

## MALE PARTNER INVOLVEMENT IN PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV AT KIBAHA TOWN, TANZANIA

By

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### Abstract

Male partners must be considered as part of prevention of mother to child transmission (PMTCT) of HIV, because they often make key decisions which affect health of women and their children. Study objectives: To measure the percentage and level of male partner involvement in PMTCT. To identify some factors affecting male partners' involvement. Methods: It was hospital based cross sectional study, done at Tumbi referral Hospital, Kibaha regional health centre and Royal private hospital, at Kibaha Town Tanzania. 107 HIV positive postnatal mothers, their male partners and their infants were included in the study. Questionnaire was used for data collection and it has three sections: section I: Male partners, section II: Female partners and section III: Infants born from HIV positive mothers. Results: Male partners' involvement was, 62%. Their involvement was associated increase utilization of prevention of mother to child transmission services. Friendly health care workers were the main factor affecting male partner involvement. Nine percent of infants were HIV positive in Early HIV diagnosis test. Conclusion: It was concluded that male partner's involvement was associated with increased utilization of mother to child transmission services.

**Keywords:** Male-partners-involvement-Prevention-Mother-child-Transmission-HIV

### Introduction

HIV continued to be a major global public health problem. In 2016, there was an estimated 36.7 million people living with HIV (UNAIDS, 2017). Worldwide estimation of 2 million HIV-positive women were pregnant annual (Lemma and Hussein, 2017). The prevalence of HIV among pregnancy women in Tanzania was estimated to be 6.9% by the year 2016 (Avert, 2017). Children HIV infected (90%) resulted from mother to child transmission (MTCT). The rate of MTCT of HIV in Tanzania was 15% by the year 2017 (Elias *et al*, 2017). Besides, Al-Agroudi *et al*. (2018) in Tanzania reported the endemicity of malaria, and Saleh *et al*. (2019) in Republic of South Sudan correlated between HIV and malaria.

In Tanzania, male partners were considered as part of prevention of mother to child transmission (PMTCT) of HIV, because they often made key decisions, affecting his wife and children health of (Osoti *et al*, 2014). Male partner involvement reduced the hori-

zontal and vertical HIV transmission (WHO, 2010). If the women got her male support, the MTCT chance would be reduced by > 40% (Makoni *et al*, 2016). Male involvement was recognized as a priority focus area to be strengthened in PMTCT (Amano and Musa, 2016). But, male involvement in the PMTCT was still low (5%-33%) in Sub Saharan Africa (Osoti *et al*, 2014). In Tanzania male participation lack in ANC & PMTCT was identified as a key barrier in well comprehensive PMTCT programme (Jeffery *et al*, 2015).

Rationale: in Tanzania HIV is a problem of public importance; male partners has crucial part in prevention of HIV mother to child transmission as they are decision maker in the family and their decisions in having positive or negative impact to family health.

This study aimed to improve the quality of life of infant born from HIV-infected mothers, in Kibaha Town Tanzania by reducing the risks of HIV vertical transmission.

Specific objectives: a. to measure the perc-

centage of male partner role in PMTCT services, b. to measure level of his role in different activities of PMTCT services, c. to identify factors affecting his role in PMTCT services, and d. to measure percentage of HIV positive infants among infant born from HIV positive mothers.

### **Subject and Methods**

**Study design:** Cross sectional study conducted for a period of one year from June 2017 to June 2018

**Settings:** It was a hospital based study, done in postnatal clinic of people living with HIV. The study was done in three different level health facilities at Kibaha Town, Tanzania. These were: Tumbi Referral Hospital, Kibaha Health Centre and Royal Private Hospital. The reason of doing it in three different health facilities was to capture different socio-economic group within the area.

**Subjects:** Post-natal HIV mothers who attended HIV postnatal care and treatment clinic (CTC) together with their male partner and infants (CTC), who totalled 107 subjects. The proportions of required number of subjects from each study centre (Tumbi referral hospital, Kibaha regional health centre and Royal private hospital) were calculated.

**Sampling:** Systematic random sampling was used to obtain the required number of subject at post natal clinics.

**Collection Tool:** A questioner was used for data collection, it has three sections; Section I: male partner information regarding socio-demographic characteristic, PMTCT activities, some factors affecting male partner involvement. Section II; Female partner, socio demographic characteristics, some factors affecting male partner involvement in PMTCT. Section III; Infant born from HIV positive mother; Age, sex, HIV test results and risk factors of acquiring infection during delivery and after birth.

**Ethical consideration:** Permission of doing the study in Tanzania was taken from college; Military Medical Academy, in Egypt and from Ministry of Health in Tanzania. Also, clearance was obtained from the Ethi-

cal Clearance Committee of Tanzania People Defence Force Department of Research and Tanzania Ministry of Health.

Participant confidentiality was maintained before the study, they were informed about research purpose only, and they the right to withdraw from the study at any time after signing the informed consent of agreement.

**Statistical analysis:** Data obtained were managed by statistical software (SPSS version 21). Continuous variables were summarized by mean & standard deviation and Categorical variables were summarized by frequency tables and percentages. For comparison among groups, the chi-square test (or Fisher exact test when any expected count was <5 for a 2x2 table) were used for categorical variable. The level of significance was set at 5%.

### **Results**

The characteristics of male partners 50% were between ages of 30-39 years (38.5±8), 71.2% were married, 57.7% had primary school education and 54.5% were business occupation. A total of 69.7% males were HIV positive and 22.7% were serodiscordance; male tested negative HIV test results while female was positive HIV. Male partners' involvement in prevention of mother to child transmission program was 62%. They were 62% had high level of involvement in all activities related to prevention of HIV mother to child transmission (score of  $\geq 9/10$ ). Male partner was associated with more than 90% in supporting female partner to use antiretroviral drugs, participating in making decision on infant feeding option and continues follow up of infant treatment. None male partner tested HIV together with her female at antenatal clinic among male partners without involvement. Only 2.4% of male partner with no involvement participate in making decision on infant feeding option. Statistical significant results were observed in most prevention activities. High level of attendance to antenatal/postnatal clinic was observed at Tumbi referral hospital (88.1%) while low attendance was ob-

served at Kibaha Regional Health Centres (30.3%). Friendly health care worker influenced male partner involvement. 50.5% of male expressed the need of special couple clinic, but 49.5 were not in need of couple

clinic. The percentage of infants with Positive HIV test result in early diagnosis was found to be 9 % while the majority (78%) were HIV negative. Details were given in tables (1, 2, 3, & 4) and figures (1, 2, 3 & 4).

Table 1: Characteristics of male partners with involvement and those with no involvement in PMTC services

Characteristics	Male partner with		Total N= 107(%)	X <sup>2</sup> P value
	Involvement n=66	No involvement n=41		
Age in yrs (38.5±8)				
<29	8 (12.1%)	5 (12.2%)	13 (12.1)	0.771
30-39	33 (50.0%)	17 (41.4%)	50 (46.8)	
40-49	18 (27.3%)	15 (36.6%)	33 (30.8)	
>50	7 (10.6%)	4 (9.8%)	11 (10.3)	
Education: Unable to read & write	1 (1.5%)	0 (0.0%)	1 (0.9)	0.495
Able to read and write	2 (3.0%)	2 (4.9%)	4 (3.7)	
Primary	38 (57.7%)	22 (51.2%)	60(56.1)	
Secondary	16 (24.2%)	15 (36.6%)	31 (29.0)	
College	9 (13.6%)	2 (4.9%)	11 (10.3)	
Marriage: Married	47 (71.2%)	15 (36.6%)	62 (57.9)	0.001
Living together but not married	18 (27.3%)	8 (19.5%)	26 (24.3)	
Not living together but in relation	1 (1.5%)	18 (43.9%)	19 (17.8)	
Marriage duration: <9	56 (84.8%)	31 (75.6%)	87 (81.3)	0.492
10-19	9 (13.6%)	9 (22.0%)	18 (16.8)	
>20	1 (1.5%)	1 (2.4%)	2 (1.9)	
Occupation: Office employee	15 (22.7%)	5 (12.2%)	20 (18.7)	0.619
Business	36 (54.5%)	25 (60.9%)	61 (57.0)	
Farmer	7 (10.7%)	6 (14.6%)	13 (12.1)	
Daily labourer	3 (4.5%)	2 (4.9%)	5 (4.7)	
Driver	5 (7.6%)	3 (7.4%)	8 (7.5)	

Table 2: Characteristics of male partners' involvement regarding HIV test results

HIV test	With involvement (N =66)	No involvement (N=41)	Total (N=107)	X <sup>2</sup> -P value
Positive	46 (69.7%)	10 (24.4%)	56 (52.3%)	0.001
Negative	15 (22.7%)	13 (31.7%)	28 (26.2%)	
Missing	5 (7.6%)	18 (43.9%)	23 (21.5%)	

Table 3: Association of male partners' involvement and utilization of PMTCT activities

Prevention activities utilization	Male partner with				X <sup>2</sup> P value
	Involvement n=66		No involvement n =41		
	Yes (%)	No (%)	Yes (%)	No (%)	
Support female partner in using antiretroviral drugs	65 (98.5)	1 (1.5)	3 (7.3)	38 (92.7)	0.001
Participate in making decision on infant feeding options	65 (98.5)	1 (1.5)	1 (2.4)	40 (97.6)	0.001
Continue follow up of infant treatment & clinic schedule	65 (98.5)	1 (1.5)	5 (12.2)	36 (87.8)	0.001
Involved in counseling regarding PMTCT of HIV	60 (90.6)	6 (9.1)	6 (14.6)	35 (85.4)	0.002
Assisted female partner to attend clinic throughout	57 (86.4)	9 (13.6)	4 (9.8)	37 (90.2)	0.001
Attended 1-4 visit at ANC	57 (86.4)	9(13.6)	13(31.7)	28 (68.3)	0.001
Tested HIV together with female partner at ANC	57 (86.4)	9 (13.6)	-	41 (10.0)	0.001
Discuss with partner before testing HIV	55 (83.3)	11(16.7)	11(26.8)	30 (73.2)	0.001
Received test result & counseling with female partner	54 (81.8)	12(18.2)	2 (4.9)	39 (95.1)	0.002
Initiate for test	12 (18.2)	54(81.8)	4 (9.8)	37 (90.2)	0.2

Table 4: Comparison of male partner attendance in Antenatal and postnatal clinic in the three study centres

Visits	Tumbi Referral Hospital (N=59)	Kibaha Regional Health Center (N= 33)	Royal Private Hospital (N=15)	P value
No visit	7 (11.9%)	23 (69.7%)	7 (46.7%)	0.001
1-4 visits	52 (88.1%)	10 (30.3%)	8 (53.3%)	

## Discussion

The current study includes 107 subjects, aiming to measure the percentage and level of male partner involvement in PMTCT, at Kibaha Town Tanzania, and identified fac-

tors affected male partner involvement in services at Kibaha Town Tanzania, as male partners awareness of PMTCT, female partners willingness to be accompanied by him to clinics, cultural barrier, friendly health

worker at clinic, friendly clinic environment, lack of time and need of special couple clinic.

In the present study, the male partner involved in PMTCT services was 62%. This was higher than reported by Marelign and Mohamed (2015) in Arba Minch Town, Ethiopia who found 53% of male partners were involved in PMTCT services. The difference may be due to different areas and culture difference between both countries. But also the difference in context of authors definition of male partner involvement might contribute to the difference in results.

In the present study, male partners (62%) had high level of involvement with the score of  $\geq 9/10$ . This was higher compared to results of Matseke *et al.* (2017) in South Africa who reported 44.1% of male partners having high level of involvement with the score of  $\geq 7/9$ . The difference might be due to variation in number of activities assessed in PMTCT services among both studies.

In the present study, half of male partners with involvement were aged 30-39 years. This more or less agreed with Yende *et al.* (2017) in South Africa who reported 61.3% of male partners with involvement were  $> 35$  yrs. No doubt, older men were a higher risk perception and more likely involved (Ditekemena *et al.*, 2012).

In the present study, male education was (57%.7) have primary school education. Marelign and Mohamed (2015) in Ethiopia, found that male education level of, was  $>$  grade 12 compared to lower level (Primary school). The difference could be related the nature of indigenous of coastal region, who disliked school attendance. No doubt, the educated men have better awareness about the benefits of preventive health care, and higher receptivity to new health related information (Elias *et al.*, 2017).

In the present study, 71.2% of male partners were married, with average duration of  $< 9$  yrs. This was  $< 87.3\%$  in South African (Yende *et al.*, 2017) and 87.4% in Ethiopia (Amano and Musa, 2016). Ditekemena *et*

*al.* (2012) found that marriage couple have the opportunity to discuss about their health and have more time to harmonize their time schedules.

In the present study, 54.6% of males were business men. Two facts explained this, the first was that Kibaha is very close to Dar es Salaam the big commercial city. The second fact was time availability and financial affordability, as businessmen are self employed and have enough money. So, they controlled their time and support their female partner in many lifestyles. This disagreed with Marelign and Mohamed (2015) in Ethiopia where 71.3% of males were employed due to less economy.

In the present study, 69.7% of male partner involved were HIV positive and 22.7% were HIV negative. Olakunde *et al.* (2017) reported similar percentage of HIV negative men with involvement (22%). Matseke *et al.* (2017) reported that having the child free from HIV was what motivated to HIV negative male involved in PMTCT services.

Male partner showed significant association with utilization of PMTCT activities. A total of 98.5% of them supported their females in using antiretroviral, participating in making decision on infant feeding option and continue follow up of infant and clinic schedule. No doubt, male partner took a health-related action (to help a HIV-positive pregnant wife) if he felt that by doing so, they would HIV negative infant (Matseke *et al.*, 2017).

In the present study, in HIV positive mothers, adherence to infant feeding option was influenced by male. In most African cultures, women are expected to breast feed her baby. If family/society observed that the woman was not breastfeeding, sometimes the husband forced her to breastfeeding unless he was informed that HIV transmission occurred by breast milk (WHO 2012).

In the present study, more than 80% of males discussed their female partner before HIV testing, tested HIV together with their female partner at ANC, and received results

together. Makoni *et al.* (2016) found that 25% of male partners were tested HIV and received results with their female partners. The difference might be due high level of male partners' awareness as the Tanzania Ministry of Health put various strategies to promote VCT to increase male partner testing during pregnancy (Jeffery's *et al.*, 2015).

Kang'oma *et al.* (2011) in Malawi found that fear of HIV testing was higher among men who engaged in extra marital affairs and thus they did not participate in PMTCT services. Failure to know the HIV status of male partner, pave the risk of acute HIV infection as he might be HIV chronically or acutely infected patient (Osoti *et al.*, 2014).

The present male partner attended at least 1-4 visits to antenatal clinic was 86.4%. Amano and Musa (2016) reported 27.3% of male partner attended ANC with his female partners, and Lemma and Hussein (2017) found that 30.5% of male accompanied his female partner to ANC/PMTCT. Ezeanolue *et al.* (2017) in South Africa found that male partners attending at least one antenatal care visit ranged from 1.8 to 32%. The difference could be explained by studied areas, as males living in urban with relatively higher socioeconomic status were more likely to accompanied their females to antenatal care services (Lemma and Hussein, 2017).

Tumbi Referral Hospital showed highest percentage (88.1%) of male partner attendance in antenatal clinic. Tumbi Referral Hospital is well developed and well equipped as well as it is in distinguished space and location. Kibaha showed least number of male partners' attendance in antenatal and postnatal clinic (30.3%). This might be contributed by unfavourable clinic environment as it is a small room, no privacy and there is no waiting area for clients. (Yende *et al.*, 2017) in Malawi suggested that structural changes to make ANC more male-friendly resulted in greater male participation

The factors affected male partner involvement (80%) were friendly health workers at clinic, sociocultural barrier and female will-

ingness to be accompanied to clinic by her male partner. The present infant tested positive in early HIV diagnosis was 9%. Thus, it was difficult to comment of HIV results based on early HIV diagnosis. Confirmatory test was a must, but the challenge was, majority of infant were not at the age of confirmatory test was 18-24months old.

### **Conclusion**

Men can be involved in a variety of ways during and after pregnancy. The percentage level of involvement was 62%. Marital status and HIV positive showed significant relation with male partner as 71.2% of males involved were married ( $P=0.001$ ) and 69.7% were HIV positive. Friendly health care worker was the main factor affect male partner involved at Kibaha. HIV positive infant on early diagnosis was 9%, the majority were below confirmatory test (18months), so no comment as to infant HIV positivity.

### **Recommendations**

The Ministry of Health must develop a comprehensive definition of males for easy assessment and comparability of results across the country. Ministry of Health must collaborate with other stake holders to create appropriate means (e.g. short message services (SMS) alert or letters) to invite male partners to PMTCT services. Letters would be useful for those who needs to process permission at work. Every health facility should have health education of PMTCT with especial emphasis to newly diagnosed HIV positive patients' reproductive age.

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#### Explanation of figures

Fig. 1: Male partners' involvement % in PMTCT program.

Fig. 2: Level of involvement in overall activities included in male partner involvement.

Fig. 3: HIV results in early infant diagnosis (EID) of HIV

