

## Pattern of Contraception among HIV Positive Women in Jos University Teaching Hospital

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### ABSTRACT

**BACKGROUND:** Prevention of unintended pregnancies among HIV positive women is a key strategy in preventing the spread of the disease. Contraception is crucial to achieving this and consistent use of condom provides the dual advantage of prevention of pregnancy and re-infection with HIV and other sexually transmitted infections. The purpose of the study is to determine the contraceptive awareness among these women, the types of contraception being used as well as the prevalence and compliance with barrier contraception.

**METHOD:** A cross-sectional survey using an interviewer-administered proforma among HIV positive women within the reproductive age group receiving prevention of mother to child transmission (PMTCT) in Jos University Teaching Hospital.

**RESULT:** A total of 140 questionnaires were administered and retrieved. One hundred and thirty nine women (99.3%) had contraceptive awareness. Ninety eight of them (70%) were using contraception, among which 95(96.9% of contraceptive use) were using condom. The condom prevalence rate in the whole population was 67.8%

The pattern of contraception showed that 46(46.9%) used condom alone, 49(50%) used condom with other methods; among which condom and injectables constituted the largest group (41 women, 41.8%). Out of those using condom, 43(43.2%) were using it consistently

**CONCLUSION:** The prevalence of contraception, the use of barrier contraceptive and the rate of the combined use of condom with other contraceptive method, underscores the contraceptive awareness of these women as a means of preventing unplanned pregnancies and prevention of re-infection with HIV and other sexually transmitted infections.

**KEY WORDS:** Pattern, Contraception, HIV, Positive, Women, Jos

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### INTRODUCTION

The human immunodeficiency virus (HIV) infection has now assumed an epidemic proportion worldwide, and the diseases once dominated by infected males have become progressively feminized<sup>1</sup>. Sub-Saharan Africa has continued to bear the greatest burden of the disease with approximately 63% of the total number of people living with HIV, 65% of the 4.3 million total new

infection and 72% of the 2.9 million deaths in 2006 and 90% of the 2.3 million children infected with the virus<sup>2</sup>. Millions of young people are becoming sexually actively each day and in Sub-Saharan Africa, three quarters (75%) of all 15-24 years old living with HIV is female<sup>3</sup>. As more women contract the virus, the number of children infected from their mothers has been growing. It has been estimated that about 57% of adults living with HIV in sub-Saharan Africa are women and worldwide, an estimated 640,000 children acquired the infection in 2004 alone with about 90% of the infection occurring in sub-Saharan Africa and more than 90% occurring through mother to child transmission (MTCT) of HIV<sup>3</sup>.

Mother to child transmission of HIV represents a tragic dimension of the burden of HIV in sub-Saharan Africa where the poorly funded resource constrained health care systems are on their own hindrances to prevention efforts. The impact is such that at least one third of HIV infected children in developing countries die within their first year of life<sup>4,5</sup>.

Four strategies have been designed to prevent maternal to child transmission of the disease; primary prevention of HIV in women of reproductive age group and their partners, prevention of unintended pregnancies among HIV positive women, prevention of HIV infection from mother to their unborn babies and infants, and care and support for HIV infected women, their infants and family members<sup>6</sup>. Contraception is a key element in this four-pronged strategy and among the contraceptive options; consistent use of condom either alone or in combination with a more effective method of preventing pregnancy (dual method) could be used. This dual method is said to provide the best known protection against re-infection with HIV and other STIs as well as preventing unwanted pregnancy<sup>1</sup>. In the absence of specific interventions, the estimated rate of MTCT ranges from 15% to 40%<sup>7</sup>. It is the prevention of unintended pregnancies among HIV positive women that is the focus of this study which set out to determine the pattern of contraception among HIV positive women in JUTH.

Most HIV infected women in the developed world use some form of contraception, usually condoms<sup>8</sup>. Anecdotal evidence suggests that this is not the case in Nigeria,<sup>1</sup> in spite of many benefits this MTCT strategy confers. Part of which is prevention of unintended pregnancy and also that of preventing STI's and HIV re-infection (with condom use) with its attendant consequences.

It is therefore necessary to conduct this study to have a scientific basis to determine the truth or otherwise of such a statement, especially from our own experience among HIV positive women in JUTH. This will also help to evaluate the effectiveness of messages passed to these women during health education in the PEPFAR (presidential emergency plan for AIDS Relief) program, and to provide data that will facilitate prevention of maternal to child transmission of this dreaded Human immunodeficiency virus.

## SUBJECTS AND METHOD

The study was a cross-sectional survey among HIV positive women within the reproductive age group (15-49 years) who are receiving PMTCT interventions in the APIN PEPFAR program of the institution.

Consecutive HIV infected women within the age group who willingly agree to participate, were recruited and their data was collected using a proforma. This was done in collaboration with the midwives who are trained voluntary counselling and testing counsellors at the centre. The sample size was determined using the formula<sup>9</sup>.

$$N = \frac{Z^2 Pq}{d^2}$$

Where N = Sample Size

Z = 1.96 (value read from standardized normal Distribution table at 95% confidence limit)

P = 10.1% (contraceptive prevalence)<sup>10</sup> = 0.1

q = (1-p) = 0.9

d = precision (0.05)

$$\text{Hence } N = \frac{(1.96)^2 \times 0.1 \times 0.9}{(0.05)^2} = \frac{3.84 \times 0.09}{0.0025} = 138.24$$

The minimum sample size was then rounded up to 140 to take care of limitation like incorrectly filled questionnaire. After collection, the data was entered into a pre-designed program in the Epi-info software and analyzed by a statistician.

## ETHICAL CONSIDERATION

The study was presented to the institutional health research and ethical committee of the Jos University Teaching Hospital and ethical approval was given for it on the 20/10/08. Informed consent was obtained from the subjects before enrollment for the study.

## RESULTS

The 140 subjects had a mean age of 30.18 ± 5.3 years, ranging from 22 to 43 years with the age group 25-29 years constituting the largest group (35%), Table i. Their ethnic characteristics showed that 78 (55.7%) were Plateau tribes, 17 (12.1%) Hausa, 11 (7.9) Igbo, 6 (4.3%)

Table i: Distribution of women by Age

Age group in years	Frequency	Percentage %
20-24	33	23.6
25-29	40	35.0
30-34	37	26.4
35-39	14	10.0
40-45	7	5.0
Total	140	100%

Mean age=30.18 ± 5.3 years, Range= 22-43, Median age= 28.0 years.

each from Yoruba, Idoma and Tiv and 16 (11.4%) constituting other tribes. Table ii. Most of the women 123 (87.9%) were married, 10 (7.1%) were single and the others either divorced, widowed or cohabiting with their partners.

Table ii: Distribution of women by Ethnic group

Ethnicity	Frequency	Percentage %
Berom	35	25.0
Taroh	18	12.9
Hausa	17	12.1
Mwaghavul	15	10.7
Igbo	11	7.9
Ngas	10	7.1
Idoma	6	4.3
Tiv	6	4.3
Yoruba	6	4.3
Other tribes	16	11.4
Total	140	100%

Table iii. The mean parity was 2.7 ± 2.0 with 101 (72.1%) of them constituting the largest parity group of 1-4.

Table iii: Distribution by Marital status

Marital status	Frequency	Percentage %
Married	123	87.9
Single	10	7.1
Cohabiting	3	2.1
Divorced	2	1.4
Widowed	2	1.4
Total	140	100

Table iv. One hundred and twenty (120) of them out of 140 had formal education (85.7%) with 42 (30.0%) who attended secondary school constituting the largest percentage.

Table iv: Distribution of women by Parity

Parity	Frequency	Percentage %
0	13	9.3
1-4	101	72.1
5-9	26	18.6

Range= 0-9, Mean parity=2.7 ± 2.0, Median=2.

Table v. Most of the women 139 (99.3%) were aware of contraception; out of this 98 were presently using one form of contraception or the other giving a contraception prevalence rate of 70%.

Table v: Distribution of women by Educational status

Educational status	Frequency	Percentage %
Primary	40	28.6
Secondary	42	30.0
Tertiary	38	27.1
Arabic	3	2.1
Non-literate	17	12.1
Total	140	100

120/140 x 100=85.7% (formal education)

Table vi. Out of the 98 using contraception, 95 (96.9%) were using condoms either alone or in combination with another method giving a condom prevalence rate of 67.8%, Table vi. The pattern of contraception showed that 46 (46.9%) women used condom alone, while 49 (50%) used condom with other methods; among which condom and injectables constituted the largest group 41 (41.8%), Table vi. Forty-one (43.2%) out of the 95 using the condom, used it for every coitus.

**Table vi: Pattern of contraception**

Contraceptive method	Frequency	Percentage %
Condom alone	46	46.9
Condom + injectables	41	41.8
Condom +IUCD	4	4.1
Condom + OCP	2	2.0
Condom + BTL	2	2.0
BTL alone	2	2.0
Implant alone	1	1.0
Total	98	100

95/140 x100=67.8% (condom prevalence rate)

Table vii. Fifty women (51.0%) of the 98 using contraception said their reason for using it was to prevent unplanned pregnancy and cross-transmission with resistant strains of HIV virus.

**Table vii: Frequency of Condom use**

Frequency of condom use	Frequency	Percentage %
Every coitus	41	43.2
Frequently but not always	34	35.8
Occasionally	16	16.8
Rarely	4	4.2
Total	95	100

Table viii. Twenty-one (50%) of the 42 women not using any contraceptive method said their reason was because their spouses did not like the idea of contraception (condom) and 10 (23.8%) said they were abstaining.

**Table viii: Reasons for Choice of contraception (n=98)**

Reason for choice	Frequency	Percentage %
Prevention of unplanned pregnancy	27	27.6
Prevention of unplanned pregnancy and cross-transmission	50	51.0
Prevention of unplanned pregnancy, cross-transmission and STI	1	1.0
Prevention of cross-transmission	18	18.4
Others	2	2.0

Table ix. Out of the 42 women not using contraception, 24 (57.1%) intended to use one form of contraception or another.

**Table ix: Reasons for Non-Use of Contraception (n=42)**

Why not using contraception	Frequency	Percentage %
I don't like it	3	7.1
Not sexually active	10	23.8
Spouse doesn't like Condom	21	50.0
Spouse not around	2	4.8
Yet to tell spouse	1	2.4
Others	5	11.9

## DISCUSSION

The contraceptive awareness in these women is high (99.3%) and comparable to the finding in Abidjan where the contraceptive awareness was 96.6%<sup>12</sup>. This high awareness is reflected in the contraceptive prevalence rate of 70% and higher than that in the general population where the contraceptive prevalence is 10.1%<sup>11</sup>. The relationship between awareness and contraceptive use in this study was not found to be statistically significant.

The contraceptive prevalence from this study is higher than the 28% from a study in Abidjan where despite the generally high awareness rate, most of the women were not using contraception<sup>12</sup>. The prevalence in JUTH is also higher than obtained in the African DITRAME Project of 39%<sup>13</sup>. It is possible that the women from our study paid more attention to, and took the education and counselling for contraception more seriously. The contraceptive prevalence, from this study is similar to that of the French SEROCO study of the impact of HIV diagnosis on sexual and contraceptive behaviour where during follow-up, 80% of the sexually active women were using contraceptive methods<sup>14</sup>.

The overall prevalence of condom use was 67.8% and constituted 96.9% of the general contraceptive prevalence. This result is similar to the finding of 76% condom use in a study to determine the contraception and fertility plans in a cohort of HIV positive women under care in the United States of America<sup>15</sup> and higher than the reported 11.6% use in the general population<sup>16</sup>. This is significant and encouraging since a higher degree of protection against HIV sexual transmission is provided by consistent correct condom use<sup>17</sup>.

The percentage of those using condom correctly in this study was found to be 43.2%. This is higher than the reported incidence of consistent condom use of 13% in the African DITRAME Project<sup>13</sup>; although it was also found in the African DITRAME Project that the prevalence of condom use rose from 13% to 21% among sexually active women who told their partners about their HIV status<sup>13, 18</sup>. After a 3-year peer-led condom promotion programme among sex workers in West Bangal, India, it was found that condom use rates rose from 3% to 81%. This and the finding of the DITRAME Project shows that involving the partner and promoting

the use of condom can increase the rate of condom use and that is the possible explanation of the difference between the high rate recorded from the study in JUTH and the DITRAME Project. The 43.2% rate is however, lower than the 63% reported consistent condom use in the women's interagency HIV study group<sup>19</sup>. The difference could be due to the fact that contraceptive prevalence in the general population is higher in the USA than in Nigeria; 76% compared with 15% respectively<sup>20</sup>.

The pattern of contraception showed that of the 98 women using contraception, 46.9% use condom alone, 41.8% use condom and injectable, 4.1% use condom and IUCD, 2% use condom and OCP, condom and BTL, and BTL each while 1% use implant. These findings contrast with the findings of a study in Kenya where 44% of the population was found to have used DMPA and 31% used OCP while 52% switched methods<sup>12</sup>. The difference between the two studies could be attributed to the objectives of each study. In another study in the United States of America to determine the correlates of contraceptives use and desire for future fertility, it was found that 54% were sterilized, and of those not sterilized 65% were using condoms alone, 25% were using condoms and/or hormonal methods, while 6.5% were not using any method<sup>15</sup>. The difference between this finding and that of our study is that most of the women were sterilized unlike in our study. But there is similar trend that among those not sterilized condom use has the highest rate followed by combined use of condom and hormonal contraception.

Half (50%) of the women not using contraception from this study, said their reason for non-use was because their spouse did not like condom. This is comparable with the result from HER study in USA<sup>22</sup> where 60% of the subjects reported same reason. Dislike for condoms was also the most commonly cited reason (>30%) for not using a condom in Luanda, urban Cameroon and Urban Zambia in a study carried out in 8 countries in sub-Saharan Africa to identify reasons for non-use of condoms<sup>23</sup>. Though the 30% recorded in that study is less than that from the study in JUTH, the difference can be explained by the fact that, that study was carried out in the general population while the study in JUTH was among an HIV positive women that always receive talks on safer sex practices and prevention of unplanned pregnancy before a clinic session.

## CONCLUSION

The prevalence of contraception, the use of barrier contraception and the rate of the combined use of condom and another contraceptive method suggests that many of the women in this study are being reached with regard to the message for safer sexual practices and prevention of unplanned pregnancies. However, some are yet to practice these teachings and others still face

challenges that hinder the effective utilization of the family planning services. These findings have implications for more widespread and effective behavioural interventions.

## LIMITATIONS OF THE STUDY

1. Sample size: The sample size was the minimum sample size. A larger sample size would have made the inferences to be drawn from the study stronger.
2. The sample population was restricted to women. A broader study involving the contraceptive pattern in the male spouses may give a better understanding to the hindrances to prevention of unintended pregnancies in the women.
3. The cross-sectional nature of the study allowed for finding associations but did not allow for definitive conclusions on cause and effect.
4. As with other surveys on sensitive topics, social desirability and stigma may have biased respondents' answers.

## RECOMMENDATIONS

1. Involving the spouses in the discussion about contraception, especially the dual protection benefits will address some of the concerns about condom use.
2. A one-on-one attention between the health personnel and patients, especially as a couple would go a long way in reinforcing the messages of the PMTCT strategies.
3. A thorough discussion on the relative effectiveness of contraceptive methods, emphasizing the importance of avoiding pregnancy and perinatal transmission of HIV will help in the choice of the contraceptive methods.

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