

Use of Condoms among Human Immunodeficiency Virus Positive Women Attending Antenatal Clinic in Nnewi, South East Nigeria

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Abstract

Background: Consistent use of condom provides protection from transmission of human immunodeficiency virus (HIV) infection in couples with sero-discordant HIV status. It also protects against acquiring other strains in HIV positive concordant couples. **Aim:** This study evaluated the use of barrier method of contraception among HIV patients. **Subjects and Methods:** This was a descriptive cross-sectional study conducted among pregnant women in Nnamdi Azikiwe University Teaching Hospital Nnewi. An interviewer administered questionnaire was used to obtain relevant information from the subjects. Data was analyzed using SPSS software version 20.0 (Chicago, IL, USA, August 2011). **Result:** A total of 126 HIV positive pregnant women participated in this study. The mean age of the women was 30.4 (5) years while the mean parity was 2.6 (1). All the patients had at least primary education with 63.5% (80/126) having secondary education as the highest educational attainment while 87.3% (110/126) were in monogamous marriage. The partner's HIV status showed that 41.3% (52/126) tested negative to HIV antibodies while 42.8% (54/126) tested positive to HIV antibodies and 15.9% (20/126) do not know partner's HIV status. Only 61.9% (78/126) of the couples use condom during sexual intercourse. Further analysis showed that 26.2% (33/126) use condom consistently except during timed intercourse for conception. There was significant association between type of relationship and use of barrier method of contraception. There was no significant association between sero-discordant couples and highest educational status with use of barrier method of conception. **Conclusion:** Condom use among HIV positive couples is low and raises great concern on transmission of the virus to partners and babies born to positive mothers.

Keywords: Condom use, Human immunodeficiency virus positive couples, Serodiscordance

Introduction

The human immunodeficiency virus (HIV) epidemic has continued to have an enormous impact on households, communities, business, public services and national economy. HIV/acquired immune deficiency syndrome (AIDS) is a global crisis, a challenge to human life and dignity with ability to erode social and economic development.^[1] It has a great influence on stability, life expectancy and

economic developments. In addition, it has the potential of hindering the realization of the millennium development goals and its spread promotes poverty.^[2] It has increased immense suffering on different countries and communities world-wide.^[3]

Sub-Sahara Africa accounts her 69% of HIV infections world-wide, 72% of new infections among adults and 94% of new infections among children.^[4] Females are more affected than males. The epidemics once dominated by males have reversed with more females (58%) being affected. Women's vulnerability to HIV infection stems from greater physiological susceptibility to heterosexual transmission and severe social, legal and economic disadvantages. Individuals who are divorced, separated or widowed tend to have significantly higher HIV prevalence than those who are single, married or co-habiting.^[4]

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The prevalence among pregnant women in Nigeria in 2010 was 4.1%.^[5] Despite the national prevalence of 4.1%, there are variations by state and region. Age specific prevalence is highest in the age group 25-27 years (8.6%) and lowest in the 40-44 years age group (2.9%).^[6] This has a great implication because majority of affected women are within the reproductive age. Nigeria's HIV epidemic is peculiar due to the huge population. It has been estimated that Nigeria has the second largest population of HIV infected individuals in the world.^[7] The annual HIV positive births in 2009 were 56,681 while new infections were 336,379 (149,098 males and 187,284 females).^[6]

High disease burden in this region is due to higher rate of heterosexual transmission, higher prevalence in women of reproductive age and high fertility rate. Countries facing high levels of fertility also have low level of contraceptives use.

The unique needs of couples with one or both partners being HIV positive are largely missing from many family planning efforts, which focus on the prevention of pregnancies. The consistent use of barrier method of contraception during sexual intercourse reduces the risk transmission of new infections among serodiscordant couples.^[8,9] Meta-analysis has shown that consistent use of condom reduces the transmission of HIV infection by more than 80%. The use of barrier method of contraception also reduces the risk of transmission of resistance strains among HIV sero-concordant couples and other sexually transmitted diseases. It may also serve as a method for family planning either alone or in combination with another method of family planning.

Despite the obvious advantages, studies have shown low level of contraceptive use including barrier method of contraception by people infected with HIV in developing countries.^[10,11] This may lead to infection of uninfected partners with its multiplier effect, usher in a vicious cycle of poverty, poor health and impaired economic growth. The achievement of set objectives of the Millennium Development Goals will not materialize. Preventing unintended pregnancy among HIV-positive women through family planning services such as condom use is one of the four cornerstones of a comprehensive program for prevention of mother-to-child HIV transmission (PMTCT). Condom use also reduces the chances of acquisition of resistant strains among pregnant women.

This study evaluated the use of barrier methods of contraception in Nnewi among HIV positive couples attending antenatal clinic in Nnewi. The finding may help us restructure the contents of our counseling sessions and will help in formulation of programs to reach the target group who are in dire need of barrier method of contraception.

Subjects and Methods

This was a descriptive case series conducted among HIV positive pregnant women attending antenatal clinic at the

Nnamdi Azikiwe University Teaching Hospital (NAUTH) Nnewi, South-eastern Nigeria from May 2012 to January 2013.

The study population included HIV positive pregnant women attending antenatal care in NAUTH, Nnewi within the study period. A total of 126 women participated in the study. HIV pregnant women that booked but declined their consent were excluded from this study. Only pregnant women who gave informed consent were included in the study. Ethical clearance was obtained from the ethical committee of the NAUTH, Nnewi, Nigeria prior to the commencement of the study.

Interviewer administered questionnaire was used to extract relevant information after obtaining consent. Demographic data including age, parity, highest educational attainment, marital status religion and husband's occupation were collected from the subjects.

Additional information including number of sexual partners within 1 year, partner's HIV status, use of barrier method of contraception, reason for not using barrier method of contraception and disclosure of HIV status to the partner were obtained from the subjects. For the purpose of this study, condom use was defined as ever used in the last 1 year.

Statistical analysis was carried out using SPSS software version 20.0 (Chicago, IL, USA, August 2011). Chi-square test was used to compare variables for significant differences while Student's *t*-test was used to compare means and standard deviation. The level of statistical significance was set at $P < 0.05$. There was cross tabulation to explore relationships.

Result

Totally 126 HIV positive pregnant women participated in this study. The mean age of the women was 30.4 (5). The highest frequency of 48/126 (38.1%) was recorded in the age category of 25-29 years while the lowest frequency 4/126 (3.2%) was recorded in the age category of 40-44 category. None of the women was below 20 years or above 44 years.

The mean parity of the women was 2.6 (1). Most of the women 77/126 (61.1%) were multiparous, 30/126 (23.8%) were primipara while 19/126 (15.1%) were nulliparous. All the women had at least primary education. Most have secondary education 80/126 (63.5%) as highest educational qualification while only 24/126 (19.0%) had post-secondary education. Majority 116/126 (92.1%) were currently married while 6/126 (4.8%) were single. Two of the women 2/126 (1.6%) each were separated and widowed respectively.

Table 1 shows the socio-demographic characteristics of the subjects while the type of relationship is shown in Table 2.

Only 7/126 (5.6%) had more than one sexual partner in the last 1 year while 119/126 (94.4%) had only one sexual partner. The partner's HIV status was positive in 54/126 (42.8%) and negative in 52/126 (41.3%) of the subjects. 20/126 (15.9%) do not know the partner's HIV status. 115/126 (91.3%) of the cohorts have disclosed their HIV status to their partners while 11/126 (8.7%) have not disclosed their HIV status to their partners. None of the single women had disclosed their HIV status to their partners.

78/126 (61.9%) of the cohort use condom with their partners during sexual intercourse while 48/126 (38.1%) do not use condom during sexual intercourse. Further analysis showed that only 33/126 (26.2%) use condom always except during timed intercourse [Table 4]. All the single women said they do not use condom with their partners during sexual intercourse. The reasons for not using condom consistently by the couples include husband choice 24/126 (19.0%), the woman's choice 10/126 (7.9%) and religion. This is shown in Table 3. 56/126 (44.4%) gave no reason for not using condom during sexual intercourse.

There was a strong association between use of condom and marital status of the women and disclosure of HIV status to the partner ($P < 0.01$, odds ratio 4.5, 3.7-4.6). After controlling for confounding factors, there were no association between use of barrier method of contraception and highest educational attainment and partner's HIV status.

Table 1: Socio-demographic parameters

	Frequency <i>n</i> =126	Percentage
Age range		
20-24	12	9.5
25-29	48	38.1
30-34	43	34.1
35-39	19	15.1
40-44	4	3.2
Parity		
0	19	15.1
1	30	23.8
2-4	64	50.8
>4	13	10.3
Highest educational attainment		
Primary	22	17.5
Secondary	80	63.5
Tertiary	24	19.0

Table 2: Type of relationship

Type	Frequency <i>n</i> =126	Percentage
Monogamy	110	87.3
Polygamy	6	4.8
Separated	2	1.6
Widowed	2	1.6
Single	6	4.8

Discussion

The world of HIV/AIDS is a very dynamic one and research is ongoing on ways to prevent and treat the condition. Some of the research includes the application of vaccines and development of microbicides. However apart from abstinence, condom use appears to be the cheapest and most effective way of preventing infections at the moment. Several international agencies willingly partner governments in making this commodity available.

In this study, the category with the highest number of infected females was 25-29 years. This is in agreement with the highest age specific prevalence among women in a national survey.^[6] These are women at the peak of their reproductive life. This group of women should be targeted in the planning and implementations of programs aimed at reduction of the disease burden.

Overall parity shows that most of the women were multiparous. This underscores the high fertility rate in the country. Majority of the infected women in this study were in a monogamous marriage. This may be due to the study design, which included only pregnant women. Studies have shown that women who are widowed, divorced or separated are more at risk of being infected,^[5] but these groups are less likely to be pregnant. Perhaps a study among the general population may yield a different result in this regard.

A high percentage of the couples are in sero-discordant relationships with the male partner being uninfected. Sagay *et al.* in their study noted the same observation.^[12] Ikechebelu *et al.* in a previous work observed 26% sero-discordance among couples in Nnewi.^[13] However, this is lower than 41.3% in this study. The reason for this cannot be stated with certainty except perhaps restating the fact that more women are now infected with the virus.

Majority of the women have disclosed their HIV status to their partners. This is very heartwarming considering the role of the

Table 3: Reason for not using barrier method of contraception

Reason	Frequency <i>n</i> =126	Percentage
Partner's preference	24	19.0
Woman's choice	10	7.9
Religion	2	1.6
Not accessible	1	0.8
No reason	56	44.4
Always use it	33	26.2

Table 4: Consistent use of condom

Consistent use	Frequency <i>n</i> =126	Percentage
Always except timed intercourse	33	26.2
Occasionally	45	35.7
Not at all	48	38.1

male partner in HIV infections. Partner consent and support have been identified as important factors that enhances adherence to PMTCT interventions including barrier method of contraception. However, a worrisome trend is the finding that unmarried women are less likely to disclose their HIV status to their partners. This may be because of rejection and stigmatization. The implications include lack of support and possibility of partners being infected. This vulnerable group should be targeted in any program to reduce the rate of HIV infection.

The proportion of couples that use condoms consistently in this study was low. Several studies also noted the same pattern of inconsistent and non-use of condom among HIV positive couples.^[13-17] A study from South Africa showed that 63% of HIV positive couples never used condom.^[18] This may lead to rise in the incidence of HIV infection considering the proportion of sero-discordant couples in this study. It may also lead to emergence of resistant strains of HIV and increase in mother to child transmission of HIV. Women on highly active anti-retroviral therapy (HAART) are more likely to use contraception including condoms than HAART naïve patients.^[19] This highlights the potential of integrated HIV and reproductive health services to impact maternal, partner and child health.^[19] However, our study did not explore this relationship.

This study's findings of strong relationship between non-use of condom, unmarried status and non-disclosure of HIV status to the partner are worrisome. These will ultimately exposure their partners to a higher risk of HIV infection. The group remains very vulnerable and is more likely to have multiple sexual partners. This calls for concerted effort targeted at this group of women to address their fears, concerns and needs. It also raises ethical and moral issues about confidentiality of HIV status. There is no doubt that barrier method of contraception has a critical role to play in HIV infection and mother to child transmission of HIV. As a matter of fact, result from a study in South Africa provide support for the integration of HIV risk reduction interventions for both women and men into existing PMTCT services during and after pregnancy.^[20]

Conclusion

High rate of sero-discordant couples and inconsistent use of condom among HIV couples is another missed opportunity in halting the HIV scourge. There should be full integration of partner disclosure and condom use in counseling sessions with emphasis on dual protection of condoms. Special needs of unmarried and serodiscordant couples should be isolated and addressed separately. There in need for regular review of HIV programs with the aim of identifying and tackling challenges.

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Competing Interest

The authors make a declaration that they did not get any financial support for this work and there was no competing norconflict of interest.

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