
79 both Ogun & Ekiti States, South-Western Nigeria. The target population was sexually active
80 young individuals especially that belong to the key population of our society. A semi-structured
81 questionnaire was administered consecutively on 360 respondents. Demographic and socio-
82 economic information obtained were included. Data was collected using a pre-tested
83 questionnaire on the knowledge, experiences and factors affecting female condom use.

84 A multi-stage sampling technique was used to select the respondent from selected local
85 government areas (LGAs) in each of the three senatorial districts in both states. In stage 1 from a
86 sampling frame of the entire number of local government areas in each senatorial districts of
87 each state, one-third number of LGAs was selected using simple random sampling method. In
88 stage 2, a list of towns in each of the selected LGA's was randomly made. In stage 3, houses in
89 the towns were randomly selected. The final stage involved in the selection of consenting
90 sexually active young persons. The questionnaires were then administered on the respondents.
91 Scoring of outcome variables with correct answers was done. Correct answers will be scored 1
92 point while wrong answers were scored 0. Following the scores, addition and calculation of the
93 average score, respondents who scored below the average score were categorized as having poor
94 knowledge while those with scores above the average were classified as having good knowledge.

95 **SAMPLE SIZE**

96 Sample size calculation was done using 95% confidence interval, 0.05 precision and
97 prevalence rate. The report of the 2013 study revealed 29.6% of the sexually active persons were
98 using condoms consistently (Elvis, 2013). Using Leslie Fischer's formula for population
99 >10,000, the formula for sample size calculation is: $n = Z^2PQ/d^2$ (Daniel, 2013).

$$100 \quad n = Z^2PQ/d^2$$

101 Where:

102 n = minimum sample size, d = degree of precision (taken as 0.05),

103 Z = standard normal deviation at 95% confidence interval which is 1.96,

104 P = proportion of the target population (estimated at 22.2% which is $29.6/100 = 0.296$),

105 Q = alternate proportion ($1-P$) which is $1-0.296= 0.704$

$$106 \quad n = \frac{(1.96)^2 (0.296)(0.704)}{(0.05)^2} = 320$$

$$107 \quad (0.05)^2$$

108 Also, adding a 5% non-response rate, the minimum sample size (n) will be $5/100 \times 320 = 16$

109 Thus, it will be $16 + 320 = 336 = n$

110 STATISTICAL ANALYSIS

111 Data was statistically analyzed using Statistical Package for the Social Sciences (SPSS)
112 for windows version 21.0 software (SPSS Inc., Chicago, IL, USA). Data was expressed as Mean
113 \pm Standard Deviation (SD). Frequency counts were generated for all variables and statistical test

114 of significance was performed with Chi-Square test. Significance was fixed at P <0.05 and
 115 highly significant if P < 0.01.

116 **RESULTS**

117 **SOCIO-DEMOGRAPHIC DATA**

118 A total of 360 consenting respondents participated in the study. Most of the respondents
 119 are in the age range of 21 – 25 years, with a mean age \pm SD of 22.94 \pm 3.78 years. Most of the
 120 respondents' highest education level is tertiary education certificate, 218 (60.6%) followed by
 121 secondary/high school leaving certificate, 119 (33.1%).

122 TABLE I – Socio-demographic data of respondents

VARIABLES	Frequency (%)
Age Group (years)	
< 18	5 (1.4)
18 – 20	102 (28.3)
21 – 25	179 (49.7)
26 – 30	62 (17.2)
31 – 35	10 (2.8)
36 - 40	2 (0.6)
Gender	
Male	37 (10.3)
Female	2358 (89.7)
Highest level of education	

No formal education	6 (1.7)
Primary	17 (4.7)
Secondary	119 (33.1)
Tertiary	218 (60.6%)

123

124 Only 88.3% of the respondents have heard about female condom, 12.8% have used
125 female condom, 10.3% are currently using female condom, 36.9% believe that female condom
126 can slip off during sex and land up in their stomach, 89.7% reported that female condom can
127 prevent unwanted/unplanned pregnancy while 50.3% prefer male condom to female condom.

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TABLE 2 – Female Condom Use, Attitude & Practice

VARIABLES	Frequency (%)
Ever heard about female condom	
Yes	318 (88.3)
No	42 (11.7)
Ever seen a female condom	
Yes	195 (54.2)
No	165 (45.8)
Can correctly fit a female condom	
Yes	67 (18.6)
No	293 (81.4)
Ever used a female condom	
Yes	46 (12.8)

No	314 (87.2)
Currently using a female condom	
Yes	37 (10.3)
No	323 (89.7)
Ever used a male condom	
Yes	137 (38.1)
No	207 (57.5)
No Response	16 (4.4)
Shy to buy a condom	
Yes	132 (36.7)
No	200 (55.6)
No Response	28 (7.8)
Prefer male condom to female condom	
Yes	181 (50.3)
No	138 (38.3)
No Response	41 (11.4)
Female condom can slip off during sex and land in my stomach	
Yes	133 (36.9)
No	180 (50.0)
No Response	47 (13.1)
Female condom can prevent unwanted/unplanned pregnancy	
Yes	323 (89.7)
No	22 (6.1)

No Response	15 (4.2)
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130 TABLE 3 – Information on HIV/AIDS testing

Ever tested for HIV	
Yes	215 (59.7)
No	125 (34.7)
No Response	20 (5.6)
Tested for HIV in last 6 months	
Yes	136 (37.8)
No	198 (55.0)
No Response	26 (7.2)
Result of HIV Test	
Negative	325 (90.2)
Positive	15 (4.2)
Undisclosed	20 (5.6)

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132 TABLE 4 – Chi square result showing influence of educational level on the use of female
133 condom

VARIABLES	χ^2	df	Critical value	P-Value	Decision
Educational level does not have effect on the use of female condom	3.22	3	7.82	0.359	Accepted

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139 The null hypothesis is accepted when the test statistic is lesser than the tabled value or
140 critical value.

141 **DISCUSSION**

142 This research outcome has shown that 88.3% have heard about female condom, 12.8%
143 have used female condom, 10.3% are currently using female condom, 36.9% believe that female
144 condom can slip off during sex and land up in their stomach, 89.7% reported that female condom
145 can prevent unwanted/unplanned pregnancy while 50.3% prefer male condom to female condom.
146 This is slightly in agreement with a previous research on the factors associated with inconsistent
147 use of condom which showed that 29.6% of the sexually active respondents were using condoms
148 consistently while 32.4% of them agreed that should a condom slip off during sexual intercourse,
149 it will land up in their stomach (Elvis, 2013), as well as a 2015 study in Cameroon that showed
150 67.3% of the respondent knew about female condoms (Elvis & Luchuo, 2015). Furthermore, it
151 is similar to the research outcomes of other studies as conducted elsewhere in Nigeria, which
152 showed that there was a good knowledge of female condom (64.3%) (Nwaokoro *et al.*, 2015),
153 then 82.8% of males and 76.2% of females use condom in Brasil (Silva *et al.*, 2015) and in
154 Rwanda, where it was reported that 79% of the respondents were aware of female condom but
155 only 24% knew how to use it. Most of the respondents believed that the female condom can
156 prevent unwanted pregnancies (78%), STIs and HIV/AIDS (81%) while less than 3% cited
157 female condom as their contraception method (Mbarushimana & Ntaganira, 2013). This shows
158 that even though most of the respondents are very knowledgeable regarding female condom but
159 the practice is perhaps low. The vast majority of respondents that have used or willing to use
160 condom prefer the male condom for various purposes they believe condom serve. This
161 knowledge-gap especially regarding the female condom is also further given credence by the

162 acceptance of the hypothesis on the educational level of respondents having effect on the use of
163 female condom shows that the level of education does not necessarily impact the use of female
164 condom.

165 **CONCLUSION**

166 The knowledge about female condom in this study was average while the attitudes
167 towards its use were not favourable mainly due to the preference for male condom as a result of
168 complaints about female condoms including unavailability, higher cost and insertion difficulty.
169 Thus, there is need to extensively educate the entire populace especially women regarding the
170 misconceptions and social stigma about female condom in order to boost its use.

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