

# **Factors for Low Uptake of Antiretroviral Therapy Among Pregnant Women Living with HIV in**

## **Mbeya City Council in Tanzania**

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### **ABSTRACT**

#### **Background**

The world anticipated reaching 90 per cent antiretroviral therapy uptake by 2015. Despite free provision of antiretroviral therapy to pregnant women living with HIV, still the uptake remains low. This study evaluated factors for low uptake of antiretroviral therapy among pregnant women living with HIV in Mbeya City Council.

#### **Methods**

The study used cross section descriptive design. 44 pregnant women on antiretroviral therapy were conveniently selected while 12 health providers, and 4 key informants were purposive selected. Review of data; in-depth interviews with clients and key informants; exit interviews with clients; and observation for health providers were conducted. Audio tape recording from in-depth interviews was transcribed into Swahili to English. Social ecological framework was used in data coding based on individual, social and health service factors then analysed using Atlas. ti 7. Quantitative data were analysed using excel sheet where calculations were made, tables were prepared and data presented in tables and charts.

#### **Results**

The findings from interviews and observation showed that the main individual factors (like treatment related side effects and faith believes in God); Social factors (like traditional medicine and lack of partner/husband support) and health service factors (like long waiting time and discrepancy in information given to clients during adherence counseling on antiretroviral therapy) were more likely to cause low uptake of antiretroviral therapy.

#### **Conclusion**

This study indicates that various factors at individual, social and health service levels were more likely to cause clients to stop antiretroviral therapy resulting to low uptake. However reasons for discrepancy information given during counseling by providers remain a question, which needs further researching.

**Keywords:** *Antiretroviral therapy, low ART uptake, HIV and AIDS, Tanzania*

## **INTRODUCTION**

HIV epidemic remains to be a major global public health concern which increases the risks of morbidity and mortality among population. An estimated 36.7 million people including 1.8 million children were living with HIV globally in 2015 with 1.1 million AIDS related deaths. The burden of HIV have been felt more in sub-Saharan Africa where it carries about 69% of all HIV infections (UNAIDS, 2016).

Mother to child transmission (MTCT) of HIV proved to be a major route of HIV transmission among children which for a long time subjected children to serious pain and sufferings. The risk of MTCT can range at 20 to 45 per cent if no interventions are undertaken, and can be reduced to below 5 per cent if specific interventions are undertaken (WHO, 2010).

Provision of antiretroviral therapy (ART) to pregnant women living with HIV is among these specific interventions undertaken to reduce risks of MTCT (UNAIDS, 2012) which is implemented under Prevention of Mother to Child Transmission (PMTCT) programme. The PMTCT programme was initiated in Tanzania in 2000 to respond to the HIV epidemic with ambitious goal of elimination of MTCT of HIV. One of its objectives was to increase percentage of pregnant women living with HIV who receives ART for PMTCT whereby the world expected to reach at least 90 per cent by 2015 (UNAIDS, 2016).

In guiding this implementation, the World Health Organisation (WHO) has developed various PMTCT guidelines at times to spearhead the efforts of preventing HIV infections among the children which adopted by different countries over time in Sub-Saharan Africa (WHO, 2013). Tanzania is implementing the WHO consolidated treatment guideline published in 2013 to accelerate the achievement of elimination of new HIV infection in children, and keep their mothers alive and healthy. The guideline recommended early initiation of ART for life to all pregnant and breastfeeding women living with HIV soon after diagnosis, regardless of clinical eligibility, and be initiated in Reproductive and Child Health (RCH) clinics (WHO, 2013; WHO, 2015; NACP, 2011; MOHCDGEC, 2013).

Mbeya region was among the first six regions in Tanzania with the highest prevalence of HIV (9.0 per cent) (THMIS, 2012) to implement this guideline (MOHCDGEC, 2013), and Mbeya city being one of the council in Mbeya region has experienced high HIV prevalence (10.2 per cent) (COP, 2016). Various efforts have been done to eliminate MTCT included training of providers to implement guideline (WHO, 2015; NACP, 2011, DHIS, 2015). Despite free provision of ART in PMTCT clinics, still the uptake of ART remains low (75 percent)in Tanzania, and (70 per cent) in Mbeya city (MoHCDGEC, 2016; DHIS, 2015) which was low compared to the anticipated world and national target of 90% by 2015 (UNAIDS, 2013).

Various studies highlighted the factors influencing patient stopping from ART care which could play role in low uptake of ART, but in the local context only Kisesa in Arusha north of Tanzania has been mentioned in previous study used social ecological framework by Roura *et al* (2009) to have highlighted on factors that could lead to low uptake of ART in the country. Factors found in Kisesa (included, losing hope after the patient not experiencing physical recovery, and regaining physical health) found at individual level; at social level (included, perceived lack of support from family, beliefs on witchcraft as a cause of HIV, misconception and rumors concerning ARV medicine); at health service level (distance to the clinic in relation to inconvenience of travel) were mentioned as factors that could lead to low uptake of ART.

However, little was known about the factors contributing to low uptake of ART in Mbeya City Council. This led the need to conduct the study in Mbeya city council. The main objective was to evaluate factors for low uptake of ART among pregnant women living with HIV in Mbeya City Council. The main evaluation question was '*what are the factors for low ART uptake among pregnant women living with HIV in Mbeya city council?*'

## **METHOD**

### **Study Design**

This was a cross sectional and descriptive study conducted between March and May 2017. This study used both qualitative and quantitative methods. The qualitative approach was used to explore factors for low uptake of ART to understand a subject matter in a holistic manner. A mixed methods were used included semi-structured in-depth interviews with 26 pregnant women living with HIV, and 4 key informants who were in-charges of PMTCT clinics; exit interviews with 18 pregnant women living with HIV; The interviews were conducted until reached to the saturation (no more new information heard); while observation of 12 providers was done to assess skills in adherence counseling. In quantitative method the health facility data including ART registers and ART quarterly reports of 2014 to 2016 were reviewed to determine uptake rates of ART among pregnant women living with HIV to address the programme objective to whether the percentage of women used ART increased as expected to meet the national target.

### **Study Setting**

Mbeya city council is among 7 councils located in Mbeya region south west highlands of Tanzania which is the third region with the highest prevalence of HIV in the country, and was among the first six pilot regions to implement the new consolidated PMTCT guideline published by World Health Organisation in 2013. Mbeya city council covers an area of 214 kilometers. According to the 2012 population and housing census Mbeya city has 385,279 inhabitants with population growth rate of 4 per cent. Administratively, Mbeya city is divided into 2 divisions, 36 wards, 181 streets and 99,361 households. By 2016, the PMTCT services were provided in 26 health facilities. Being one of the councils in Mbeya region, Mbeya city council also has high HIV prevalence of 10.2 per cent (COP, 2016) with ART uptake rate of 70 per cent which has not reached the national target (90 per cent) by 2015 as expected.

## Sample

This study involved convenience sample of pregnant women living with HIV who continued with ART, and those who stopped ART and traced as lost to follow up in their follow up visits at the government health facilities offered PMTCT services in Mbeya city council. They were included in the study because they were actual service users with experience in ART. Health care providers working in health facilities providing ART and in-charge of PMTCT clinic as key informants were purposely selected because of their wide knowledge in caring pregnant women living with HIV, while government health facilities rendered PMTCT services were clustered into hospital, health centres and dispensaries, and randomly selected to get 10 facilities to form part of the evaluation study. In summary 60 respondents participated in the study (Table 1).

**Table 1: Methods used in selection of respondents and data collection**

Type of respondent	Sampling method	Method of data collection	Number of respondents
Pregnant women living with HIV continue with ART	Convenience	In-depth interview	20
Pregnant women living with HIV stopped ART and traced as lost to follow up	Convenience Purposive	In-depth interview	6
Key informants (PMTCT clinic in-charges)	Purposive	In-depth interview	4
Mixture of Pregnant women living with HIV on ART and those traces as lost to follow up in PMTCT clinic	Convenience	Exit interview	18
Health care providers working in PMTCT clinics	Purposive	Observation	12
<b>Total</b>			<b>60</b>

Source: Evaluator field data, (2017)

## Measurements

In this study the low uptake is considered as number of patients not using ART for 3 or more months at any time after initiation. The study adapted social ecological framework by Roura *et al*, (2009) to address individual, social, and health service factors contributed to low uptake of ART in PMTCT programme. At individual factors the patient *information on ART* were measured with a set of 10 questions where

respondents described their experience in taking ART for PMTCT and analysed as categorical measure of whether continued, stopped, or had history of stopping ART, and the reasons for stopping ART. In this

study (the patient was considered to stop ART if was not taking ART or had a history of not taking ART for previous consecutive 3 or more months); *Fear of known HIV status* was measured with 2 questions and analysed as dichotomous measure of whether patient had fear or not.

At the social factors the *HIV disclosure status* was measured by 7 questions and analysed both as dichotomous of whether or not patients disclosed their HIV status and categorical for reasons of not disclosed HIV status; while the *support system status* was measured with a set of 4 questions and analysed both as dichotomous of whether the patient supported or not supported, and categorical for reasons of disclosure. At the health service factors, *providers' skills* were measured by a set of 27 items of counseling session adopted from International Training and Education Centre on HIV (I-TECH) and analysed as dichotomous of whether the provider were performed or not performed the skill required, while *quality of services* were measured by a set of 10 questions adapted from I-TECH included likert scales questions where patients ranked for their satisfaction of services given and analysed both as ordinal for ranks of whether (poor, unsatisfied, satisfied, good or excellent), and dichotomous whether the patient satisfied or not satisfied with services.

### **Data collection tools and pretesting**

The interview guides were developed and translated to Kiswahili and back to English to check for consistence. The observation checklist included various skills on adherence counseling as stipulated in the WHO PMTCT guideline, the format adapted from I-TECH. Data review done through patient's ART registers and quarterly reports for the period of January 2014 to December 2016. The evaluator interviewed pregnant women living with HIV in Ituha dispensary to test its validity and subjects whereby necessary corrections including removal, addition and modification of some questions were made to ensure validity. The observation checklist and interview guides were assessed for its clarity, lengths, completeness and the necessary corrections were made accordingly. Data were collected during working hours in working days.

## Analysis

All interviews were tape-recorded, transcribed precisely word by word and field notes reviewed in Swahili ensuring consideration of nonverbal cues then transcripts were translated back to English and sent to second translators who double checked the initial translation and the identified discrepancies were resolved. All word transcripts field notes and visual files were imported into Atlas.ti 7 software, for analysis based on social-ecological framework as initial coding guide by grouping of codes to find out re-emerging patterns and themes. The non-quantifiable data and open ended questions subjected to content analysis and interpretation, and open-ended responses organised under the relevant subheadings to facilitate comprehension. The references of quotes from respondents were used to illustrate the points so as to make sense of findings and drawing conclusion. The quantitative data were entered in excel sheet, where calculations were made, tables were prepared and data presented in tables and charts.

## FINDINGS

The findings from 30 in-depth interviews showed factors subjected patients to stop ART are presented in 2 categories: Individual level factors and Social level factors: (Table 2).

**Table 2: Individual and social factors contributing to low uptake of ART among 30 respondents.**

Level of factors	Contributing factor	Number of respondents	%
Individual level	Treatment related side effects	16	53.3
	Faith believes in God	9	30
	Regaining physical health	7	23.3
	Fear of disclosing HIV positive status	7	23.3
	Being tired with treatment	3	10
	Travelling away	2	6.6
Social level	Lack of partner/husband support	12	40
	Beliefs of traditional healing	5	16.6
	HIV related stigma	4	13.3
	Family obligations	4	13.3
	Being abused and criticized regarding HIV	3	10

\*Number of respondents is greater than 30 because of multiple responses.

The findings from 18 exit interviews showed level of satisfaction in health services received among respondents: (Table 3).

**Table 3: Level of health services satisfaction among 18 respondents in PMTCT clinics**

Factors in service provision	Not satisfied		Satisfied	
	Number of respondents	%	Number of respondents	%
waiting time	7	38.9	11	61.1
privacy/pace for consultation	3	16.7	15	83.3
Information/education materials	3	16.7	15	83.3
Interaction with health care workers	0	0	18	100

**Source:** Field evaluator data; format adopted from International Training and Education Center on HIV (I-TECH).

Findings from observation of 12 health providers showed differences in skills and competencies among providers in providing information during adherence counseling: (Table 4).

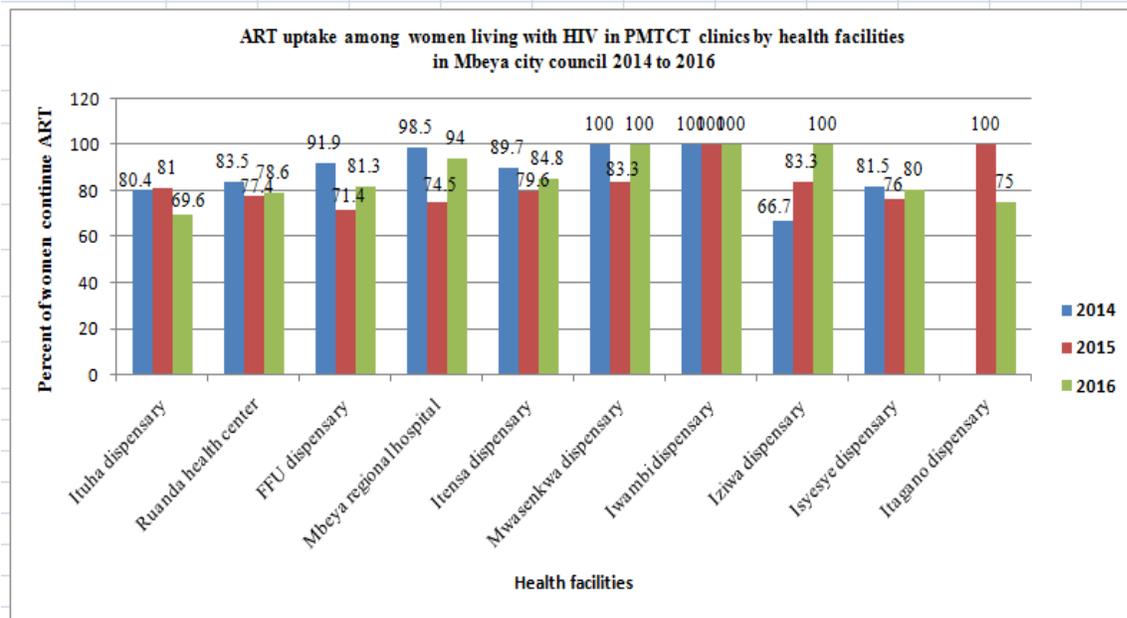
**Table 4: Summary findings of provider’s skill performance in adherence counseling**

S/no	Skills required in ART adherence counseling	Number of providers performed the required skill		Number of providers did not perform the requires skill	
		No.	%	No.	%
<b>A</b>	<b>Review treatment history, including:</b>				
1	Current regime	12	100	0	0
2	Previous medication	12	100	0	0
3	Side effects	10	83.3	2	16.7
4	Other treatments	12	100	0	0
<b>B</b>	<b>Discuss current health status with patient, include:</b>				
5	Overall health and current problem	11	91.7	1	8.3
6	Latest Laboratory tests (including CD4 count)	9	75	3	25
7	Goals for health	11	91.7	1	8.3
<b>C</b>	<b>Assess patient’s medication knowledge, behaviour and attitude, including</b>				
8	Knowledge of HIV medications	10	83.3	2	16.7
9	Understanding of resistance and implications	8	66.7	4	33.3
10	Criteria for evaluation medications	12	100	0	0
11	Attitudes about taking medication	9	75	3	25
<b>D</b>	<b>Review patient’s family’s living situation, including</b>				
12	Eating patterns	12	100	0	0
13	Daily activities: work, travel schedule	11	91.7	1	8.3
14	Access to health facility	10	83.3	2	16.7
15	Special factors: disclosure of HIV diagnosis, medication storage issues	12	100	0	0
<b>E</b>	<b>Describes proposed medication regimen, including</b>				
16	Medicine names	12	100	0	0
17	Dosing	12	100	0	0
18	Food requirement	11	91.7	1	8.3
19	Special instructions/how to give	10	83.3	2	16.7
20	Side effects	12	100	0	0
21	Storage issue	10	83.3	2	16.7
<b>F</b>	<b>Assess patient’s readiness for regimen</b>				
22	Review possible drug interactions	8	66.7	4	33.3
23	Review with patient possible barriers to adherence (stigma, support system, work, living situation, travel to clinic to pick up medication, side effects, depression, etc)	9	75	2	25
24	Assist patient to identify possible barriers for her adherence	7	58.3	5	41.7
25	Counsels patient to identify strategies to overcome identified barriers	6	50	6	50
<b>G</b>	<b>Make plan for follow up</b>				
26	Schedule next appointment, discuss what should prompt an earlier visit	12	100	0	0
<b>H</b>	<b>Provides closure to adherence counseling session</b>				
27	Ask patient to describe her ARV regimen, how to get refills, what to do if experiences side effects, when is next appointment, how to take medications etc.	9	75	3	25

**Source:** Evaluator field data: The modified framework adopted from International Training and Education Center on HIV (I-TECH)

Finding from facility data review showed variations in ART uptake rates among health facilities and within health facilities of Mbeya city council: (Figure1).

**Figure 2: Clients continued with ART in PMTCT programme by health facilities**



Source: Field health facility data (2014-2016)

## DISCUSSION

After analysis of results, the findings showed that at the individual level, treatment related side effects such as (vomiting; tiredness; body weakness; body rash; anger, and headache) were mentioned as reasons for women to stop ART because they may interfere with their health, comfort and daily activities (Musheke, 2012) and subject patients to opt for alternative healing. Also existing beliefs in God were among the factors to stop antiretroviral therapy (ART) among pregnant women living with HIV. They accessed prayer as alternative means of curing HIV believing that only God has power to heal somebody from HIV even without other treatment. Findings also showed that when patients' experienced regaining physical health they did not see the need of continues the treatment because of reduced motivation to continue treatment (Musheke *et al.*, 2012; Roura *et al.*, 2019). For instance when a woman is never experience sickness to the extent of being hospitalized she may stop treatment believing that she is cured from HIV infection. Also when the patient travels away for mourning, it is customs and taboos of some tribes to attend the mourning for more than two weeks for the death of closely relatives, in that case,

patient could not manage to go back to the health facility she used to go for ART to pick medication and subjected patients to stop treatment.

Women's worries in discussing their HIV positive status to their male partners created fears that their information could be spread on streets and make their status known which could provide chance for people to speak badly on them. To avoid this situation, patients tend to hide their status by stop taking their ART for fear of being discovered (Hodgson, 2014; Musheke *et al.* 2012; Cataldo, 2012). Pill burden also seemed to be tiresome following daily swallowing of medicine and frequent visits to clinic to pick ART. Patients felt hard to work up daily and think about swallowing medicine which is very tiresome to the extent of failure to tolerate which may result to stop the treatment.

At social level, lack of support from immediate people especially from husband, made patients feel isolated declaring that is better to stop medication and often lead to poor marital relationship, separation, abandonment and divorce, and sometimes husbands forbade their wives to visit clinics for ART, or discarded their pills and attempt to prevent them from accessing ART (Gourlay (2013; Kim (2016; Roura *et al.*, 2009). Likewise, the existing beliefs on witchcraft as the cause of HIV discouraged patients to continue with ART and opt forherbal remedies as alternative healing (Musheke *et al.* 2012; Roura *et al.* 2009).

Experience showed that most of male partners when travels away to find means of getting some money for their families, they used to stay for sometimes, and handled all family obligations to their wives who found themselves occupied and missed an opportunity to go for ART which subjected patients to stop treatment. Also some women especially discordant couples often experienced negative response from their male partners (such as blames, abandonment, quarrels, not being involved in decision making of the family, stop communication, conflicts, violence and separation) which hinders the uptake of ART. In order to defend support from others, they stopped ART to prevent involuntary disclosure of their HIV status (Musheke *et al.*, 2012; Gourlay, 2013)

At health service level long waiting time for services was found to be the cause of patients to stop their medication (Hodgson 2014; Roura *et al.* 2009); Munro *et al.* 2007; Musheke *et al.* 2012) for the reasons of interactions of services with staff meetings and visitors, too much explanation from providers during counseling, slow speed of providers at work, delay in starting services and existence of few service providers. Fear of being seen by others during long waiting time could make their HIV status known and could increase possibilities of being stigmatized (Hodgson; 2014).

Likewise, respondents were unsatisfied with privacy and pace of consultation for the reasons of overcrowding, slow speed of providers at work, and small space at waiting places and rooms for services where sometimes more than one client enters the room to receive services, this could discourage patient access to ART for fear of being discovered by other people. This study also found that lack of information/education materials for patients in clinics could be the reason to stop medication because some patients refused that they have received any reading materials related to ART for reading at home to encourage them to continue taking ART.

The findings from observation showed that the service providers were not performing some of the skills as stipulated in the guideline whereby competencies in delivering information package during counseling differs among health providers, which means the information given to patients also differs because some patients received complete package of information from providers while some did not. For instance failure of providers to review side effects with patients; failure to assess knowledge and attitude of patient about taking medication; and failure to review with patient possible barriers to adherence (such as stigma, support system and living situation) may put patients in a position of being unaware of issues related to ART use. These failure to provide complete package of information to every patient during counseling, might have caused clients to lack relevant information about ART and may subject patients to stop the treatment due to the fact that they were not taught by providers, this may have contributed to the low uptake of ART.

The quantitative results for the rates of ART uptake among ten facilities rendering PMTCT services suggested that the low uptake of ART existed in health facilities of Mbeya city and this may have the negative impact in the PMTCT of HIV hence may reduce number of pregnant women living with HIV who use ART for PMTCT in the Region. In this regard, the findings suggests that individual, social and health service factors might be playing an important role in making patients stop ART which may contribute to low uptake of ART among pregnant women. This is supported by the Mbeya city report which indicated 70 per cent uptake of ART (DHIS, 2015). This report accounts for the need of more strategies to address the low uptake of ART in order to reduce the burden of MTCT.

The current evaluation study did not achieve to solicit all factors contributing to low uptake of ART due to unavailability of more clients and service providers in some health facilities. The study has demonstrated that individual, social and health service factors as described by Social-ecological model adapted from Roura *et al.* (2009) has the association with lowering the number of women taking ART in health facilities of Mbeya city hence, low uptake of ART.

## **CONCLUSION**

In conclusion, various factors at individual, social and health service levels were more likely in contributing to low uptake of ART among pregnant women living with HIV. The significant contribution of low uptake was indicated when health care providers failed to demonstrate their competency in delivering information package on ART during adherence counseling. This document is carrying the weight for the need of having identified gaps of information to be covered in all health facilities during implementation of ART adherence counseling components for service provider's competence as observed during this evaluation study. If the improvement of identified gaps is made, it will increase the number of pregnant women using ART as compared to the current results.

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