

**A Literature Review on
Male Involvement in HIV Testing and Counseling among Pregnant Women
in Sub-Saharan Africa**

**by
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Abstract

Male participation in maternal and child health may have a significant positive impact on prevention of mother-to-child transmission of HIV in Malawi. However, there is little data available on the role of males in Malawi in prenatal healthcare and effects on PMTCT.

This literature review describes studies conducted in other African settings and other regions of the world which have assessed men's perception on participating in PMTCT, pregnant women's willingness and acceptance of testing for HIV and disclosure of HIV status to the male partners. This review attempts to translate how male involvement in antenatal care may influence women's decision to be tested for HIV through the perinatal period in Malawi. The review showed that supportive male participation, such as spousal approval or willingness to be tested for HIV with their partner, influence the acceptance of HIV testing among pregnant women. Male participation has the potential to increase the numbers of HIV testing during prenatal period, but one challenge is that male involvement in antenatal care remains very low in Sub-Saharan Africa. In addition to this challenge, little research on male involvement has been conducted in Malawi. The review concluded with recommendations that may help increase male involvement in antenatal care. These recommendations include: disseminating information and written invitations to HIV testing and counseling; expanding community outreach; and promoting community mobilization.

I. Introduction and Background

Pediatric HIV Epidemic and Prevention of Mother-to-Child Transmission of HIV

The HIV epidemic contributes to mortality and morbidity of children under five years old in sub-Saharan Africa. Globally, about 600,000 new pediatric HIV infections occur each year, with 91% of those cases occurring in sub-Saharan Africa. [1] Children with AIDS are more susceptible to preventable diseases such as diarrhea, pneumonia, and tuberculosis. [2] One study comparing survival rates of HIV-infected and uninfected children under two years of age estimated that 35.2% of HIV infected infants die by their first birthday, and 52.2% by two years of age. [3] In contrast, an estimated 4.9% of uninfected infants die within their first year and 7.6% by age two. [3]

Mother-to-child transmission (MTCT) of HIV is well known as the dominant mode of acquisition of pediatric HIV infection. In Malawi, the Ministry of Health (MoH) estimated that the prevalence of HIV among pregnant women was 11.6% in 2007. [4] As in other countries, women are disproportionately affected by the burden of HIV/AIDS in Malawi. The prevalence of HIV is 30% higher among women (13.3%) compared to men (10.2%) [4]; among younger women aged 15-24 years, HIV prevalence is four times higher among women. [4] HIV infection is associated with increased maternal mortality and morbidity. [5] In a South African study, case fatality ratio for tuberculosis among HIV-infected pregnant women was 121.7/1000, compared to 38.5/1000 for tuberculosis without HIV infection. [5] Among

these pregnant women, about 55% of deaths caused by tuberculosis were attributable to HIV infection. [5] Death of HIV-positive mothers also is associated with increased child mortality. [6] The mortality rate in infants (within 30 days) who were born to HIV-positive mothers in one study in rural Malawi was 27%, compared to 11% among those with HIV-negative mothers. [6] In Malawi in 2009, an estimated 57,000 pregnant women and 120,000 children under 15 became infected with HIV. [4] Similar to other African countries, children in Malawi between 0-14 years of age become infected with HIV primarily through MTCT. Since the majority of all infections in children are acquired from their mothers, it is critical that care is optimized for both the mother and infant.

In order to decrease the risk of pediatric HIV infection through MTCT, services for the prevention of mother-to-child transmission (PMTCT) of HIV are widely recommended due to potential to improve maternal and child health. These protective interventions include HIV testing and counseling (optimal detection), as well as antiretroviral (ARV) treatment for pregnant women and children, safe obstetrical practices, infant feeding counseling, and postnatal follow-up until diagnosis of HIV infection in exposed children.[7] In 2010, the World Health Organization (WHO) published new guidelines for antiretroviral therapy (ART) for HIV-positive mothers and their exposed infants, highlighting that the combination of ART treatment could reduce the risk of MTCT to less than 2% in the absence of breastfeeding. [8] Even among breastfeeding mothers, these interventions could reduce the chance of MTCT

from 35% to less than 5%. [8] In terms of scaling up HIV prevention and especially reaching goals 4, 5, and 6 of the Millennium Development Goals, improving programs aimed at PMTCT is crucial to reducing the spread of HIV infection through MTCT.

Despite the improvement of PMTCT services in many resource-limited countries, a significant number of pregnant women are infected by HIV every year and not aware of their own HIV status. Unawareness of one's HIV status could delay treatment until it is too late. Knowledge of the HIV status is a vital first step for effective PMTCT and therefore finding ways to improve access and encourage more frequent HIV testing and counseling (HTC) is critical to the scale up of PMTCT.

Male Involvement in HIV Testing and Counseling at the Antenatal Care Clinics

Male involvement in overall maternal health care may be a significant factor influencing HTC for pregnant women. However, in many African countries, including Malawi, there is a cultural belief that the role men play in family affairs is one of control rather than shared responsibility; thus, male involvement may also have negative effects. [9] In Uganda, more than 50% of pregnant women who refused HIV testing in a PMTCT setting reported the need for a partner's permission or presence before they could be tested. [10]

The government of Malawi has committed to national policy in response to the epidemic of pediatric HIV through MTCT. Despite continuous efforts to expand the coverage of HTC among pregnant women, however, the percentage of women seeking HTC remains

low. In 2006-2007, only 33.5% of all pregnant women were tested for HIV at antenatal care (ANC) clinics. [4] Among HIV-positive pregnant women, less than 65% received Nevirapine (NVP) prophylaxis. [4] To address the uptake of HTC at the ANC clinics, the Ministry of Health (MoH) launched the five-year scale-up plan that aims to provide comprehensive PMTCT services. The plan includes expanding the accessibility of HTC, especially for pregnant women, and identifies the importance of male involvement.[4] As one of strategy, the MoH highlighted the initiative called ‘Male Championship Programmes’, which are community-based interventions that aim to get men more involved in their partner’s reproductive health. [4]

In Malawi, however, pregnancy and childbirth are still viewed as a woman’s role and responsibility, with very little male involvement. [11] Limited data exist on the effectiveness of male involvement in Malawi. In order to assess the potential improvements in PMTCT by increasing male involvement in Malawi, a literature review of the effects of male involvement on HTC among pregnant women in other African countries was conducted.

II. Objectives of the Literature Review

To increase the understanding of male involvement in HTC, this paper will focus on the following objectives:

(1) Discuss how male involvement influences the willingness and acceptance of HTC among pregnant women

(2) Discuss the factors that may increase male involvement in prenatal care

(3) Discuss how male involvement could increase the coverage of HTC for pregnant women

in Malawi

III. Methods

Criteria for Selection of Studies

The literature search was conducted by using the following databases: PubMed; CINAHL; and psycINFO. The terms used in the research were *sub-Saharan Africa, Malawi, HIV, male, partner, men, participation, male involvement, pregnant women, testing, PMTCT, couple counseling, barrier, utilization, willingness, acceptance, role, disclosure, adverse life event, perception, and reproductive health*. The literature research started with using broad terms, such as PMTCT and sub-Saharan Africa, and then other terms were added to each database accordingly to narrow down the search to specific topics. Articles published between 1990 and 2011 were selected. Criteria of selection included HIV testing and counseling, relevance to male involvement in reproductive health and PMTCT, studies conducted in African settings, female and male perceptions and acceptance of HTC, and couples counseling. Study subjects included women, pregnant women, and men.

Identified Studies

The 17 studies and 5 reports identified in this review were from 8 different countries and: six from Kenya, five from Tanzania, two from South Africa, two from Uganda, two from

Zambia, and one each from Nigeria, Ghana, and Botswana. Studies were conducted in both rural and urban areas. Eleven studies conducted quantitative surveys, two studies used qualitative methods, and four used mixed methods combining quantitative methods with in-depth interviews. Studies conducted in Malawi were not included in the literature review; results from the articles in other countries are compared with research from Malawi in the discussion section.

IV. Results

General PMTCT Programs

Although ongoing PMTCT services vary between sub-Saharan African countries, Stringer et al. summarized the general steps of implementing PMTCT services in the health care setting. All pregnant women would (a) attend institutional antenatal care, (b) be offered an HIV test, (c) accept an HIV test, and (d) obtain HIV test results. For the HIV-infected pregnant women, they (e) agree to ARV prophylaxis, (f) adhere to ARV prophylaxis and (g) adhere to infant ARV doses. [12] A similar process is recommended by the African Medical and Research Foundation (AMREF) in Tanzania to ensure quality and integrated PMTCT services in health facilities. [13]

Each step is a significant intervention to reduce the risk of MTCT. Most importantly, availability and acceptance of HTC represents a vital step, since knowing one's HIV status is the gateway to subsequent treatment and care for HIV-positive mothers. In addition, early

diagnosis increases the opportunity to provide HIV-positive people with the information and tools to prevent HIV transmission to others. According to a progress report by the WHO, there is increasing commitment by many countries to policies that support the provision of HTC through a range of approaches. [1] These approaches include voluntary counseling and testing (VCT), provider-initiated testing and counseling, campaigns and outreach programs. [1] The availability of both voluntary and provider-initiated testing and counseling has been increasing in resource-limited countries. Population-based data from 87 countries including sub-Saharan Africa showed that the availability of HTC services increased 17% between 2009 and 2010 alone. [1]

Definitions of Male Participation

The concept of male involvement, and how it is implemented in the context of women's reproductive health, varies between sources. Rutenberg et al. reported that male involvement can vary depending on the couple and the community. Some men may come to the clinic with their wives or partners, receive counseling including couple counseling, and get tested for HIV. [14] Others are involved in their wives' pregnancy care by providing financial support or transportation to the clinics, although they may not visit the clinic themselves. [14] Ntabona indicates that the degree of male involvement is greatly influenced by the social and cultural contexts, i.e., how each society defines gender roles and responsibilities. [15]

Men's Perceptions on Participating in PMTCT

Several studies described male perceptions on participating in ANC and PMTCT programs. A study in Nairobi identified reasons why men do not accompany their female partners to ANCs, where HTC is provided. Among the reasons identified were long wait times at the clinics, traditional beliefs that pregnancy is a woman's affair, shame associated with male participation in ANC visits, and lack of care for children at home. [16] In Tanzania, authors reported a number of barriers to attendance of male participants at ANCs that provide PMTCT. Some of those barriers included a lack of information, knowledge, or time; neglected importance; the perception of the services as a woman's responsibility; and fear of HIV test results. [17]

Research has also been conducted on the role of community factors in men's decision to attend ANC. Men's perceptions of how their communities view their participation in ANC visits showed mixed results. In the Nairobi study mentioned above, 46% of men answered that the community perceives attendance at ANC as normal behavior, while 33.7% said that the community would think it is not normal.[16] Almost half of men (45.2%) expressed concerns that the community would view their presence at ANC visits as being jealous and overprotective of their wives. [16] Since the majority of men in many of those societies traditionally consider reproductive health, including antenatal care, as solely a women's concern, [15] it might take time to increase the involvement of men in Malawi.

Male Involvement and HIV Testing among Pregnant Women

Although the percentages reported differed among the studies reviewed, overall male participation in antenatal care settings was associated with increased willingness and acceptance of HTC among pregnant women in African countries. Factors associated with increased willingness of HTC include simultaneous testing of male partners [18]; perceived willingness of the husband to accompany his wife to the antenatal clinic [19]; increased ease of being tested as a couple [20]; having a partner who had been tested for HIV [21]; and the woman's perception that her husband would approve of her testing for HIV [22]. These positive factors mainly involve making decisions together or empowering women to make their own decisions. Socioeconomic factors including wealth quintile, age, and educational level may influence women's empowerment in decision-making. [23] Other factors, such as fear of a partner's reaction, less authority for decision-making, communication patterns between partners, and partners' reluctant attitudes towards HTC are negatively correlated with willingness for HIV testing. [24]

Male participation seems to be a significant factor to determine women's willingness for HIV testing. A study examining the attitudes and beliefs about HTC among pregnant women in Nigeria found that 93% of participants were aware of the benefits of HTC, although less than 30% reported that they would agree to be tested if the results were shared with partners or relatives. [18] In contrast, a total of 88.7% of women in the same study

reported that they would be willing to be tested if their partners were tested simultaneously.

[18]

Couples counseling is associated with uptake of HIV testing for both women and men. In a study conducted in Zambia, 92% of the men and 96% of women who participated in couples counseling agreed to HIV testing, compared to 79% of women counseled alone ($P < 0.001$) [25]. However, among female participants ($n=9409$), only nine percent ($n=868$) of male partners presented for couples counseling. Another study that examined the effectiveness of couples counseling in Kenya has also demonstrated the positive impact, such as increased acceptance of NVP; but the male participation in ANC was only 15% of all enrolled pregnant women. [26]

Male Involvement and Disclosure of HIV Status

In many African countries, rates of disclosure of HIV status to partners are generally low, although they vary substantially in different populations. Lack of disclosure of HIV status to partners could limit mothers' ability and opportunities to engage in effective prevention of MTCT, such as adherence to ART or appropriate feeding method. In a study conducted in Kenya, HIV-positive pregnant women who disclosed their HIV status to their partners were more likely to adhere to antiretroviral regimens in PMTCT services [27]. Factors associated with disclosure to partners include marital status, prior discussion about testing, having a partner with higher than secondary education, less experience with violence

[28], less than six lifetime sexual partners, and knowing someone with HIV/AIDS. [29] On the other hand, barriers to disclosure include a lack of trusting relationships and fear, specifically fear of abandonment, blame, violence, and emotional abuse. [30]

There are mixed results relating to women's experience after disclosure of their HIV status to male partners. A study conducted by Temmermen et al. indicated that some pregnant women, especially seropositive pregnant women, experienced negative life events such as forced divorce after they disclosed their HIV status. [31] The authors concluded that pregnant women should be given the choice not to disclose the result and the right not to know themselves, even though they agree to be tested. [31] In contrast, a study that examined the association of couples counseling and negative social events six months after counseling in Zambia found that disclosure of HIV status was not associated with any increased risk. [25] Similarly, another study conducted in Kenya found the rate of negative life events to be relatively low, both in individual and couples counseling. [32] In this study, 91% of those who enrolled as members of a couple disclosed their HIV status to their partner. [32] Although serodiscordant couples with an HIV-seropositive female partner may be more vulnerable to experience some adverse life events, such as break-up of a sexual relationship, the ending of a marriage, or physical abuse by a sexual partner; however, they are more likely to gain supports from health professionals. [32] Overall, the study did not find a high rate of negative life events.

V. Discussion:

Convincing evidence has shown that male involvement increases the adherence to treatment, the willingness and acceptance of HTC, and the disclosure of HIV status without drastically increasing experiences of negative life events among pregnant women. Male involvement, especially in couples counseling, was associated with increased women's willingness to be tested for HIV [18] and resulted in higher numbers of both men and women receiving HIV testing at ANC. [25] However, the number of male participants in those studies that examined the effects of male involvement at ANC were relatively low. [25,26] A study that examined the male perception on ANC in Mangochi District in Malawi found that 77.3% (n=388) of male participants did support provision of HTC at ANC[41], however, only 22.5% of male participants were aware of availability of PMTCT services including HTC at ANC for both them and pregnant women. [41] In addition, 39% of participants reported never having discussed HIV with their wives, while they emphasized the importance of advance spousal agreement for of being tested for HIV. [41]

It is important to establish effective approaches to increase men's attention and motivation regarding their partners' ANC . In order to address the low uptake of male participation in ANC visits, some studies conducted different strategies for increasing male involvement. A randomized controlled trial in South Africa found that written invitation letters to male partners for HTC was associated with increased attendances at ANC compared

with invitations for pregnancy information sessions only. Thirty-five percent (175 of 500) of pregnant women brought their partners in the HTC invitation group compared to 26% (129 of 500) in the pregnancy information session group. [33] In the study, 92% of the male partners who attended an ANC as a result of the HTC written invitation underwent HTC as a couple compared with only 44% of those who attended the pregnancy information session. [33] Similarly, in Mozambique, written invitations to HTC increased the percentage of male participants at ANCs to 9%, while only 2.7% of partners were tested when pregnant women verbally invited their partners. [34] According to the MDHS report, the majority of pregnant women (94.9%) visited ANC more than two times during their last pregnancies, and there was no significant difference between pregnant women in urban (96%) and rural (95%) areas. [35] Thus, distribution of informative invitations to HIV testing at first ANC visit may be an effective way to increase the awareness of HIV testing, knowledge of availability of PMTCT services at ANC, as well as the opportunities for discussion about HTC as a couple before attending ANC.

At the ANC clinics, acceptability of HIV testing does not necessarily indicate the high adherence to follow-up for all eligible women and infants. A study conducted in Thyolo district found that 95% of all pregnant women at ANC accepted the opt-out testing before their deliveries.[36] However, 68% of HIV-positive mothers dropped out of PMTCT services by the time of delivery. [36] One of the main reasons for loss to follow-up of PMTCT

services in Thyolo district was a lack of support from husbands who do not want to undergo HIV testing as well as inability to afford transport costs related to the long distances to the hospital. [37]

Since over 85 percent of the people in Malawi live in rural areas [38], transportation to the hospital may significantly affect the progressive loss to follow up. [36] Low cost of travel to the central hospital was associated with increased acceptance of ART among tuberculosis patients in a rural district in Malawi. [39] Although participants were not pregnant women in this study, transportation issues could be an important barrier to uptake of PMTCT services since lack of transport is identified as one of the reason for drop out before and during follow-up treatment. [37] In addition, although the majority of pregnant women visit ANC clinics during pregnancy, many women deliver their babies at home, especially in rural areas. Compared to women in urban areas (12.7%), 26.1% of rural women delivered their last child at home from 2003-2008. [35] Therefore, it is important to consider outreach to those women who deliver at home, with a focus on rural districts.

In order to increase the accessibility of HTC for all pregnant women, community-based interventions may play an important role to involve male partners and other stakeholders including village leaders and traditional birth attendants in HTC and PMTCT services. Community-based mobile HTC conducted in four different countries showed a three-fold increase in HIV testing among the intervention communities compared to

control groups. [40] This study identified two positive impacts as a result of community-based interventions. First, people selected from the communities to contribute in community mobilization helped by recruiting other community-based outreach volunteers and participants in the intervention. [40] Second, through the post-test support services, people diagnosed with HIV experienced reduced fear and increased acceptance of their HIV status, and experienced acceptance by others as well. [40]

In Malawi, some men perceive that ANC is a woman's area, and that it is shameful for husbands to attend. [41] They also reported that accompanying their female partners to ANC was perceived by their peers as jealousy. [41] However, if HTC available in their communities becomes recognized and accepted by community members, men may feel less concerned about how their communities view them, which may increase the motivation to receive HTC. The MoH in Malawi supports the 'Male Champion Initiative', which is the community-based intervention to increase the community mobilization with approval and understanding from village leaders. [9] After launching the initiatives in Thulonkhondo, the number of men participating in ANC with their wives and receiving HTC together increased. [9] However, there is no quantitative study that examines the effectiveness of the 'Male Champion Initiative' in Malawi. Further research including monitoring and evaluation would be necessary in order to assess the impact and improve the program.

VI. Recommendation and Conclusion

Although involving male partners in ANC visits and HTC remains a challenge, male involvement may be one of the key elements to increasing uptake of HTC and follow-up for treatment among pregnant women. In order to increase the accessibility and utilization of HTC among pregnant women, the following interventions are recommended:

- (1) Disseminate adequate information relating to HTC and PMTCT to both women who attend ANC and their partners to increase the awareness of couples counseling.
- (2) Expand community outreach to pregnant women who deliver their babies at home to access HTC as well as follow-up services for eligible women and infants.
- (3) Support interventions for increasing community mobilization to reduce fear and concerns relating to HTC and encourage male partners to be involved in ANC.
- (4) Conduct further research to understand the impact of male involvement in HTC and PMTCT services.

The studies included in this review supported the positive impact of male involvement on improving the utilization of HTC and PMTCT services among pregnant women. Advanced knowledge about male involvement within Malawian culture and settings may help sustain PMTCT programs that protect the health of both mothers and babies.

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