

An Evaluation of Male Involvement on the Programme for PMTCT of HIV/AIDS: A Case Study of Ilala Municipality in Dar es Salaam, Tanzania

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Abstract

Male involvement in the programme on Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS is investigated in Ilala Municipality, Dar es Salaam region in Tanzania. Knowledge, attitude, communication behaviors among partners, awareness, and how they affect the uptake of the PMTCT services are among the factors considered. A sample of 192 study units was used. Structured, administered questionnaires and in-depth interviews were used as data collection instruments. Questions relating to uptake of PMTCT and associated factors such as outlined in the introduction were asked. Data were analyzed by using SPSS Chi-Square test and logistic regression modules were used in the analysis. Significant relationships between knowledge/attitudes and follow up to the uptake of PMTCT services were observed. The study revealed that communication barriers between pregnant women and their husband/partners are the limiting factors of follow up to uptake and utilization of PMTCT services. Logistic Regression Analysis shows that all the limiting factors of knowledge, attitude, and communication behaviors among partners have had a greater chance of influencing a follow up to the uptake of PMTCT services. HIV/AIDS education aimed at increasing knowledge and PMTCT awareness among clients/partners within the community is still low. Stigmatization is singled out as a matter to be addressed. PMTCT utilization acceptance requires a change of cultural attitude in the community.

Keywords: PMTCT; men; pregnant mothers; HIV/AIDS.

1. Introduction

Several studies in Sub-Saharan African countries have examined the socio-economic impact of the spread of HIV/AIDS. Many of these studies have mainly concentrated on the macro-economic and sectorial impacts of HIV/AIDS; few have examined the micro-level and family level. In their study [1] pointed out that the severity of the problem of mother-to-child transmission of HIV/AIDS in Sub-Saharan Africa is due to high rates of HIV/AIDS infection in women of reproductive age, the large total population of women of reproductive age, high birth rates and the lack of effective Mother-To-Child Transmission (MTCT) prevention interventions. UNAIDS estimates that about 2 million children (age 0-4) were living with HIV/AIDS in sub-Saharan Africa which is about 90% of global children infected with HIV at the end of the year 2005. Those who could be reached by basic support services were less than 10% [2]. The study by Lily *et al* [3] shows that every year half a million of the newborn babies are infected with HIV/AIDS in Sub-Saharan Africa through MTCT. Mother to child transmission is one of the ordinary ways of spreading HIV/AIDS to children below the age 15. The report by [4] reveals that chances of survival for a child infected with HIV/AIDS through maternal transmission are rare and thus aggravates infant mortality rate.

Of all health related issues in the African region, HIV/AIDS has attracted enormous political support and stakeholders worldwide have initiated various programmes to combat the pandemic. One of these programmes is the prevention of mother-to-child transmission (PMTCT), which is fully implemented in Ilala Municipality in Dar es Salaam region in Tanzania. This programme focuses on services relating to antenatal HIV/AIDS testing and counseling, avoiding unplanned pregnancy, administration to children below age 15 with antiretroviral (ARV) regime and support of safer infant feeding options and practices.

Studies show that in Tanzania approximately 12 percent of pregnant women attending antenatal clinics are living with HIV/AIDS [5]. Without proper intervention about 30 – 40 percent of MTCT is responsible for about 90 percent of HIV/AIDS infections. Various researches conducted in different countries in Sub-Saharan Africa have shown that women who are supported with unbiased husbands and members of the community are more likely to accept HIV/AIDS counseling and testing services and follow up to the uptake of PMTCT services if they are diagnosed HIV/AIDS positive.

There is a need of analyzing men involvement and factors contributing to effective PMTCT programs. The factors considered are knowledge and attitudes of pregnant women on voluntary counseling and testing services, communication barriers between pregnant women and their husbands/partners and knowledge and attitudes of men in preventing mother-to-child transmission of HIV.

1.1 Utilization of PMTCT Services in Tanzania

In 2007, 467 out of 2,509 health facilities provided PMTCT, which was about 12 percent of the total facilities from the 11 designated regions. The number of infected children below 15 years is constantly increasing and this shows the uptake of PMTCT services is at a low rate. Number of children (<15) with advanced HIV/AIDS infection who received antiretroviral therapy in January-December, 2006 were 21 percent, January-December, 2007 were 15 percent, and January-December 2008 were 22 percent (See Table 1).

Table 1: Prevention of Mother-to-Child Transmission (PMTCT) Services.

Year	Attended at ANC	Tested	Tested Positive	Pregnant women Received ARV	Infants received ARV	Pregnant women Received ARV (percent)	Infants received ARV (percent)
2003	15,472	8489	1,293	351	63	27	5
2004	16,785	11,342	2,177	1140	968	52	44
2005	255,913	206,721	13,873	11,435	7424	82	53
2006	363,516	319,017	28,043	14,758	5,985	52	21
2007	778,619	713,506	70,710	57,731	10,837	60	15
2008	434,131	387,032	64963	32,199	14,923	49	22
Total	1,864,436	1646107	181,059	102478	40,200	57	22

Source: National AIDS Control Programme, Ministry of Health and Social Welfare.

In spite of efforts to prevent the spread of HIV/AIDS from mother-to-child, existing data in Tanzania reveal that achievement of PMTCT is very little, less than 10 percent of pregnant women in Africa infected with HIV/AIDS receive PMTCT services. It is further noted that even in areas where effective prophylaxis is available to prevent transmission of mother to child, few PMTCT programmes successfully reach mothers and newborns after discharge to provide support for the infant feeding choices or to provide ongoing care and treatment [3].

1.2 The Essence on the Uptake of PMTCT Services

In sites that are already providing services, the overall rate of follow up to the uptake of PMTCT of HIV/AIDS service is often quite low. Studies show that when male partners are actively involved, positive health seeking behaviors and acceptance of HIV/AIDS testing and follow up for the PMTCT services are most likely to be higher for women. However, women fear discrimination, violence if they are identified HIV/AIDS positive. For safety and acceptability of PMTCT interventions it is essential that effective steps be taken to combat rejection of people with HIV/AIDS [6], it is for that reason that study on men involvement is important.

Men are indeed, still the decision makers in many of the African settings where PMTCT is offered. Many studies in Sub-Saharan Africa have found the proportion of HIV/AIDS infected women who are able to, or willing to disclose their HIV/AIDS status if found HIV/AIDS positive, to their husbands or partners is extremely low. Some women who test HIV/AIDS positive do not return to clinics for follow up visits, or fail to take the drugs they have been prescribed. "My husband might see me with the medicines, and he will want to know what they are for. That way he will find out about my [HIV positive test] status" [7]. Those whose test results are negative can be counseled about how to protect themselves and their children from infection [7].

Among the challenges stated to face the programme were low participation by male and stigma., the following comments were collected from the participants of the group discussion during the study, 'women don't tell their husband about HIV test for fear of being divorced', 'women don't take their babies to the clinic to get neviraphine because they fear that people will be pointing fingers, by saying that she and the baby are HIV positive'.

1.3 Absence of Affordable Alternatives to Breast-feeding

REPOA [8] found that majority of Tanzanians live within the poverty line. Many cannot afford their own food, let alone alternative feeding for their babies. This in turn forces those who are infected to continue breastfeeding their babies despite the risk of infection. In 2000, nearly a fifth of the population (19 percent) did not have enough to eat, and more than a third (36 percent) could not satisfy basic consumer needs.

REPOA [9] presents information about many aspects of people lives, including their recent economic progress, changes in their standard of living. REPOA [9] shows that more people appear to be worse off now than three years ago. More people perceived falling rather than rising living standards and most Tanzanian adults consider the cost of living to be a major problem (particularly cost of food) let alone alternatives to breast-feeding.

2. Methods

2.1 The Conceptual Model

The following is a conceptual model showing how the knowledge and attitudes, level of stigmatization, violence and absence of social support especially from husbands/partners contribute to women avoiding PMTCT follow up services. This can lead to low participation in the usage/follow up to the PMTCT services and unsuccessful prevention of health problems including infants' infections of HIV/AIDS.

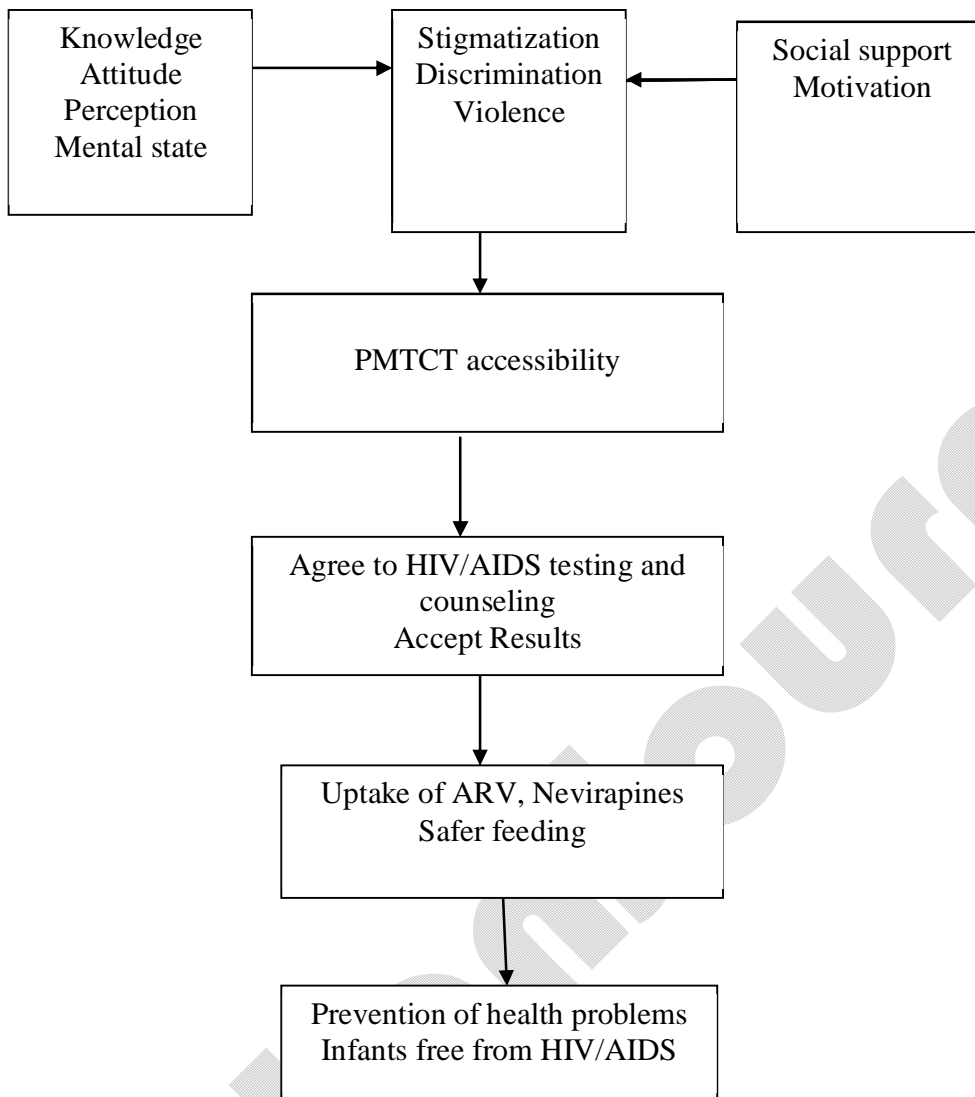
2.2 Selection of the Study Area

The area of study was Ilala Municipality in Dar es Salaam region. According to [10], Dar es Salaam region's HIV/AIDS prevalence rate was quite high (12.2%). According to [4, 11], prevalence of HIV in pregnant women in Tanzania, Dar es Salaam ranked third with 10.8 percent whereas the first and the second were Mbeya with 15.7 percent and Kagera with 14.9 percent. The selection of locations was based on the HIV/AIDS prevalence; on the other hand, the study area selected with regard to large catchments of population, and accessibility regardless of budget and time constraints. Furthermore, the selected areas are endowed with availability of the PMTCT services. The study was conducted in three wards of Ilala Municipal Council namely Buguruni, Vingunguti and Ilala. The selection of the wards was based on their HIV/AIDS prevalence, comprehensive coverage of PMTCT services and high population density.

2.3 Data Collection Procedures

This research was conducted from 2008-2009. The selection procedure was a multi-stage sampling. In this research, the study units were pregnant women and males of reproductive age. In order to assure representativeness of study population, a sample was drawn from the total population.

The first stage involved the selection of three Municipal Councils of Ilala, Kinondoni and Temeke. The second sampling stage involved selection of three wards from 22 wards of Ilala Municipality. One of the reasons mentioned for the selection of wards were the presence of PMTCT clinics hence even the streets were selected on the basis of the location of the clinic where pregnant women units could be found. Thus, a sample for pregnant women was a convenient sample in antenatal care units. The third stage was the selection of streets in order to sample male respondents. Households within streets were selected randomly to sample men. Men were thus chosen by chance from the households and need not be partners of pregnant women in the study.

Fig 1: Conceptual Frame Work of the Model.

In this process, a sample size of 192 units was selected, the composition being 90 men, 90 pregnant women and 12 service providers. Secondary data and primary data were collected. Primary data were collected from the field research by use of interviews and questionnaires while secondary data were collected from documentary review sources such as books, research reports and journals. Questionnaires were used to collect some basic information such as age, religion, education levels, marital status and economic activities, issues related to Voluntary Counseling and Testing, Prevention of Mother-to-Child Transmission of HIV and HIV/AIDS. Pregnant mothers were interviewed on knowledge and awareness regarding the HIV/AIDS, willingness to test, disclosing of the HIV results and acceptance of the results, delivery services and their views on how to improve the uptake of PMTCT services. Male partners were asked about their understanding regarding couple HIV testing, their knowledge on PMTCT services and their participation in reproductive health in general. In-depth Interview was limited to service providers only. It focused on participation of men in the PMTCT services and the receptiveness of pregnant women on VCT. Other information gathered from service providers intended to learn about qualifications, experiences and perceptions of the service delivery environment, and how

they reach sexual partners of pregnant women who are HIV/AIDS positive and persuade them to receive HIV/AIDS counseling and testing, workload, and strategies they use to involve men on reproductive health in general. Confidentiality was assured by adding a clause in the questionnaires that indicated that all information given by the respondents would remain private and confidential.

2.4 Statistical Analysis

Frequency analysis was employed to get the preliminary results. Regression analysis was used to establish the various relationships on uptake and utilization/follow up to PMTCT services. Uptake and utilization of PMTCT services is treated as dependent variable. The independent variables were the demographic factors which are education level, marital status, gender, age, occupation, knowledge and attitudes about VCT/PMTCT, communication behaviors between partners, stigmatization level, and men's participation in reproduction health in general. In this study, multinomial logistic regression was applied since the dependent variable has more than two cases [12]. Multinomial logistic regression was also employed to estimate the relationship of demographic factors on follow up to the uptake of PMTCT.

3. Results

The profile of the respondents is given in Table 2.

Table 2: The Profile of the Respondents.

Variables		Male		Female		Total	
		N	Percent	N	Percent	N	Percent
Age	17-27	2	2.2	41	45.6	43	23.8
	28-38	18	20.0	35	38.9	53	29.4
	39-49	46	51.1	14	15.6	60	33.3
	50-60	24	26.7	0	0	24	13.3
Religion	Muslim	67	74.4	56	62.2	123	68.3
	Christian	23	25.6	34	37.8	57	31.6
Marital status	Single	26	28.9	22	24.4	48	26.6
	Separated/divorced	14	15.6	15	16.7	29	16.1
	Widowed/widower	6	6.7	9	10.0	15	8.3
	Married	21	23.3	30	33.3	51	28.3
	Cohabiting	23	25.6	14	15.6	37	20.5
Education	Adult/none	8	8.9	11	12.2	19	10.5
	Primary	49	54.4	60	66.7	109	60.5
	Secondary	19	21.1	10	11.1	29	16.1
	Higher education	14	15.6	9	10.0	23	12.7
Economic occupation	Civil servant	11	12.2	9	10.0	20	11.1
	Self employment	71	78.9	17	18.9	88	48.9
	Not employed	8	8.9	13	14.4	21	11.7
	Housewife			51	56.7	51	28.3
Total		90	100	90	100	180	100

3.1 Participation of Respondents in HIV Counseling and Testing

Table 3: Knowledge and Attitudes on VCT/PMTCT Programme.

Variables	Male		Female		Total	
	N	Percent	N	Percent	N	Percent
Heard about PMTCT						
Yes	55	61.1	51	56.7	106	58.9
No	35	38.9	39	43.3	74	41.1
Ever tested for HIV						
Yes	41	45.6	63	70.0	104	57.8
No	49	54.4	27	30.0	76	42.2
Took the results of the HIV test						
Yes	31	34.4	51	56.7	82	45.5
No	10	11.1	12	13.3	22	12.2
Missing	49	54.4	27	30.0	76	42.2
Disclose information to partner/spouse						
Yes	31	34.4	32	35.6	63	35.0
No	10	11.1	19	21.1	29	16.1
Missing	49	54.4	39	43.3	88	48.9
Wife's/husband's/partner's reaction for the HIV results						
Cried	6	6.7	6	6.7	12	6.7
Was glad	25	27.8	26	28.9	51	28.3
Missing	59	65.6	58	64.4	117	65.0
Discussion with couple testing						
Yes	38	42.2	49	54.4	87	48.3
No	52	57.8	41	45.6	93	51.7
Total	90	100	90	100	180	100

From Table 3, about 61.1 and 56.7 percent of the respondents of male and pregnant women respectively were aware of PMTCT and only 38.9 and 43.3 percent were not aware of PMTCT. Findings also show that 45.6 percent of male had ever tested for HIV/AIDS. Majority of pregnant women 71.1 percent had been tested for HIV/AIDS and only 28.9 never tested. 34.4 percent and 56.7 percent of men and pregnant women respectively who tested for HIV/AIDS took their results.

Moreover, the percentage of pregnant women who had ever tested was higher than that of male because when pregnant women do attend ANC clinic, they had no option for HIV/AIDS testing. This aims to control the foetus from contracting HIV/AIDS in case infant's mother is HIV positive. Results from Table 3 show that 34.4 and 35 percent of male and pregnant women respectively disclosed information to their wives/husbands/partners, Regarding HIV/AIDS knowledge, some of the respondents knew that you disclose if the results are negative, but if they are not they should be concealed to avoid stigmatization. Results also show that the respondents were asked if they had ever discussed with their wives/husbands/partners regarding couple testing, the findings revealed that women wanted couple counseling compared to men and a good number of them would accept drugs although there is no evidence if they really use them or discarded them. In Table 3, we can see that 54.4 percent of pregnant women had ever

discussed about couple testing with their males/partners while 57.8 percent of male had never discussed with females/partners regarding couple testing.

Some of the respondents said that they would not be free to disclose their HIV/AIDS status due to fearing of stigmatization , 43.3 percent of pregnant women and 42.2 percent of men, 30 percent for pregnant women and 32.2 percent feared violence, 18.9 percent of pregnant women and 14.4 of men respectively were not sure of confidentiality, other 7.8 percent of pregnant women and 11.1 percent of men did not see the need to disclose HIV/AIDS status to partners as depicted in Table 4 below.

3.2 Counseling and Testing

Counseling for HIV/AIDS is much more than giving information and advice. Counseling in HIV/AIDS help people make informed decisions about HIV testing, coping with their HIV test results and protect themselves and others from infection. Counseling and testing in Tanzania were done in the research bases like that of Kilewo *et al* [13] which aimed to investigate the possibility of reducing mother-to-child transmission (MTCT) of HIV through breastfeeding by prophylactic antiretroviral (ARV) treatment of infants during the breastfeeding period, they found that only 10 percent of health facilities were providing the core components of PMTCT and only 12 percent of HIV-positive pregnant women were receiving ARV. Among of the greatest challenges facing the service providers of mother-to-child transmission (MTCT) services is reaching sexual partners of HIV-positive women and persuading them to receive HIV counseling and testing [14].

Table 4: Reasons for not willing to Disclose HIV Status.

Variables	Female		Male	
	N	Percent	N	Percent
Stigmatization	39	43.3	38	42.2
Violence	27	30.0	29	32.2
Confidentiality	17	18.9	13	14.4
No need	7	7.8	10	11.1
Total	90	100.0	90	100.0

The role of PMTCT program is to prevent MTCT, to ensure that infants are fed in the safest way in order to prevent post-partum vertical transmission. When pregnant women were asked with regard to replacing breastfeeding a large number of pregnant women about 54.4 percent said that they were willing to follow breastfeeding counseling and 45.6 percent said they that they were not willing to replace breastfeeding as shown in Table 5. Furthermore, respondents were asked reasons for not following breastfeeding counseling, data displayed on the same Table 5 show that 6.7 percent said they could not afford, 23.3 percent they avoided stigmatization, 6.7 percent feared to be divorced and 8.9 percent were not sure of confidentiality.

Table 5: Breastfeeding Counseling.

Variables	N	Percent
Replace breast feeding		
No	49	54.4
Yes	41	45.6
Reasons for not taking infant feeding replacement		
Not afford	6	6.7
Stigmatization	21	23.3
Fear of divorce	6	6.7
Not sure of confidentiality	8	8.9
Missing	49	54.4
	90	100.0

3.3 Respondents' Suggestions to Improve PMTCT Follow-up and Uptake

The suggestions given by the service providers to overcome the prevailing situation were to increase community sensitizations through mass media by encouraging male involvement in reproductive health and PMTCT in general. They suggested to broadcast the programs events in the TV channels in order to attract men, introducing family/couple seminars, advocacy to the local government leaders on importance of PMTCT services so that they can put it in their agenda of monthly public meeting, and to have well established follow up mechanism such as home visits service.

3.4 Association Analysis

The study also examined factors affecting communication regarding testing for HIV virus and its influence in the follow up to the utilization of PMTCT services. Chi-square tests is significant at $\alpha = 0.05$ level of significance ($p=0.00$), Table 6 confirms that communication barriers between pregnant women and their husband/partners are significant limiting factors of follow up to the uptake and utilization of PMTCT services.

Table 6: Chi-square Test for the Association between Disclosure of HIV Status (female) and Limiting Factors.

		Would you specifically be willing to tell your husband/partner?		Total	χ^2 Value	Degrees of freedom	P-Value
		Yes	No				
Not willing to disclose HIV status to husband/partner	Stigmatization	10	29	39	19.59	2	0.00
	Violence	19	8	27			
	Confidentiality	18	6	24			
Total		47	43	90			

Table 6 shows the chi-square test is significant at $\alpha = 0.05$ level of significance ($p=0.04$), which supports the hypothesis that communication barriers between male partners and their wives/partners is a significant limiting factor of follow up to the uptake and utilization of PMTCT services.

3.5 Willingness

Some women who test HIV/AIDS positive do not return to clinics for follow up visits, or fail to take the drugs they have been given. "My husband might see me with the medicines, and he will want to know what they are for. That way he will find out about my [HIV positive test] result" [15]. That's why the paper in question insisted the need to involve men as people who know they are HIV-infected are likely to be motivated to look after their health, perhaps with behavior and lifestyle changes, and to seek early medical attention for problems. Addition to that by knowing their HIV status they can make informed decisions about sexual practices, childbearing, and infant feeding, and take steps to protect partners who may still be uninfected. Those whose test results are negative can be counseled about how to protect themselves and their children from infection [16].

Moses [17], in his study, revealed that although there has been a dramatic scaling up of PMTCT services in Zambia in the past three years, the rate of uptake and adherence to PMTCT and the MTCT- Plus package among HIV positive pregnant women is still low (40 percent) and among of the factors, stated to be the cause was lack of male partner involvement and limited community support.

3.6 Communication among Partners

Kilewo *et al* [13], in their study, quoted one of the respondents who stated "I would like to know my status if this will prevent my baby from getting infected, but on the other hand I fear knowing that I am among the dead and I am to experience much suffering of AIDS, so I would not want to know my HIV status for fear of those deep thoughts". Another barrier for communication found by [19] was that an infant needs food and shelter something that the mother may depend on her spouse to provide thus to tell her partner that she is HIV positive is risky. From this confusion of having learned of her status without consulting the partner is risky, talk with him is difficult, further, to know she is HIV positive and not tell is risky, and it is for that reasons of why the study was undertaken to effect the men involvement in the programme.

3.7 Feasibility of Infant Feeding

Replacement feeding means giving a baby commercial infant formula (prepared from powder and boiling water) or home-modified animal milk (boiled with added water, sugar and micronutrients) instead of breast milk. TACAIDS [19] revealed that fear of abandonment and rejection by spouses and families after disclosing their HIV status leads to low opting to services of the programme, dropouts and non-adherence to necessary treatment schedules. It was further noted that a mother who does not breastfeed her child is discriminated by the community and faces the threat of rejection and domestic violence.

In the documents of Rapid Scale-Up of PMTCT Services Provision Using a District Approach by [20] among the challenges facing the programme were low participation by male and stigma, the following comments were collected from the participants of the group discussion during the study, 'women don't tell their husband about HIV test for fear of being divorced', 'women don't take their babies to the clinic to get neviraphine because they fear that people will be pointing fingers, by saying that she and the baby are HIV positive'.

Moreover, some research findings showed that safer feeding still in dilemma, unfortunately, encouraging mothers to practice exclusive breastfeeding is far from easy. Avert [15] stated that many societies, especially in Sub-Saharan Africa, it is normal for a baby to be given water, tea, porridge or other foods as well as breast milk, even during the first few weeks of life. Researchers have found that a lot of mothers who choose exclusive breastfeeding have difficulty complying, especially when there is pressure from partners and relatives to follow traditional practices. Thus, there is a need of involving men so as to make more utilization of the services.

3.8 Logistic Regression Model

Multinomial logistic regression is used to predict the presence or absence of follow up to the uptake of PMTCT services, predictor variables are limiting factors to attend clinic, agree to test for HIV, accept the results, take ARV drugs, safer feeding and communication barriers between partners.

Table 7: Parameter Estimates for the Logistic Regression Model.

Willingness to ingest the ARV drugs	B	Std. Error	Wald	Df	Sig.	Exp(B)	95 percent Confidence Interval for Exp(B)	
							Lower Bound	Upper Bound
Intercept	3.168	1.830	2.997	1	.083			
Accept results	.118	.211	.312	1	.576	1.125	.744	1.700
Disclose HIV status	-.179	.519	.119	1	.730	.836	.303	2.311
Safer feeding	-2.421	.521	21.605	1	.000	.089	.032	.247
Test for HIV	-.382	.540	.501	1	.479	.682	.237	1.966
Social support	.560	.451	1.538	1	.215	1.750	.723	4.240

The only significant factor is safer feeding which is 'protective' against 'willingness to ingest ARV drugs'. This was to be expected because the majority of people are poor and therefore cannot afford safer feeding let alone basic needs.

4. Conclusion

The present study has demonstrated that firstly, knowledge and attitudes of people on VCT/PMTCT is still a problem and the role of the male is a key contributor to community acceptance and support of PMTCT programme. Secondly, male involvement needs to be comprehensive in terms of establishing friendly health facilities. The contradiction between men's beneficial attitudes towards their involvement and low participation rates suggests that external barriers play a large role in this decision-making process and that partner's needs should be more specifically addressed in ANC/PMTCT services.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

Max collected the data under the supervision of Francis and Rocky. The analysis was done by Max Deonisia under the direction of Dr. Sichona and Prof. Akarro.

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