

HOW DO WE IMPROVE MALE PARTNER INVOLVEMENT IN PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV (PMTCT) IN NIGERIA?

Chigbu B, Onwere S.

Department of Obstetrics and Gynaecology, Abia State University Teaching Hospital, Aba, Nigeria.

ABSTRACT

Background: Recently, male partner involvement (MPI) has been advocated as a priority intervention in prevention of mother-to-child HIV transmission (PMTCT) programs. This is pertinent if we must attain the World Health Organization (WHO) global goals to achieve “zero new HIV infections, zero discrimination and zero AIDS-related deaths” by 2020.

AIM: This study is aimed at evaluating the outcome of male partner involvement in counseling and testing in a single comprehensive HIV treatment and PMTCT site in southeastern Nigeria.

Method: Pregnant women ($n = 2707$) participating in PMTCT program at a health facility in Aba, Nigeria were encouraged by way of a written invitation and phone calls to inform and invite their partners for couple HIV counseling and testing (cHCT).

Results: A total of 1164 male partners (43%) presented for cHCT and 8 (0.7%) knew they were living with HIV, whilst 11(0.9%) learned of their HIV-seropositive status for the first time. Seven HIV seropositive men were serodiscordant with their female partners and and 10 HIV seronegative men had female partners who were HIV seropositive. Couple HIV counseling and testing resulted in significant decrease in unprotected sex and increase in partner disclosure ($p < 0.05$).

Conclusion: Within PMTCT programs, counseling should emphasize the advantages of partner involvement to encourage women to inform and convince male partners to come for HCT.

Keywords: male partner, HIV, counseling, testing, PMTCT.

INTRODUCTION

People's knowledge of their HIV status through HIV counseling and testing (HCT) is crucial to the success of the HIV response. This is because HIV testing is the gateway to comprehensive HIV treatment and services which include HIV prevention, treatment, care and other support services. The new global 90–90–90 targets call for 90% of all people with HIV infection to be diagnosed, 90% of people with HIV diagnosed to receive anti retroviral treatment (ART) and 90% of those on ART to have a suppressed viral load by 2020.¹ Achievement of the first 90% – diagnosis of HIV – is essential to the second 90 –

initiation of ART among people with HIV – and the ultimate outcome of the third 90 – viral load suppression among people on ART, which improves client outcomes and prevents HIV-1 transmission.²

In 2014, approximately 150 million children and adults in 129 low- and middle income countries reportedly received HIV testing services.³ This is impressive and much of this progress stems from the

Corresponding Author: Chigbu B

Department of Obstetrics and Gynaecology, Abia State University Teaching Hospital, Aba, Nigeria.

chigbub@yahoo.com

expansion of provider-initiated testing and counseling (PITC) in clinical settings, the introduction of more community-based HCT and the ability to provide same-day test results, and often diagnosis, using rapid diagnostic tests (RDTs).^{4,5} However, it was estimated that 54% of people with HIV remain unaware of their status, and testing continues to be delivered without specifically aiming to reach those most at risk and as yet undiagnosed.⁶ HIV testing rates for men in countries with high HIV prevalence continues to be generally lower than for women.⁷ Global reporting suggests that this is because in these settings HCT is conducted mainly in reproductive health services, including antenatal care clinics (ANC), where HCT is offered as routine. Historically, prevention of mother to child transmission (PMTCT) of HIV services has been targeted primarily at women ignoring the men's influence on reproductive health. Recently, however, male partner involvement (MPI) has been advocated as a priority intervention in PMTCT programs. This is because emerging evidence in resource-poor settings with high HIV burden indicates that male partner involvement in PMTCT is associated with improved uptake of effective interventions and infant HIV-free survival.^{8,9} There is also evidence that male partner involvement positively impacts on non-HIV related outcomes such as modern methods of contraception and infant immunization.^{10,11} In the light of the Joint United Nations Program on HIV/AIDS (UNAIDS) and the World Health Organization (WHO) global goals to achieve “zero new HIV infections, zero discrimination and zero AIDS-related deaths”, how do we scale up MPI in HCT and PMTCT? This audit is a preliminary study aimed at evaluating the outcome of male partner involvement in counseling and testing in a single comprehensive HIV treatment and PMTCT site in southeastern Nigeria. It is hoped that findings in this study will contribute to the world literature on the

challenges and benefits of enhancing male partner HIV counseling and testing.

MATERIALS AND METHODS

Pregnant women ($n = 2707$) participating in a prevention of mother to child transmission (PMTCT) program between January 2014 and November 2015 at a comprehensive HIV treatment and PMTCT site (Ihunanya Specialist Hospital) situated in Osisioma Local Government Area, Aba, Nigeria were encouraged by way of a written invitation and phone calls to inform and invite their partners for cHCT. Trained nurses obtained consent and conducted pre-test counseling and interviews on the participating women and their partners with the option for individuals to decline testing. The pre-test information session for couples did not ask about past sexual behavior or risks, as this was unnecessary and may create problems for the couple. The pre-test information session made it clear that both testing and post-test counseling could be provided individually, if either partner prefers, and that disclosure of HIV status to the other person is not required.

Depending on the wishes of the participants, test results were presented and post-test counseling was conducted individually or in couple. The potential benefits of mutual disclosure were addressed in the post-test counseling. Follow-up at two months was done by interviews with the women participating in the program on the appointed ANC day. Clients who were too ill to participate and non-consenting clients were excluded from the study.

Ethical approval for the conduct of the study was obtained from the Abia State University Teaching Hospital Review Board. Statistical comparisons were done with Chi square test and $p < 0.05$ was considered significant.

RESULTS

A total of 1164 male partners (43%) presented for cHCT, and the vast majority 931(80%) were married for 3 years (Table 1). The average age of the men was 35 years (range 25-45 years). Of these 1164 male partners, 8 (0.7%) knew they were living with HIV, whilst 11(0.9%) learned of their HIV-seropositive status for the first time. Seven HIV seropositive men were serodiscordant with their female partners. The vast majority, 1145 (98.4%) were HIV-seronegative. Fifty five women (2.0%) were HIV-seropositive (comprising 15 newly diagnosed cases and 40 known cases) and of these 10(18.2%) were serodiscordant with their male partners whilst 12(21.8%) were seroconcordant with their male partners and in 33(60%) we did not know the HIV status of their male partners since these men did not honor the invitation. At two months follow-up, 29/29 pregnant women in whom one or both partners live with HIV and whose male partners attended the HCT, reported consistent condom use, partner disclosure, no intimate partner violence, spousal support of chosen infant feeding method and antiretroviral therapy retention whereas Lack of partner disclosure and unprotected sex was reported by 30/33 HIV-seropositive women whose husbands did not attend the cHCT. The reciprocal partner disclosure rate among the pregnant women and their partners was 10.4% before the study and 43.2% after the study. Couple HIV counseling and testing resulted in significant decrease in unprotected sex and increase in partner disclosure ($p < 0.05$). Figs 1 & 2 show the monthly statistics of the outcome of HIV counseling and testing in the facility in 2014 and 2015. Male partner participation in PMTCT was consistently low for most of the months and more male partners participated in 2015 than in 2014.

DISCUSSION

To achieve elimination of new HIV infections among children, the World Health Organization (WHO) is promoting a comprehensive approach to the PMTCT which includes primary prevention of HIV infection among women of childbearing age, preventing unintended pregnancies among women living with HIV, preventing HIV transmission from a woman living with HIV to her infant, and providing treatment, care, and support to women living with HIV, their children and families.¹² For the success of this approach, the role of male partners must evolve from one of support for HIV-infected pregnant and breastfeeding women to one of comprehensive engagement in interventions that prevent HIV-uninfected female partners from acquiring HIV, and improve care, treatment and support for the HIV-infected male partner and the entire family.¹³ Involving men in all components of PMTCT has potential to contribute to a large extent to achieving elimination of mother-to-child HIV transmission.

In this study, extension of invitation by writing and by phone calls to male partners of all women participating in PMTCT program at our health facility considerably enhanced the uptake of couples HCT resulting in a considerable number of male partners learning they have HIV for the first time. It also succeeded in identifying many HIV-discordant couples. Male involvement in HCT and antenatal PMTCT in this study provided the opportunity to discuss HIV, sexual and other risk behaviors with them. Couples HIV counseling and testing resulted in adherence to ARV treatment and significant decreases in unprotected sex. It also resulted in improved support for infant feeding choices, and partner disclosure. In addition, it offered the opportunity for them to make informed decisions together about HIV prevention and reproductive health issues including contraception. Promoting

partner testing increased rates of HIV testing and linkage to care in our facility.

Although antenatal clinic HCT as a component of PMTCT is presumably a good entry point for male involvement in prevention of sexual and perinatal HIV transmission, this traditional clinic-based approach cannot reach all men as evidenced from our study and related works cited. Despite the overall appreciable turnout of the male partners we still could not reach majority of the male partners of HIV-seropositive pregnant women. Studies across sub-Saharan Africa report rates of male partner HCT ranging from 5% - 33%,¹³ with the majority reporting that less than one in five men get HIV tested during their partners' pregnancy. Over the last decade, different strategies have been used to increase male partner involvement in PMTCT during pregnancy and the breastfeeding period, most of which have been clinic based. These have included: reorganizing ANC clinic operations to provide male HCT during weekends or evenings; use of mass media advertisements and posters promoting male testing;¹⁴ incentives to women who attend ANC with their partners, such as fast tracking of ANC clinic procedures; invitations to male partners to attend ANC using oral communications or written notes; and couple oriented counseling in place of routine antenatal HIV testing.¹⁵ Overall, these strategies have had incomplete success across different settings. A retrospective evaluation of PMTCT medical records in a referral hospital in Uganda showed that less than 5% of male partners underwent HCT.¹⁶ Another randomized trial in Uganda that offered a written invitation or information note resulted in only 15% male partner testing.¹⁷ In Kenya, uptake of male partner HCT was also approximately 15%, despite promotion of a male-friendly environment for individual or couple HIV testing.^{9,18} Higher rates have been reported in South Africa where one in three male partners underwent HCT in the antenatal clinic

following extensive community mobilization and sensitization.¹⁹ Experts have compared invitation-only strategy with invitation-plus tracing strategy by phone or home visit of male partners of women newly diagnosed with HIV.²⁰ The invitation-plus-tracing strategy was highly effective in recruiting male partners for couples HIV counseling and testing and more so than the invitation-only strategy.

Several novel approaches to HIV testing of men outside the clinic have been studied and have had cheering, but mixed, results. A randomized clinical trial in the Democratic Republic of the Congo found that male partners of pregnant women who were attending a maternity unit were significantly more likely to be tested in bar-based voluntary counseling and testing (VCT) sites when compared with testing in a clinic-based VCT (26% versus 18%; $P < 0.001$), but not more likely to be tested in church-based VCT sites (21% versus 18%; $P = 0.163$).²¹ In another randomized trial involving 300 pregnant women during their first antenatal clinic visit in Kenya, visiting pregnant women and their partners at home resulted in HIV testing for 85% of male partners compared to 36% in the clinic-based male partner testing arm.²² In this study, women did not report injurious effects of male testing on relationship status. While male involvement is associated with improved retention and adherence, studies elsewhere, however, suggest it can result in abandonment as well as physical and psychological abuse hence the need for a tactful approach.²³

Studies have identified barriers to male participation in the PMTCT program.²⁴ These include younger age, higher education level, knowledge on HIV, knowledge on PMTCT, geographical accessibility of health facility, having weak perception for male involvement in PMTCT, having perception of ANC attendance being females' responsibility, and cultural factors.²⁵ There is need for intervention studies to

address these barriers in our locale.

In interpreting the results of this study, some limitations need to be considered. The sample size was not optimal as this was a pilot study. The study was conducted at a single site as it was convenient doing so. The subjects in this study were primary partners and the period of follow-up was short. Studies with much larger sample sizes in Aba and other communities in Nigeria are warranted.

Given the positive influence male participation has on the acceptance of interventions, we recommend a different approach for promoting male participation in HCT. Within PMTCT programs, counseling should emphasize the advantages of partner participation to encourage women to inform and convince male partners to come for HCT. Promotion of couple HCT outside antenatal settings in male friendly and accessible settings should also be given priority.

Fig 1: Monthly statistics of outcome of couple HIV counseling and testing in 2014

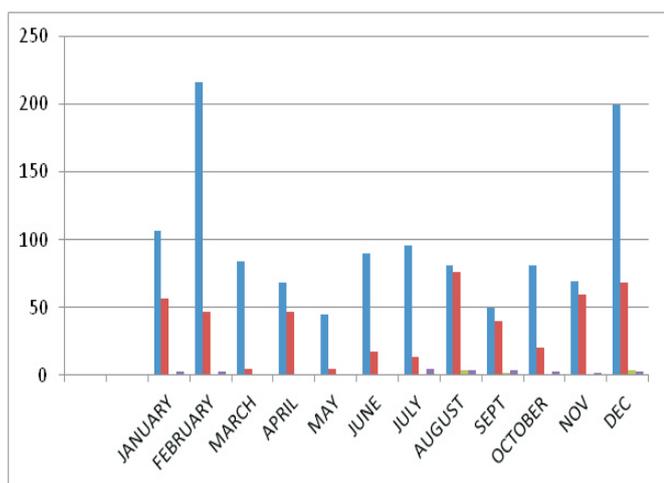
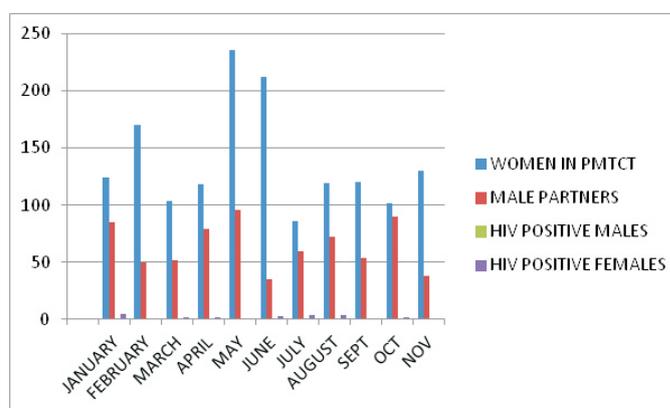


Table 1: Socio-Demographic Characteristics Of The Male Partners Studied

socio-demographics	Frequency (N=1164)	%
Age group (years)		
25-29	191	16.4
30-34	303	26.0
35-39	602	51.7
40-44	58	5.0
45 and above	10	0.9
Years in marriage		
One	115	9.9
two	118	10.1
three and above	931	80.0
Highest level of education		
None	58	5.0
Primary	174	14.9
Secondary	698	60.0
Tertiary	234	20.1
Occupation		
Farming	228	19.6
Trading	380	32.7
Artisan	331	28.4
Civil servant	225	19.3
Ethnicity		
Ibo	1095	94.1
Others	69	5.9
Sexual Orientation		
Heterosexual	1164	100

Fig 2: Monthly analysis of outcome of couple HIV counseling and testing in 2015



REFERENCES

1. 90–90–90. Ambitious treatment targets: writing the final chapter of the AIDS epidemic – a discussion paper. Geneva: Joint United Nations Programme on HIV/AIDS; 2014 (http://www.unaids.org/en/resources/documents/2014/90–90–90, accessed November 2015).
2. Cohen MS, Chen YQ, McCauley M, Gamble T, Hosseinipour MC, Kumarasamy N et al. Prevention of HIV-1 infection with early antiretroviral therapy. *N Engl J Med*. 2011;365(6):493–505.
3. Progress report on the global health sector response. Geneva: World Health Organization; 2014 (http://www.who.int/hiv/pub/progressreports/update2014/en/, accessed November 2015).
4. Topp SM, Li MS, Chipukuma JM, Chiko MM, Matongo E, Bolton-Moore C et al. Does provider-initiated counselling and testing (PITC) strengthen early diagnosis and treatment initiation? Results from an analysis of an urban cohort of HIV-positive patients in Lusaka, Zambia. *J Int AIDS Soc*. 2014;15(2):17352.
5. Donnell-Fink L, Reichmann WM, Arbelaez C, Case AL, Katz JN, Losina E et al. Patient satisfaction with rapid HIV testing in the emergency department. *Ann Emerg Med*. 2011;58(1 Suppl 1):S49–52.116.
6. How AIDS changed everything — MDG6: 15 years, 15 lessons of hope from the AIDS response. Geneva: Joint United Nations Programme on HIV/AIDS; 2015 (http://www.unaids.org/sites/default/files/media_asset/MDG6Report_en.pdf, accessed December 2015).
7. Access to HIV prevention and treatment for men who have sex with men: findings from the 2012 Global Men's Health and Rights Study (GMHR). Oakland (CA): Global Forum on MSM & HIV 2012 (http://www.msmsgf.org/files/msmgf/documents/GMHR_2012.pdf).
8. Kalembo FW, Zgambo M, Mulaga AN, Yukai D, Ahmed NI. Association between male partner involvement and the uptake of prevention of mother-to-child transmission of HIV (PMTCT) interventions in Mwanza district, Malawi: a retrospective cohort study. *PLoS One*. 2013;8(6):e66517.
9. Aluisio A, Richardson BA, Bosire R, John-Stewart G, Mbori-Ngacha D, Farquhar C. Male antenatal attendance and HIV testing are associated with decreased infant HIV infection and increased HIV-free survival. *J Acquir Immune Defic Syndr*. 2011;56(1):76–82.
10. Babirye JN, Rutebemberwa E, Kiguli J, Wamani H, Nuwaha F, Engebretsen IM. More support for mothers: a qualitative study on factors affecting immunisation behaviour in Kampala, Uganda. *BMC Public Health*. 2011;11:723.
11. Shattuck D, Kerner B, Gilles K, Hartmann M, Ng'ombe T, Guest G. Encouraging contraceptive uptake by motivating men to communicate about family planning: the Malawi Male Motivator project. *Am J Public Health*. 2011; 101(6):1089–1095.
12. Strategic Approaches to the Prevention of HIV Infection in Infants: Reporting on a WHO Meeting: Morges, Switzerland, March 20–22, 2002 [webpage on the Internet]. Geneva: World Health Organization; 2003. Available from : http://www.who.int/hiv/pub/mtct/en/.

- Accessed 3 December, 2015.
13. Osofi A, Han H, Kinuthia J, Farquhar C. Role of male partners in the prevention of mother-to-child-HIV transmission. *Research and Reports in Neonatology* 2014;4:131-138. Available at <https://www.dovepress.com/role-of-male->. Accessed 26 December 2015.
 14. Vidanapathirana J, Absrmson M, Formes A, Fairley C. Mass media interventions for promoting HIV testing. *Cochrane Database Syst Rev.* 2005;3(CD004775).
 15. Orne-Gliemann J, Tchendjou PT, Miric M, et al. Couple-oriented prenatal HIV counseling for HIV primary prevention: an acceptability study. *BMC Public Health.* 2010;10:197.
 16. Byamugisha R, Tylleskär T, Kagawa MN, Onyango S, Karamagi CA, Tumwine JK. Dramatic and sustained increase in HIV-testing rates among antenatal attendees in Eastern Uganda after a policy change from voluntary counselling and testing to routine counselling and testing for HIV: a retrospective analysis of hospital records, 2002–2009. *BMC Health Serv Res.* 2010;10:290.
 17. Byamugisha R, åstrøm AN, Ndeezi G, Karamagi CA, Tylleskär T, Tumwine JK. Male partner antenatal attendance and HIV testing in eastern Uganda: a randomized facility-based intervention trial. *J Int AIDS Soc.* 2011;14:43.
 18. Katz DA, Kiarie JN, John-Stewart GC, Richardson BA, John FN, Farquhar C. Male perspectives on incorporating men into antenatal HIV counseling and testing. *PLoS One.* 2009;4(11):e7602.
 19. Mohlala BK, Boily MC, Gregson S. The forgotten half of the equation: randomized controlled trial of a male invitation to attend couple voluntary counselling and testing. *AIDS.* 2011;25(12):1535–1541.
 20. Rosenberg NE, Pilcher CD, Busch MP, Cohen MS. How can we better identify early HIV infections? *Curr Opin HIV AIDS.* 2015;10(1):61-8.
 21. Ditekemena J, Matendo R, Koole O, et al. Male partner voluntary counselling and testing associated with the antenatal services in Kinshasa, Democratic Republic of Congo: a randomized controlled trial. *Int J STD AIDS.* 2011;22(3):165–170.
 22. Osofi AO, John-Stewart G, Kiarie J, et al. Home visits during pregnancy enhance male partner HIV counselling and testing in Kenya: a randomized clinical trial. *AIDS.* 2014;28(1):95–103.
 23. Adekanle DA, Olowookere SA, Adewole AD, Adeleke NA, Abioye-Kuteyi EA, Ijadunola MY. Sexual experience of married HIV positive women in Osogbo, southwest Nigeria: role of inappropriate status disclosure. *BMC Womens Health* 2015; 15:6 doi: 101186/s12905-015-0164-7. Available at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4364566>
 24. Nkuoh GN, Meyer DJ, Tih PM, Nkfusai J. Barriers to men's participation in antenatal and prevention of mother-to-child HIV transmission care in Cameroon, Africa. *J Midwifery Womens Health.* 2010;55(4):363–369.
 25. Ademola I, Adelakan, Elizabeth R. Edoni, Oladipupo S. Olaleye. “Married Men Perception and Barriers to Participation in the Prevention of Mother-to-Child HIV Transmission Care in Osogbo, Nigeria,” *Journal of Sexually Transmitted Diseases* 2014, Article ID 680962, 6 pages, 2014 doi:101155/2014/680962