



## Determinants of Consistent Condom use among HIV-Positive Women in Abia State, South-East Nigeria.

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### Abstract

**Background:** The use of condoms in marriages is a complex decision. It however plays a role in prevention of HIV and other sexually transmitted infections (STIs). The problem is, what factors and conditions determine consistent condom use among HIV positive women? This study aimed at identifying determinants of consistent condom use among HIV positive women cohabiting with their partners and attending 'Heart to Heart' treatment centre in Abia State University Teaching Hospital.

### Materials and method:

This longitudinal descriptive study was conducted among 248 married HIV positive women who attended 'Heart to Heart' treatment centre in the Abia State University Teaching Hospital from December 2012 to **February** 2013 and are cohabiting with their partners. Interviewer administered semi-structured questionnaire was used to obtain data from the respondents. Data were analysed using SPSS version 17 soft ware.

**Results:** A total of 73(29.4%) of the respondents used condom consistently. Age, level of education, and desire for more children influenced condom use (OR 7.023., CI 2.050 – 24.047, P<0.001). The older the respondents, the more condom they used (OR 164.474, CI 21.477 – 1260.2, P<0.001). Also the more educated the respondents were, (tertiary, secondary) the more likely they used condom. Women who did not desire more children used condom more than those who desired more children (OR 13.612, CI 0.043-26.311, P<0.001). Women who had disclosed their HIV status to their spouses, used condom more than those who had not (OR 13.072, CI 5.836 – 29.253, P<0.001).

**Conclusion :** The fact that only 29.4% of the respondents used condom consistently with their spouses shows lack of awareness of the benefits of condom use. Health education which will stress the importance of using condom in preventing HIV transmission and other sexually transmitted infections (STIs) is recommended for HIV positive women and their spouses.

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## Introduction

Nigeria is the most populated country in Africa with an estimated population of 163 million and an annual growth rate of 2.6%. The prevalence of HIV among the general population is 3.6% with a national median prevalence of 4.1% among pregnant women (1-5). In sub-Saharan Africa, 60% of the people living with HIV are females. These African women make up 50% of the global epidemic (6). In Nigeria, females constitute 58% (about 1.62 million) of persons living with HIV (7). About 55% of AIDS deaths that occur in Nigeria each year, are among females within 15-49 years of age. This shows that the number of women infected with HIV is on the increase. (8-9).

According to the UNAIDS 2011 report, young women (15-24years) have a three times higher infection rate than young men of same age. The problem is that these females, who are in their reproductive ages, can have sex without condom. Having sex without condom can expose the females and their sex partners to the risk of HIV infection. Also if they get pregnant, there are chances of increasing the number of children they will have living with HIV and AIDS. This is possible because less than 30% of pregnant women in Nigeria have access to prevention of mother to child transmission (PMTCT) services (10-13). There is need to increase PMTCT because according to the UNAIDS report of 2013, Nigeria has the highest number of children living with HIV and AIDS.

Vulnerability of females to HIV in Nigeria has been linked to various factors including non-insistence on use of condom during sexual intercourse. In Nigeria, culture

prohibits women from negotiating condom use during sex. As a result, most women, especially those whose spouses engage in multiple sex partners are exposed to sexually transmitted infections (STIs) including HIV (14). Some researchers have estimated that 33% of marriages in Nigeria are polygamous in nature and have recommended that women should be encouraged to negotiate condom use during sex so as to prevent sexually transmitted infections including HIV (15-17). Therefore the need to emphasize condom use among females especially those living positively with HIV and AIDS should not be underestimated.

Studies have shown that for condom use to provide 69-94% effectiveness in preventing sexually transmitted diseases including HIV, it must be used consistently during sexual intercourse (18). However, consistent condom use in stable marriages is doubtful. The fear of being accused of infidelity prevent couples especially women from negotiating condom use during sex (19-21). In a study of five African countries, it was found that two-thirds of HIV infected couples with sero-discordant families use condom but irregularly. The main reason identified for the irregular condom use was the desire to have children. It is estimated that over half of new infections that occur in marriages are as a result of infrequent condom use (22-24). It is thought that with the increasing availability and accessibility of antiretroviral treatment and improved health care services, that the prevalence of HIV and AIDS among females will be reduced if condom is consistently used during sex. Studies have shown that inconsistent

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condom use has exposed spouses especially females to infections and re-infection of sexually transmitted diseases including HIV (25, 26).

However, promotion of condom use among couples should be done with caution to prevent violence occasioned by couples suspecting each other of sexual promiscuity. In such families, the indirect benefits of condom as a contraceptive rather than as a stand-alone method for preventing STIs should be emphasized. In this case, the risk of HIV transmission in marriages could be reduced by encouraging partners to disclose their sero-status as well as use condom for sexual intercourse. (27-30).

Studies on the use of condoms among HIV positive women in stable marriages are limited in developing countries including Nigeria. The purpose of this study was to assess the factors that encourage individuals living with HIV and AIDS to consistently use condom during sexual relations so as to protect themselves against infections and re-infections. The researchers were motivated to carry out this study by the recent call on the need to reduce HIV infection and re-infection among couples so as to guarantee increased PMTCT. By this study, the researchers intend to contribute a quota in the reduction of HIV and AIDS prevalence in Nigeria. The result of the study will help to increase the chances of clients benefiting from the services offered to them in the clinic.

## Materials and Methods

The study was conducted among 248 married HIV positive women between the ages of 15-49 years who are cohabiting with their husbands and attending the

'Heart to Heart' clinic in the Abia State University Teaching Hospital between December 2012 and February, 2013. The study took place in the Abia State University Teaching Hospital. This hospital is the only tertiary and referral health center that serves HIV positive individuals in Abia State and its environs. The antiretroviral treatment (ART) offered in this center is jointly supported by the Government and the Family Health International. The ART services are offered free to clients. The services in this center especially ART are highly patronized. An average of 30 HIV positive patients access ART services daily and over 50% of those who access the ART services are married females.

Culturally, the decision to use condom during sex is usually the prerogative of the male partner. In this circumstance, females only adhere to the wishes of the male partner. In this study, the researchers are of the view that if women who are disadvantaged by culture to negotiate for condom use are sufficiently equipped with the information on benefits of consistent condom use during sex, that the possibility of the women to negotiate for condom use during sex may be increased. Consistent condom use for this study refers to the ability of HIV positive women to use condom for every sexual intercourse. From clinic observations, women seem to attend ART treatment more regularly than the men do. Therefore using women who were easily accessible in the clinic afforded enough sample for the study. Also the researchers chose women for this study because of the need to encourage them to increase condom negotiation during sex so as to

advance prevention of mother to child transmission (PMTCT).

This longitudinal descriptive study adopted systematic sampling technique. In this study, every third female client within the age range of 15-49 years who came for Heart to Heart treatment in the Abia State University Teaching Hospital within the period under study (December 2012 to February 2013) was selected. A sample of 248 married females who are cohabiting with their partners was selected for study. Semi-structured questionnaire which lasted for 25 minutes was used for data collection. The questionnaire was administered using the local language so as to ensure uniformity in the data collected. The sample constituted mainly of women in the low educational background and therefore they may not be competent to complete the questionnaire correctly on their own.

Data were analyzed with the aid of SPSS version 17 software using descriptive and inferential statistics. Frequencies and proportions were presented in Tables, while Chi square ( $X^2$ ) test was used to determine associations between categorical variables. Logistic regression analysis was used to identify predictor factors for consistent condom use. Triangulation was used to adjust predictor variables that were significantly related to the outcome variable at the bivariate level.

#### **Quality control:**

The questionnaire was pre-tested and administered by well trained female research assistants. Female research assistants were used to encourage frank and open-minded discussions with the respondents. This encouraged the female respondents to discuss very

freely with the female research assistants. This strategy helped to ensure the collection of acceptable and quality information from the respondents. To minimize error, the interviewers used both English and local language to administer the questions to the sample. Also all unclear questions were explained to the sample in the local language. The research assistants collected the completed questionnaire at the end of each exercise. As part of the respondents' motivation, they were entertained with some drinks and snacks. Thereafter, data were checked for completeness and accuracy before analysis.

#### **Ethical considerations**

Informed consent was obtained verbally from the respondents after explaining the objectives of the study. As a result, all the respondents positively consented to participate in the study and they were included. Ethical clearance was obtained from the Ethical Review committee of the Abia State University Teaching Hospital.

#### **Results**

##### **Socio – demographic Characteristics:**

The ages of the respondents were varied, with the mean age of  $35.04 \pm 7.2$  years. Half of the respondents 124 (50%) were within the age range of 30-39 years. For education, a good number of the respondents, 127 ( 51.2% ) had Secondary education, while for

occupation, a good number of them 130 ( 52.4% ), were trading (Table 1 ).

From **Table 2**, age, education and occupation were important determinants of condom use  $p < .001$ . Findings show that the older the respondents, 44 years and above, the more likely they used condom. Also the less educated the respondents, (no formal education and primary), the less likely they used condom.

The respondents were later examined to find out the factors that encouraged condom use. Table 3 contains

the details. From this Table, respondents on regular ARV 63 (86.3%) used condom more than those that are not on regular ARV 10 (13.7 %). This is not significant  $p = 0.20$ . Those who disclosed their status to their spouses 50 (68.5%) used condom more than those who did not disclosed their status 23(31.5%). This is highly significant  $p < 0.001$ .

The respondents with discordant families who did not disclose their status to their partners, used condom

**Table 1: Socio-demographic characteristics of respondents**

Variable	Frequency %
<b>Age ( Years )</b>	
<25	28 ( 11.3 )
25 - 29	34 ( 13.7 )
30 – 34	73 ( 29.4 )
35 – 39	51 ( 20.6 )
40 – 44	35 ( 14.1 )
>45	27 ( 10.9 )
Total	248 ( 100.0 )
<b>Level of Education</b>	
No formal education	27 ( 10.9 )
Primary	40 ( 16.1 )
Secondary	127 ( 51.2 )
Tertiary	54 ( 21.8 )
Total	248 ( 100.0 )
<b>Occupation</b>	
Housewife	71 ( 28.6 )
trading	130 ( 52.4 )
Civil service	35 ( 14.1 )
Teaching	7 ( 2.9 )
Farming	5 ( 2.0 )
Total	248 ( 100.0 )
<b>Total number of living children</b>	
None	64 ( 25.8 )
1	38 ( 15.3 )
2	40 ( 16.1 )
3	42 ( 17.0 )
4	33 ( 13.3 )
>4	31 ( 12.5 )
Total	248 ( 100.0 )

**Table 2: Respondents' demographic characteristics and condom use.**

Variable	Used	No condom	X <sup>2</sup> /p-value
<b>Age ( in years ):</b>	<b>Condom (%)</b>	<b>Used ( %)</b>	
< 25	2 ( 2.7 )	26 ( 14.9 )	X <sup>2</sup> =87.6 p<0.001
25 – 29	1 ( 1.4 )	33 ( 18.9 )	
30 – 34	11 ( 15.1 )	62 ( 35.4 )	
35 – 39	15 ( 20.5 )	36 ( 20.0 )	
40 – 44	19 ( 26.0 )	16 ( 9.1 )	
>44	25 ( 34.3 )	2 ( 1.1 )	
<b>Total</b>	73 ( 100.0 )	175 ( 100.0)	
<b>Level of Education:</b>			
No formal education	4 ( 5.5 )	23 ( 13.1 )	X <sup>2</sup> = 19.4 P<0.001
Primary	22 ( 30.1 )	18 ( 10.3 )	
Secondary	28 ( 38.4 )	99 ( 56.6 )	
Tertiary	19 ( 26.0 )	35 ( 20.0 )	
<b>Total</b>	73 ( 100.0 )	175 ( 100.0)	
<b>Occupation:</b>			
House wife	21 ( 28.8 )	50 ( 28.6 )	X <sup>2</sup> =2.9 p > 0.50
trading	35 ( 48.0 )	95 ( 54.3 )	
Civil service	12 ( 16.4 )	23 ( 13.1 )	
Teaching	2 ( 2.7 )	5 ( 2.9 )	
Farming	3 (14.1 )	2 ( 1.1 )	
<b>Total</b>	73 (100.0 )	175 (100.0)	

more than those who are both positive. This is not significant  $p > 0.50$

**Table 4** shows the views of the respondents on how they contracted HIV. From this Table, it is obvious that the respondents contracted HIV from different ways. A good proportion of the respondents 121(48.8%) did not know how they contracted HIV while 109(43.9%) said they contracted HIV through sexual route. There was need to find out the reasons the respondents had for not using condom consistently. **Table 5** contains the reasons the respondents gave.

From this Table, the commonest reason 158 (63.7%) of the respondents had for not using condom consistently was the desire to have more children. There was need

to find out the number of the respondents who actually used condom consistently (for every sexual intercourse).

**Table 6** contains this.

The respondents were asked the extent to which they always use condom during sex. From the responses in Table 6, only 73(29.4%) of them agreed that they use condom during each sex.

Following the logistic regression in **Table 7**, levels of education were associated with high condom use. For instance, the higher the respondent's education (tertiary and Secondary) the more consistently condom was used (OR 7.023., CI 2.050 – 24.047,  $P < 0.001$ ). Also the older the respondents 40 years and above, the more consistently they used condom (OR 164.474, CI

**Table 3: Factors that encouraged condom use**

Factors	Frequency of condom use		X <sup>2</sup> /P-value
	Used condom	Did not use condom	
On regular ARV Not on regular ARV	63 ( 86.3 ) 10 (13.7 )	137 (78.3) 38 (21.7)	X <sup>2</sup> = 2 P = 0.20
<b>Total</b>	73 ( 100.0 )	175 (100.0)	
Desire more children Do not desire	17 (23.3) 56 (76.7)	141 (80.6) 34 (19.4)	X <sup>2</sup> = 72.9 P < 0.001
<b>Total</b>	73 ( 100.0 )	175 (100.0)	
Did not disclose status to spouse Disclosed status	23 ( 31.5 ) 50 ( 68.5 )	150 (85.7) 25 (14.3)	X <sup>2</sup> = 71.6 P < 0.001
<b>Total</b>	73 ( 100.0 )	175 (100.0)	
Both are positive Both not positive Don't know spouse's status	23 ( 31.5 ) 26 ( 35.6 ) 24 ( 32.9 )	77 (31.9) 70 (40.0) 51 (29.1)	X <sup>2</sup> = 0.50 P > 0.50
<b>Total</b>	73 ( 100.0 )	175 (100.0)	

**Table 4: Respondents' views on how they contracted HIV**

*Views	Frequency (%)
Sexual route	109 (43.9)
Blood transfusion	35 (14.1)
Injection got when sick	22 (8.9)
During child birth	19 (7.7)
Do not know	121 (48.8)

**Table 5: Respondents' reasons for not using condom consistently during sex**

*Reasons	Frequency (%)
Desire to have more children	158 (63.7)
Fear of being suspected for infidelity	75 (30.2)
Husband dislikes condom	112 (45.2)
Both of us are positive	47 (18.9)

**Table 6: Respondents who consistently used condom during sex**

Using condom for every sex (consistent)	Response category
Always use condom during sex	73(29.4%)
Do not always use condom during sex	175(70.6%)
<b>Total</b>	248(100%)

**Table7: Respondents and predictors for consistent condom use**

Age	OR	S.E	C.I	Z	P
*< 25					
25 – 29	0.395	1.253	0.034-4.604	0.74	0.20
30 -34	2.329	0.804	0.481-11.257	1.05	0.10
35 – 39	5.487	0.797	1.150-26.154	2.136	0.01
40 – 44	15.631	5.487	3.199-76.325	3.39	<0.001
>44	164.474	1.039	21.477-1260.2	4.91	<0.001
<b>Level of Education</b>					
*No formal education					
Primary	7.023	0.628	2.050-24.047	3.10	<0.001
Secondary	1.626	0.582	0.519-5.089	0.84	0.20
Tertiary	3.121	0.612	0.941-10.350	1.85	0.04
<b>Desire for more children</b>	13.612	0.336	0.043-26.311	7.70	<0.001
<b>Disclosed status to spouse</b>	13.072	0.412	5.836-29.253	6.238	<0.001

\*Reference category

21.477 – 1260.2,  $P < 0.001$ ) while the younger the respondents 25-29 years, the less consistently condom was used (OR. 0.395, CI 0.034- 4.604,  $P = 0.20$ )

Also women who did not desire more children used condom more consistently than those who desired more children (OR 13.612, CI 0.043-26.311,  $P < 0.001$ ).

Women who disclosed their HIV status to their spouses used condom more consistently than those who did not disclose (OR 13.072, CI 5.836 – 29.253,  $P < 0.001$ ).

## Discussion

The result of this study showed that only 29.4% of the respondents used condoms consistently during sex. This might not be unrelated to the cultures and traditions behind the marriage institution where condom use

among couples is regarded as a taboo. The effect of regarding condom use among couples as a taboo is that most couples may not consider it necessary to use condom during sex. This could make such couples unaware of the full benefits of using condom during

sex. The few proportion of respondents who stated that they used condom consistently may be those who have good knowledge of the benefits of using condom during sex. The finding that the respondents who used condom consistently may be those with good knowledge of the benefits of condom use agrees with that of [3,12,16] where couples used condom consistently only when they were informed that condom use was not associated with infidelity .



The desire for more children was a panacea for irregular condom use among the respondents. This finding is in conformity with the findings of [13, 14] at Guatemala where a good proportion of the sample studied did not use condom during sex because of the desire to have more babies. The desire to have children is common in every African marriage and in Nigeria in particular. Married women, irrespective of their health status, will desire to have children to maintain the marriage. This might explain why most of the women in this study desired more children despite their HIV status.

The result that the respondents on regular ART used condom more than those on irregular ART is a strength to this study. For this group of women, it is possible that the routine health education clinicians provide clients during services might have influenced their decision to use condom during sex. It is also likely that they might have been counseled on the benefits of using condom during sex. With this information, it is likely that these group of clients might sustain condom negotiation during sex.

The finding that some of the respondents indicated that they did not use condom for sex because their partners dislike its use further explains the inequality women experience in their marriages. This finding supports the need for aggressive health education on the benefits of condom use during health and marriage counseling sessions. This is important because couples should be well educated on the benefits of condom use early in the marriage irrespective of the cultural barriers on condom use.

The fact that only (29.4%) of the respondents disclosed their sero-status to their partners revealed the extent to which couples are at risk of HIV infection and re-infection. This finding is at variance with that of [15] in Uganda, where 54% of the respondents disclosed their status to their spouses so as to protect other family members from infection. The difference between our study and that of Ugandan might be related to geographical location and not cultural differences. The main reason for non-disclosure as documented in the Ugandan study was fear of spouse abandonment. The same reason for non-disclosure in Ugandan study is also the reason for non-disclosure in the present study but of a more severe consequence as a result of the low proportion of those who disclosed.

The fact that older women 40 years and above used condoms more regularly than the younger ones could be explained that at this age, majority of the women must have had their desired number of children and as such, their prerogative is to avoid infection and prevent pregnancy at any material time of their sexual activity.

Level of education played a positive role in the use of condoms in the study. Women with higher level of education (tertiary and secondary), used condom more consistently than others in the study. This finding is consistent with studies by [17, 18, 22, 24]. The finding could be explained by the fact that the higher the education of an individual, the more likely the individual will be exposed to correct information on HIV/AIDS transmission. Correct information on HIV and AIDs prevention will empower the individual to use relevant strategies to protect self from infection.

### Conclusion:

The study noted low awareness of benefits of condom use, hence only an insignificant proportion 29.4% of the respondents used condom consistently. The desire for more children played a negative role in the consistent use of condom among the respondents. Since child bearing is important in African culture especially that of Nigeria, it is therefore necessary to organize a planned and consistent health education and marriage counseling sessions for HIV positive individuals irrespective of their ages and sex. This can be achieved through guarantying proper HIV testing and counseling, as well as regular and subsidized HIV treatment services.

### Limitations:

Although this study has identified some variables that significantly affected consistent condom use among the respondents, it has some limitations. The short period of the study could not afford the researchers a full understanding of the factors associated with consistent condom use among HIV positive women. Also the fact that only married females cohabiting with their spouses were studied could not allow for wider and diverse understanding of how condom is used among other females who are HIV positive. Studies of this type may not allow for full assessment and evaluation of condom use among the HIV positive individuals. This may affect awareness and sustainability of consistent condom use.

Also the self-reporting of condom use by the respondents as well as the administered method of data collection could be affected by interviewer bias. Nevertheless, the study is relevant in understanding the main predictors of consistent condom use among

married women living with HIV and AIDS. This knowledge is important in the control of HIV and AIDS and the development of strategies for HIV prevention among married couples.

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