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*Full Length Research Paper*

# Contraceptive uptake, reproductive choices and sexual behavior of HIV positive compared to HIV negative women participating in the prevention of mother to child transmission of HIV program in Zimbabwe

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**Contraceptive uptake and pregnancy desires have not been adequately reported within prevention of mother to child transmission (PMTCT) initiatives in developing countries. Women were enrolled from a PMTCT program at 36 gestational weeks. A questionnaire on contraception and conception desires was interview administered to the women between 3 and 24 months after birth. A total of 273 women responded to the questionnaire, 189 HIV infected and 84 HIV negative. Significant differences were observed by HIV status for all types of contraception with 22% of the HIV infected women reporting none usage compared to 14% for HIV negatives ($p < 0.001$). Over 50% of the HIV infected women reported using condoms compared to 13% among the negatives ($p < 0.001$), whereas 13% of HIV infected women expressed desire for subsequent children. More than 60% of the women did not know their sexual partner's HIV status regardless of their own, whilst 25% of the HIV infected had not disclosed their status to their sexual partners. Contraceptive use was high regardless of women's HIV status, whereas a high proportion of HIV negative women were not using condoms. Some of the HIV infected women expressed future pregnancy desires whilst others had not disclosed their HIV status.**

**Key words:** HIV, PMTCT, contraception, disclosure.

## INTRODUCTION

It is estimated that 33.4 million people are living with human immuno-deficiency virus (HIV) worldwide, while women account for 60% of the infected population with the majority (77%), living in sub-Saharan Africa (UNAIDS, 2008). Data from antenatal clinics (ANCs) show that in most parts of southern Africa up to 30% of the pregnant women are infected with HIV (Dabis, 2002).

The United Nations General Assembly (UNGASS) of 2000 compelled member states to commit themselves to reduce mother to child transmission (MTCT) of HIV by 50% by 2010. In support of this initiative, WHO advocated a four pronged approach to the prevention of mother to child transmission of HIV (PMTCT). This includes the primary prevention of HIV among women of childbearing age and prevention of unintended pregnancies among women of childbearing age.

Zimbabwe adopted the PMTCT initiative as a national program in 2001.

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Issues around the second goal of PMTCT stipulated under the UNGASS declaration remain poorly understood in developing countries with generalized HIV epidemics and limited reproductive health and family planning services (Johnson et al., 2009).

Information on the outcome of PMTCT initiatives on women's contraceptive uptake, sexual behavior and fertility desires in the post partum period is lacking. Reported data is generalized to HIV infected women without specifically targeting women enrolled in PMTCT programs (Sherr, 2007; McCarraher et al., 2008; Rutenberg et al., 2008). Decisions on family planning, family size and condom use in African settings are often left to male partners, whereas condoms are not popular among men, especially within marriage (Meursing, 1995).

This paper describes and compares contraceptive uptake, condom use and desire for future pregnancy by HIV status after giving birth within a PMTCT program.

## MATERIALS AND METHODS

The study was conducted in three maternal child health clinics (Epworth, Seke North and St Mary's) in peri-urban areas around the capital city of Harare. Information for this paper was sourced from a follow up study of women enrolled from the national PMTCT program at 36 gestational weeks. Mother and child pairs were followed up from birth to assess various health parameters. The methodology of this major study had been described in detail (Kurewa, 2007). A questionnaire was administered by interviewers to the women during their follow up visits. We analyze information from interviews conducted between 3 and 24 months after birth.

The questionnaire sought Information on:

1. Demographic characteristics;
2. Obstetric history;
3. Sexual behaviour;
4. Condom use, contraception and desire for future pregnancy;
5. Disclosure of HIV status to sexual partner;
6. Knowledge of sexual partner's HIV status.

### Ethical considerations

The local authorities and the Medical Research Council of Zimbabwe (MRCZ) granted permission for the study to be conducted. The study was also reviewed and approved by the Norwegian Ethical Committee in Norway.

Data was analyzed using the Statistical Package for the Social Sciences version 11.0 (SPSS, Chicago, IL). Chi-square was used to compare variables between HIV negative and HIV infected women. Level of significance was observed for a p value < 0.05.

## RESULTS

A total of 273 women were interviewed, 189 HIV infected and 84 HIV negative between 3 and 18 months after birth. The mean (S.D.) age for the HIV infected women was 28.5 years (4.7) compared to 25.9 years (5.9) for the HIV negatives, $p < 0.001$.

The mean (S.D) number of pregnancies was 3.1 (1.7) for the HIV infected $p = 0.002$ compared to 2.4 (1.6) for the HIV negative and mean (S.D) live births of 2.2 (1.4) and 2.7 (1.6) $p = 0.001$, respectively. Demographic characteristics of the women according to their HIV status are showed in Table 1.

Almost 80% of the women in this cohort reported using contraceptives irrespective of HIV status. A significant difference was observed in contraceptive use by HIV status where more of the HIV infected women reported none use compared to the HIV negatives. The HIV infected women used less pills and injectables than the HIV negative women, whereas they reported more condom use than the HIV negatives $p < 0.001$ as shown in Table 2.

Close to a quarter of the HIV infected women had not disclosed their HIV status to their sexual partners compared to 10% among the HIV negatives, $p = 0.006$. More than 60% of the women did not know their sexual partners' HIV status regardless of their own status (Table 2).

Significant differences were observed in the desire for future pregnancy expressed by 13% of the HIV infected compared to 49% among the HIV negative women ($p < 0.001$). HIV infected women named HIV status (53%) as the main reason influencing their fertility desires. Significant differences were observed for all factors influencing future pregnancy between HIV infected and uninfected women, $p < 0.001$ (Table 2).

The HIV infected women were twice more likely to have an informal sexual partner than the HIV negatives, whilst a significant proportion reported not being sexually active $p = 0.013$. Partner refusing to use condoms and having a current STI were reported as the common reasons cited for problems with sexual life irrespective of the women's HIV status, $p = 0.004$. The HIV infected women rated their sexual life as bad compared to the HIV negatives (Table 3).

## DISCUSSION

Contraceptive uptake was generally high in this cohort irrespective of the women's HIV status. Condom use was significantly high among the HIV infected than the HIV negatives, whilst a significant proportion of the HIV infected women expressed desire for future pregnancy. The majority of the women did not know the HIV status of their sexual partners irrespective of their own HIV status. A quarter of the HIV infected women had not disclosed their HIV status including a significant proportion of the HIV negatives too.

High contraceptive use is in line with reports from other research studies and the Zimbabwe Demographic Health Surveys (ZDHS). This is mostly because family planning services were introduced in Zimbabwe way

**Table 1.** Socio demographic characteristics of the women in the two groups.

| Variable | Frequency N=273 | HIV + N = 189 (%) | HIV - N=84(%) | p value |
|---|---|---|---|---|
| **Age group (years)** | | | | |
| 17-23 | 68 | 31 (16) | 37 (44) | |
| 24-27 | 69 | 49 (26) | 20 (24) | < 0.001 |
| 28-31 | 69 | 59 (31) | 10 (12) | |
| 32+ | 67 | 50 (27) | 17 (20) | |
| **Marital status** | | | | |
| Single | 12 | 11 (6) | 1 (1) | |
| Divorced | 30 | 22 (12) | 8 (10) | |
| Widowed | 23 | 21 (11) | 2 (2) | 0.002 |
| Married-polygamous | 25 | 22 (12) | 3 (4) | |
| Married-monogamous | 183 | 113 (60) | 70 (83) | |
| **Employment status** | | | | |
| Not employed | 144 | 91 (48) | 53(63) | |
| Informal employment | 100 | 71 (38) | 29(35) | < 0.001 |
| Formal employment | 29 | 27 (14) | 2(2) | |

back in 1956 and since then the country has been rated as having one of the highest rates of family planning utilization in Africa (ZDHS 1999, 2002, Ntozi et al., 1998, Magwali, 2005, 2006). It is difficult to ascertain if this high contraceptive uptake was influenced by the PMTCT VCT.

Higher condom use among the HIV infected women is a sign of positive behaviour change which has been reported by other studies that such behaviors are distinctively observed among those testing positive (Gregson, 2009; Matambo, 2006; Matovu, 2007). Despite the publicity and awareness campaigns, condom use remains slightly above fifty percent among the HIV infected women. This is quite low considering that these women had gone through VCT and repeated health education at each visit.

Other studies have noted that condoms remain unacceptable especially in formal relationships where its use brings along a lot of blaming and labeling (Roth, 2001; Allen, 2003; Chimbiri, 2007). Low proportion of condom use by HIV negative women ignorant of their sexual partner's HIV status means that they are less likely to discuss issues of safer sexual behaviour in their relationships.

A public health concern regarding HIV interventions is when positive behaviors are not observed among those testing negative. Impact of HIV prevention interventions are said to be more effective when those not infected adopt positive behaviour so as to remain negative (Gregson, 1998; Dube, 2008).

This attitude by those testing negative is consistent with reports from other studies regarding sexual behaviour after VCT (Sheer, 2007; Turner et al., 2009).

Uptake of contraception among these women regardless of their HIV status suggests that family planning was indeed influenced by PMTCT/VCT in this study, contrary from other studies (Meursing et al., 1995; Magwali, 2005). This is equally true considering the timing of the questionnaire where the women could have been relying on lactational amenorrhea for contraception or could have been abstaining from sexual intercourse.

The fact that some of the HIV infected women expressed desire to conceive after PMTCT VCT emphasizes the meaning or central aspect of having one's own biological child in the African setting. This is in agreement with studies reporting that HIV infected women have their fertility desires that need to be addressed within family planning settings and involving their partners too. An HIV diagnosis neither does lead to reduction in sexual desire nor does it affect the desire to have children (Meursing, 1995).

This desire also affirms woman's position in a patriarchal society with gendered decisions regarding conception desires that are vested in the male partner and where childbirth plays a key role in strengthening marriages. Although women are aware and willing to prevent both STI/HIV and pregnancy, men still have the final decision regarding family planning issues. Similar observations have been reported even in studies focusing on males only (Mbizvo et al., 1996; Meekers et al., 2003; Langen, 2005).

Disclosure of one's HIV status is influenced by the repercussions of an HIV positive result in a situation

**Table 2.** Sexual behavior and HIV serostatus.

| Variable | Frequency N=273 | HIV + N = 189 (%) | HIV – N=84(%) | p value |
|---|---|---|---|---|
| **Contraception** | | | | |
| None | 53 | 41 (21.6) | 12 (14.3) | |
| Pills | 135 | 74 (39.2) | 46 (54.7) | |
| Injectables + Norplant | 31 | 23 (12.2) | 23 (27.4) | |
| Condom | 54 | 51 (27.0) | 3 (3.6) | < 0.001 |
| **Condom use** | | | | |
| No | 162 | 89 (47) | 73(87) | < 0.001 |
| Yes | 111 | 100 (53) | 11(13) | |
| **Disclosure of HIV status** | | | | |
| None | 54 | 46 (24) | 8 (10) | |
| Partner/spouse | 186 | 115 (61) | 71 (85) | 0.006 |
| Family member | 31 | 26 (14) | 5 (5) | |
| Friend | 2 | 2 (1) | 0 | |
| **Knowledge of sexual partner's HIV status** | | | | |
| No | 179 | 129 (68) | 50 (60) | |
| Yes | 94 | 60 (32) | 34 (40) | 0.207 |
| **Desire for more children** | | | | |
| No | 185 | 150 (79) | 35 (42) | |
| Yes | 66 | 25 (13) | 41 (49) | < 0.001 |
| Not decided | 22 | 14 (7) | 8 (9) | |
| **Reason or pregnancy desires** | | | | |
| HIV-status/ ill-Health | 106 | 101 (53) | 5 (6) | |
| Economic hardships | 32 | 13 (7) | 19 (23) | |
| Desired number attained | 38 | 25 (13) | 13 (16) | < 0.001 |
| Spouse's decision | 21 | 12 (6) | 9 (11) | |
| Still want more children | 54 | 22 (12) | 32 (38) | |
| Other reasons | 22 | 16 (8) | 6 (7) | |

where the woman is the first one to be screened among the couple. She carries the guilty, blame and responsibility for bringing the infection into the relationship (Ray et al., 1995; Medley, 2004; Eide, 2006). The HIV negatives are also not disclosing as they fear that it can be an endorsement for their spouses to engage in risky behaviour basing on the negative status of their spouses (Leaity, 2000; Sherr, 2007).

Disclosure is key in HIV awareness and prevention as it implies that couples are able to discuss HIV issues which will motivate and empower them to protecting each other from infection and re-infection. Disclosure has an important role not only regarding sexual behavior but also for infant feeding options and HIV and HAART therapy where adherence is centered on support from both spouse and the family unit at large.

Ignorance of their sexual partners' HIV status is a cause for concern especially when the women rely on the same partners on decisions regarding safer sexual practices. This calls for, and emphasizes the need for couple counseling and testing so that both understand their status and can be motivated to take the necessary precautions to prevent infections.

The clinical implication of the current study is that women's lack of power to negotiate safe sex still leaves them vulnerable to HIV infection and reinfection.

## Limitations

The HIV test's results referred to are based on the screening test done during pregnancy. A considerable

**Table 3.** Sexual relationship after index birth.

| Variable | Frequency N=273 | HIV +ve N = 189 (%) | HIV -ve N=84(%) | P-value |
|---|---|---|---|---|
| **Sexual relationship** | | | | |
| Formal partner | 206 | 133 (70) | 73 (87) | 0.013 |
| Informal sexual partner | 14 | 12 (6) | 2 (2) | |
| Currently not sexually active | 52 | 44 (24) | 9 (11) | |
| **Problems with sexual life** | | | | |
| None | 111 | 63 (33) | 48 (57) | |
| Lack of sexual desire | 57 | 45 (24) | 12 (14) | |
| Not sexually active | 25 | 21 (11) | 4 (5) | 0.004 |
| Rejected by spouse/partner? | 28 | 24 (13) | 4 (5) | |
| Partner refuses to use condoms | 36 | 26 (14) | 10 (12) | |
| Current STI | 16 | 10 (5) | 6 (7) | |
| **Rating of sexual life** | | | | |
| Excellent | 94 | 55 (29) | 39 (46) | |
| Good | 116 | 82 (44) | 34 (40) | 0.006 |
| Bad | 62 | 51 (27) | 11 (13) | |

number of them could have sero-converted to HIV positive at the time of the interview thus reducing the power to detect any differences between the HIV positive and negative women. In spite of the above limitation, the clinical importance of this study is that it provides evidence-based information regarding contraceptive uptake and condom use after PMTCT VCT.

We conclude that condom use was generally low in this cohort, with a significant proportion of HIV negative women not using them. A significant proportion of the HIV infected women expressed desire for future conception whereas some of them were not able to disclose their HIV status. The majority of the women were ignorant of their sexual partners' HIV status after VCT regardless of their own HIV status.

It is difficult to ascertain if the behaviors demonstrated by these women were influenced by PMTCT VCT. This is important in identifying priority areas when designing HIV intervention programs and family planning service provision.

There is need for further research to assess the extent to which PMTCT and VCT influences family planning uptake and modification of sexual behavior. Male involvement in VCT initiatives remains key to women's behaviour in HIV prevention initiatives. This study highlights a priority area addressing one of the PMTCT goals which is a public health priority in HIV/AIDS prevention strategies.

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