Journal of Medicine, Physiology and Biophysics
ISSN 2422-8427 An International Peer-reviewed Journal
Vol.15, 2015
www.iiste.org

Utilization of PMTCT Services among HIV Positive Mothers Who Delivered At Home: A Case Of Turbo Health Centre, Eldoret North District, Kenya

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Abstract

Background: The transmission of the Human Immune Deficiency Virus (HIV) from mother to child during pregnancy, birth and breastfeeding period is the most common way of HIV infection in children. Prevention of Mother to Child Transmission (PMTCT) of HIV program is aimed at reducing the Mother to Child Transmission of HIV. The study aimed at exploring and describing factors which affect compliance to the utilization of PMTCT service package among HIV positive mothers who delivered outside a health facility.

Methods: The study adopted a descriptive qualitative study design and entailed in-depth interviews with the HIV positive postnatal mothers attending the maternal child health and family planning clinic (MCH/FP) at Turbo Health Centre as key informants. The interviews were taped with a voice recorder, transcribed and analysed using NVivo computer software for qualitative research to document emerging themes.

Results: Four themes emerged from the results as follows 1) Knowledge of PMTCT services 2) Utilization of PMTCT services 3) Patient Factors that hinder compliance to PMTCT program and 4) Health centre related factors that hinder compliance to PMTCT program. Mothers did not take up the option to deliver at the health due to abrupt onset of labour, lack of transport and fees to pay for the delivery services at the health centre. Also, health related factors such as lack of incentives, staff attitude and lack of consistent information contributed to the mothers delivering at home.

Conclusion: It was apparent that the HIV + mothers were recruited in the PMTCT program, and appropriate follow-up made to ensure that they remain on course and comply fully with the PMTCT program. Home delivery was the missing link towards full compliance to PMTCT program.

ABBREVIATIONS

AIDS:	Acquired Immune Deficiency Syndrome
AMPATH:	Academic Model for Providing Access To Health care
ANC:	Antenatal Care
ART:	Antiretroviral Treatment
ARV:	Anti-Retroviral
BF:	Breast Feeding
EBEW:	Exclusive Breastfeeding and Rapid, Early Weaning
EDD:	Expected Date of Delivery
FP:	Family Planning
GTZ:	Gesellschaftfur Technische Zusammenarbeit
GTZ:	German Agency for Development and Technical Cooperation
HIV:	Human Immuno Deficiency Virus
HIV+:	HIV Positive
IATT:	Inter-Agency Task Team
IREC:	Institutional Research and Ethics Committee
KAIS:	Kenya AIDS Indicator survey
Kshs:	Shillings in Kenyan Currency
MCH:	Maternal Child Health
MOH:	Ministry of Health
PLWHA:	People Living With HIV AIDS
PMTCT:	Prevention of Mother to Child Transmission of HIV
PMTCT Plus:	Prevention of HIV, Care, and Support services for mothers, their children, and their families
Prof:	Professor
MTCT:	Mother to Child Transmission
M2M2B:	Mothers-To-Mothers-To-Be
MS:	Micro Soft
NACC:	Kenya National AIDS Control Programme
NASCOP:	Kenya National AIDS Surveillance and Coordinating Programme
RF:	Replacement Feeding
TBAs:	Traditional Birth Attendants

UNGASS: United Nations General Assembly Special Session
UNAIDS: United Nations Program on Aids
VCT: Voluntary Counselling and Testing
UNICEF: United Nations Children's Fund
WHO: World Health Organization

DEFINITION OF TERMS

UTILIZATION: Making use of the recommended strategies in the prevention of HIV transmission from mother to child service package.

HOME DELIVERY: Deliveries outside a health facility where PMTCT intervention strategies may not be practiced or understood by un skilled or un trained birth attendants assisting the HIV+ woman to deliver her baby.

MOTHER-TO-CHILD TRANSMISSION: Transmission of HIV from an HIV+ woman to her child during pregnancy, delivery or breastfeeding. The term is used because the immediate source of the infection is the mother, and does not imply blame on the mother.

PMTCT SERVICES: A comprehensive package of intervention strategies in the prevention of mother-to-child transmission of HIV to decrease the number of HIV infected babies born to HIV positive mothers, who were asked questions on wether they used Niverapine at the onset of labor, what they did to ensure there was no contact of maternal blood and the babys during delivery and wether they exclusively breestfeed or formular feed.

NVivo: Computer software for qualitative data analysis which helps researchers to organize and analyze complex non numerical or unstructured data. The software allows users to classify, sort and arrange thousands of pieces of information; examine complex relationships in the data.

NIVERAPINE: Also marketed under the trade name Viramune is a non-nucleoside reverse transcriptase inhibitor used to treat HIV-1 infection and AIDS. It has shown positive test results for the prevention of transmission of the HIV virus from a pregnant mother to her child.

Introduction

Every day, approximately 5,000 women are newly infected with HIV and more than 3,000 die from Acquired Immune Deficiency Syndrome (AIDS) related illnesses (UNAIDS: 2004). In most parts of the world, HIV infection is increasing faster among women than men. This trend is more apparent in sub-Saharan Africa where women comprise 58% of existing HIV infections (UNAIDS, 2002). The situation is further compounded by the fact that, nearly 50% of these women are within the reproductive age i.e. 15-49 years (UNAIDS, 2004).

In Kenya about 650,000 children are orphaned due to HIV and 100,000 are infected with HIV. It is estimated that of all childhood HIV transmissions, 90% are attributed to Mother to Child Transmission (MTCT). According to NACC (2005), 5-10% of children are infected during pregnancy, 15% during delivery and 5-15% through breastfeeding.

The challenges involved in preventing mother-to-child HIV transmission are even greater, and progress has not been as rapid as expected. In response to the goal of the United Nations General Assembly Special Session (UNGASS), of reducing MTCT by 20% by 2010. (UNGASS 2006), the World Health Organization (WHO) developed an approach to PMTCT of HIV/AIDS that has been adopted as the global model. The original WHO model suggested a three-pronged approach to prevention of MTCT of HIV/AIDS (WHO, 2002). These are Primary prevention of HIV among parents-to-be, prevention of unintended pregnancies among HIV positive women and prevention of transmission from HIV positive women to their infants. Recently, a fourth prong has been added thus PMTCT intervention which encompasses follow-up for and linkages to long-term prevention, care, and support services for mothers, their children, and their families (PMTCT-Plus).

The PMTCT initiative was introduced in the country in 2000 to try and reduce maternal infection of children (NASCOP, 2008). However, since PMTCT program was introduced in 2000, it has been evident that utilization of Prevention of Mother to Child Transmission of HIV (PMTCT) services in general and prophylactic ARV drugs in particular are low especially in resource poor settings where the transmission rate is high. According to the 2006, UNAIDS report, only 6% of HIV positive women living in sub Saharan Africa got prophylactic ARV drugs (UNAIDS/WHO, 2006).

Each year 640,000 children worldwide are born with HIV and of the approximately 1.5 million children born while in Kenya, 50,000 to 60,000 are infected with HIV annually, mostly due to MTCT (NASCOP, 2008). To address this problem, the Kenyan government has implemented PMTCT services throughout the country. These services include routine HIV counselling and testing, improved obstetric practices during health facility deliveries, antiretroviral therapy, counselling and support for safer infant feeding practices, and family planning.

To meet the UNGASS PMTCT goal, at least 80% of HIV positive women in developing nations would

need to be reached with PMTCT program. Estimates vary but currently far less than 20% of HIV positive women in these countries receive any form of ART, a key element in reducing MTCT. Given the availability of various prophylactic antiretroviral drugs, the PMTCT coverage is below the target globally.

The 2006, UNAIDS report revealed that actions directed to mitigate MTCT are not satisfactory. Globally less than 10% of the HIV positive women who are in need of prophylactic ARV received the drug, which is far behind the 80% 2005 global target. The coverage was even less (6%) in the sub-Saharan region where the majority of HIV positive mothers give birth outside a health facility (UNAIDS/WHO, 2006). where PMTCT practices may not be complied with by both mother and baby.

Research question

What factors affect compliance to the utilization of PMTCT services among HIV+ women who deliver at home?

Specific objectives

1. To describe the knowledge and utilisation of PMTCT services available to mothers who delivered at home at postnatal MCH/FP clinic in Turbo Health Centre
2. To describe the factors that hinder expectant HIV + mothers from complying with the PMTCT program.
3. To describe the barriers to compliance to the utilization of PMTCT service package among mothers who delivered at home attending post natal clinic in Turbo Health Centre.

METHODS

The study was based at Turbo Rural Provincial Health Training Centre which is situated in Eldoret West District of Kenya, 26 Kilometers west of Eldoret town. The total population of the HIV positive mothers who delivered at home attending postnatal/MCH/FP clinic in Turbo Health Centre bringing their babies who were less than nine months of age at the time of the studywere estimated to be 300. Also included were the health care providers based at the health centre MCH/FP clinic who served as the key informants. This was a descriptive qualitative study, targeting HIV+ mothers who attended postnatal/MCH clinic, but had delivered their babies outside a health facility at the beginning of the study. Purposive sampling method was used because only postnatal PMTCT mothers who delivered at home and key informants handling them were included. Client participants were identified during their postnatal clinic appointment and by use of MCH registers, a confirmation that they delivered at home was made. Key informants who included two nurses and two clinical officers attending to these mothers were selected on basis of working in the PMTCT clinic. All approached participants consented to take part in the study

Inclusion criteria

Included were PMTCT mothers who delivered at home between one and nine months prior to the date of the study and had attended ANC clinic where they were screened for HIV. They were aged between 18 to 49 years and willing to participate in the study. Also included were the Key informants attending to these clients at the postnatal/MCH clinic.

Exclusion criteria

Mothers who, despite being HIV+ and having attended ANC clinic, delivered at home who were too sick to participate in the interviews.

Data Collection procedure

Data was collected using in-depth interviews for client participants and key informant interviews for the health care providers attending to them. This was aided by interview guides designed specifically for each of the two groups of participants. The purpose of the study was first explained to the participants individually and they gave consent before interviews began.

Each interview lasted approximately 40 minutes and was recorded using a digital recorder for purposes of transcription. Eleven interviews were conducted in Kiswahili and four key informants' interviews in English. The investigator was the moderator and was assisted by a PMTCT counsellor who also served as the time keeper.

In-depth interviews for the key informants were done in their offices, whereas those for client participants were conducted in a private room identified earlier within the postnatal clinic. Interviewer guided questions in order to get personal accounts and understanding related to PMTCT were used and helped get views and understanding on factors that affected utilization of PMTCT services amongst the home delivery clients. Demographic data was collected by use of a self administered questionnaire.

Data management and analysis

The interviews were transcribed by typing them on Micro Soft ward. Eleven interviews that had been done in Swahili were then translated and back-translated before they were analysed. NVivo (Version 7.0) computer software for qualitative research was used to code and analyze content of the data, enabling identification, exploration and consolidation of the emerging key themes.

Comparisons of responses from the various interviews, using thematic analysis approach was done. NVivo computer software allowed for exploration of trends in the qualitative data. Cross-referencing of the interviews was also done which enabled the lead to themes in the various interviews.

Ethical consideration

Permission to carry out the study was sought from Institutional Research and Ethics Committee (IREC). Permission from MOH Eldoret West District was acquired. No names were indicated on the interview guides. Information obtained from the study was kept confidential. The field notes and the tape recorder were kept in a drawer under lock and key until the research was over and thesis written when these materials will be destroyed. Collected data will be stored without exposure to unauthorised persons.

Findings

Table 1: Demographic Data for Participants

Participants N=11		
	Range	Number
Age	20-30	2(18.2%)
	31-40	8(72.7%)
	41-50	1(9.1%)
Marital Status	Married	9(81.8%)
	Single	1(9.1%)
	Separated	1(9.1%)
Number of Children	2	2(18.2%)
	4	6(54.5%)
	5	2(18.2%)
	6	1(9.1%)
Gestation period		
When started ANC	2/9	2 (18.2%)
	4/9	1(9.1%)
	5/9	1(9.1%)
	6/9	3(27.3%)
	7/9	3(27.3%)
	8/9	1 (9.1%)
Highest Education	Primary	7(63.6%)
	Secondary	4 (36.4%)
	Tertiary	0(0%)
Religion	Christian	11(100%)
	Others (specify)	0(0%)

The mothers that were interviewed were between the ages of 29 to 42 with an average age of 34.18. Their parity ranged from 2 to 6 children with an average parity of 1.55. The mothers were recruited in the study while they came to the maternal and child health clinic when they came to receive various services.

Table 2: Demographic Data for Health Care Workers

Health Care Providers N=4					
	HCP-1	HCP-2	HCP-3	HCP-4	Average
Age	45	51	28	35	39.75
Sex	F	F	F	M	
Level of Education	Secondary	Secondary	Secondary	Secondary	
Professional Qualifications	Diploma	Diploma	Diploma	Diploma	
PMTCT Training	Yes	Yes	Yes	Yes	
Experience	6	4	2	6	4.5

Four Health Care Providers formed key informants. Their ages ranged from 28years to 51 years. All of them were diploma holders two in Nursing and two in clinical medicine. They were all trained in PMTCT. They also had worked at the MCH/post natal clinic for an average of four and half years.

From the study four themes were derived. This was achieved after the data was transcribed, translated

and managed using NVivo computer software, which enabled the researcher to explore the interviews in search of ideas. These ideas were scrutinized to identify patterns and major ideas. These partners formed the themes and sub-themes. The table below shows the various themes and sub themes as were identified.

Table 3. Summary of the Major Themes and sub-Themes

Theme	Sub themes		Objective addressed
Knowledge of PMTCT services			To describe the knowledge of PMTCT services available to mothers who deliver at home at postnatal/MCH clinic in Turbo Health Centre
Utilization of PMTCT services			To describe the knowledge and utilization of PMTCT services available to mothers who deliver at home at postnatal/MCH clinic in Turbo Health Centre
Patient Factors that hinder compliance to PMTCT program	Home deliveries		To describe the factors that hinder expectant mothers from complying with the PMTCT program
	Reasons for home deliveries	Abrupt labor pains, Lack of means for transport to the health Centre, Financial issues	
Health centre related factors that hinder compliance to PMTCT program	Lack of consistent information, Lack of incentives to encourage		To describe the barriers to compliance to the utilization of PMTCT service among mothers who delivered at home.

Theme 1: PMTCT knowledge

From the study, it was evident that the clients attending antenatal care at Turbo Health centre had received information on the importance of testing for HIV when pregnant, and the ways of preventing the HIV from being transmitted from the mother to the baby. The mothers who did not already know their HIV status were counselled; they gave consent to the HIV test and had received their positive results. They were able to describe the teaching/information they received from the health care providers in the clinic and from the health care providers who had gone to their homes on home testing and counselling; which included exclusive infant feeding; breast feeding for six months or formula feeding. They were also taught on family planning methods like the use of injectables, pills and tubal ligation. The health care providers demonstrated to them the use of condoms and were provided with condoms to use with their partners to prevent further re-infection of the HIV. Others said that they were told not to get pregnant again now that they were HIV positive. They also received information to deliver at a health facility where staff are trained on PMTCT, and they would be given drugs when labor starts to both the mother and baby once delivered.

One client narrated what she had been taught regarding feeding:

> *"When breastfeeding, the child should not be given any other foods, not even water. This is because if the baby is given other feeds/drinks, they can hurt the baby's throat allowing the HIV to get through".*
> *"I was also told to breastfeed for 6 months and then I give porridge with cows' milk."*

Participants were able to outline the benefits of PMTCT and the need to adhere to PMTCT regime. Asked whether and how she was taking her ARVs and coping with the demands of caring for her infant, one mother observed the following:

> *"Yes, the baby gets treatment which I follow, and I am also on treatment. I adhere to the drugs' guidance…"*

Most participants when asked how HIV transmission could be prevented from mother to child they wondered "before or after delivery?" one client answered; "*It is hard to transmit HIV when the baby has not been born… how can that be possible when the baby is still in the uterus?"* She reported to not know how it can be transmitted before the baby is born. "*How can I know?"*

When key informants were asked what preparation they gave the mothers concerning delivery, they reported to give individualized birth plan. This focused on how each mother would be able to reach the hospital for delivery and what means of transport are available. They also reported to hold monthly meetings where they handled challenges faced by these mothers and taught them on among others items, the importance of breast care to avoid

nipple cracks or abscesses which could be routes of HIV transmission to the baby. When asked what advice they gave mothers on infant feeding, it was found that the advice from various key informants differed. While most advised mothers to exclusively breastfeed for 6 months if they opted for breastfeeding, one taught her clients to go on for 12 months. She put it thus:

> *"…with the research that has been done…previously we were telling them not to breastfeed, but now we are telling them they can…we came, we said 'Breastfeed for six months', now we are saying 'Breastfeed for one year'."*

Theme 2: Utilization of PMTCT services.

Most mothers reported to never have skipped ANC appointments. However, some clients expressed difficulties in adhering to drug regimen where they had to take ARVs daily, citing other demanding engagements so that they either forgot to take drugs, felt the drugs were not necessary or did not consider taking them a priority. One such reported:

> *"… they told me to attend PMTCT clinic…I didn't continue with treatment nor attended clinic. I was confused…" Another mother said she felt "sick" as a result of ARVs and therefore "left these drugs".*

On clinic attendance, while key informants reported they followed-up clients referred to the PMTCT clinics to ensure adherence, and also ensured involvement of their male partners, some clients were reluctant to immediately utilize available services upon enrolment. This is despite reporting knowledge of the benefits therein. Asked to comment on the benefits of delivering in a health facility, one client felt that:

> *"There are many benefits…sometimes you are not able to deliver, you get help…when you are HIV+, you get drugs…the baby is protected or helped early."*

Another client who was counselled and had her HIV test at home by home testing and counselling health care providers, She was HIV+ but her husband was HIV negative, had initially had difficulties attending clinic said:

> *"I did not attend clinic immediately as I was referred…I know this would protect my baby… I stayed until the heath care workers from Turbo Health Centre followed me again at home…. when they came home…they talked with me…I now decided to come to the clinic. I was already 6 months pregnant; i was shocked and confused about my HIV + test"*

From the interviews, it was reported that the health workers in the health centre utilized the Traditional Birth Attendants (TBAs) to encourage mothers adherence to the PMTCT program by referring/escorting the pregnant mothers to the clinic, since they are close to the mothers and the mothers trust them and go to them to be palpated and for delivery. Although some participants utilized the TBAs to deliver them at home, there were widespread reports that they were being used to accompany the HIV positive mothers to the clinic. One nurse had this to say about the role of the TBAs on the PMTCT program.

> *"For the TBAs who are still active (working for us), they are always told to show the client the way to the clinic. They escort the client to this place"*

Other roles that the TBAs were used for included fighting HIV stigma, giving moral support and motivating the mothers to attend clinic which increased the number of women who came for antenatal care in Turbo Health Centre.

Theme 3: Patient factors that hinder compliance to the PMTCT program.

From the study, the mothers who had been counselled and screened for HIV and had positive HIV results were recruited into the PMTCT program where they were followed up during pregnancy. Among the things that were indicated in the clinic, for a successful prevention of infecting the baby with the HIV virus, the mother was required to deliver at the health facility where she would be monitored, delivered by skilled birth attendance and be given Niverapine at the onset of labor as well as the newborn baby immediately after delivery. However, it was evident that these mothers that were recruited in the study delivered at home with the full knowledge of the need to deliver at a health facility. This theme describes the factors that led them to deliver at home and the circumstances under which these deliveries were done.

Sub-theme 1: Home deliveries

Mothers delivered at home using various modes. There were those that delivered by themselves without any assistance, and those that were assisted by a relative or a neighbour and those that were assisted by the traditional birth attendants.

Self delivery was conducted when the mother had no one to help, or when the onset of labor was rapid. For instance, a mother narrates how she managed to deliver by herself.

> *"Labor pains came abruptly. There was no one to assist me when I delivered. However, I was unable to cut the umbilical cord of the baby by myself. I called a neighbour to help me and she came."*

The participants that self delivered the baby acknowledged that it posed a risk of contaminating the baby based on their ability to quickly cut the umbilical cord before blood of the mother came in contact with the baby.

However, in most cases, it was reported that due to exhaustion associated with the labor, the mother was too weak to address the baby as was narrated here

> . *"My leg was swollen and immediately the baby was out I did not have energy to cut the umbilical cord. The baby was out for 30 minutes before a neighbour came to cut it,"*

For the traditional birth attendants commonly referred as TBAs, they were preferred to assist in deliveries because they were in the village living close to the mothers, and charged less or would be given a "lesso" as a token of appreciation. In addition, it was observed that the mothers would prefer to deliver under the assistance of the TBAs because they trusted them more than they would the health facility as narrated by the nurse

> *"The TBAs are just there in the community, they are next to them. And to them they think they are being trained…they are trained midwives. They have a lot of trust in them."*

Another participant who delivered at home assisted by a TBA said;

"I delivered at home assisted by a TBA whom i belief understands HIV prevention because she is trained"

In some instances, the mothers indicated that the TBAs had the sterile supplies that were needed for the deliveries such brand new sterile razor blades and sterile gloves. Others however used unsterilized items such as kitchen knife to cut the blades under unhygienic conditions.

Reasons for home deliveries

Several reasons were cited for the failure of the mothers to not deliver at the health facility. However, they recognized too well that they were required to deliver at the health facility, take antiretroviral drugs and that the fact that the baby stood a high chance of contamination when the babys' blood come in contact with the mothers blood during delivery. This implied that the mother was empowered with knowledge from the antenatal clinic teachings. The following are the reasons cited for home delivery.

Abrupt labour pains

Majority of the mothers who delivered at home indicated that they had instantaneous labor that they could not manage to go to deliver at the health facility as they had been informed at the ANC. This was more so among the mothers who had more than one delivery. In addition, they also asserted that the labor pains began earlier than the time it was indicated in the ANC card, expected date of delivery (EDD). The earlier labors took them by surprise so much that they had not prepared adequately for hospital delivery. These labors could come as early as ten days before EDD as was narrated by a mother who was prepared to deliver at the hospital. A mother who encountered a similar scenario tells the story.

> *"I was in labor earlier than the date I was given in the clinic. This came at a time I least expected as I was not prepared for it at that time i thought i still had ten days, i delivered on 8th instead o 18th . There was no one to assist me and the baby just came. My grandmother came and cut the umbilical cord."*

Lack of means of transport to the health centre

Being a rural health centre, Turbo Health Centre is catchments for people who live far off areas where the road is impassable with no or few means of transport. Patients travel long distances on foot from the villages to seek health care from the health facility. This situation could be made worse if the need to seek health care happens at night. Labor pains can come unannounced and this implies that the mother may not be aware of these pains till later in the night. In this research, the mothers observed that since labor would come earlier than expected, or late in the night, or where there is no one nearby to help, the mothers would opt for the easier option which is to deliver by themselves or assisted by someone. A case in point for this scenario is as follows;

> *"I did not choose to deliver at home. I delivered at home because I was in labor at night and there was no car at that time and the TBA was nearby and the hospital was far, so it forced me to deliver at home when it was approaching morning. I was in labour for only 3 hrs. I had prepared money to use when labor begins actually I had planned to deliver in a health facility."*

Financial issues

Financial constraints among the pregnant mothers were also cited as a reason for women not coming to deliver at the hospital. The prevailing poverty ensured that these mothers could not afford transport charges, or the fees that are charged by the health centre to deliver there. These costs proved inhibitive and this further provided a reason for women to deliver at the health facility. This mother reflected on the financial constrain to PMTCT adherence;

> *"The moment I knew I was HIV+, I knew that my life was over, but I have never missed their consultation (PMTCT) they usually give encouragements that we don't loose hope". The only challenge for me is lack of fare/transport and money to pay the hospital pills"*

When asked how the HIV + mothers were encouraged or motivated to come and deliver their babies at the health facility, one health care provider in the PMTCT clinic said; *"you know we CAN NOT waive everybody"*

Theme 4: Health related factors that hinder compliance to the PMTCT program
This theme describe factors emanating from the health facility or health professionals that act as barriers to the effective utilization of the PMTCT by HIV+ mothers.

Sub theme 1- lack of consistent information
From the discussion with the health care providers who served as key informants, it was evident that the information that they provided to the mothers are inconsistent and unharmonised. They would provide the information to the mothers in a way that is unstructured and casual. One of them said that she was not certain of the information she provided to the patients regarding follow up. This is exemplified in the excerpt below.

> *"What is hindering (adherence) is that when the mother comes in our clinic and she's seen, we fail to be given information maybe on these meetings we have with them. So they might just be coming to the clinic for ANC but they are not getting this information, so maybe that I would say the staffs need to be sensitized on the need to inform the patients appropriately."*

Although the mothers pay for the delivery at the health centre of Kshs 500, those that cannot afford the fees are waived. However, the patients are never told that if they cannot afford to pay the delivery fees, they could be waived in an effort to encourage and motivate the mothers to come and deliver at the health facility. One health care provider said this in this respect as follows;

> *"The health centre charges Kshs 500 to deliver. But even if a mother cannot afford, we still waive the ones who don't have the money. It is not a must that they have the money. But still for some mothers who think that if they don't have the money they won't come (to deliver at the centre). So as staff I think we should inform the mothers, whether they have money or not they should come and deliver at the hospital."(health care provider in ANC).*

Sub-themes 2- lack of incentives to encourage mothers to deliver at the centre
The administration of the health centre acknowledges that the loss to follow-up of HIV positive mothers occurs at the time of delivery. This is a critical moment in determining the success of PMTCT. However, the heath centre where the mothers attend the clinic said that they have not done managed to provide adequate encouragement and motivation to the mothers to come and deliver at the health centre. One health care provider observed the following;

> *"Maybe if we would provide maybe tea for these mothers after delivery and sanitary pads, it would motivate them more to come to the hospital because if they know they have something, though small, they will be convinced it is helping them and they will deliver at the health centre."*

Sub-theme 3: Staff Attitude
It was reported by the participants in this study that sometimes, the staff at the health centre were unfriendly to the expectant mothers. This hostility towards them may serve to stigmatize them further. As a result, the mothers may opt to deliver by themselves or assisted by the TBAs who have been described as understanding, supportive, affordable and available. A health care provider at the health centre lamented at the perception the mothers have towards them;

> *"Our attitude as staff may not be a good one; we don't have that welcoming attitude. I think that may be a reason why they don't deliver at the centre. In contrast, when they are there in the village they are able to talk in one language with the TBAs and then their attitude towards them is good as they are perceived to be friendly."*

DISCUSSION AND CONCLUSION

PMTCT Knowledge of PMTCT

It was evident that client participants had been taught on PMTCT and each knew and could describe/otline at least two or three strategies in PMTCT. This however differed amongst clients and did not translate directly to the quest for access and utilisation of the services. Whereas there have been concerted efforts to improve knowledge of PMTCT to mothers since inception of the programme in 2000 (Population Council, 2002; NASCOP, 2008), that some participants did not clearly state or outline the PMTCT strategies although they had been taught this reveals that more effort in terms of passing information and increasing incentives and motivation needs to be put in place in order to increase both knowledge and utilization of PMTCT services. This is explained by fact that some did not find it necessary to strictly comply to protocol and guidelines given on PMTCT clinic. Further, although majority knew the PMTCT strategies and could outline them, there was a disconnect between knowledge and utilization of the services. It is evident that knowledge does not necessarily directly translate to utilization.

This was consistent to findings that only about 40-50% of all HIV-positive mothers accessed PMTCT services against a global target of 80% by end of 2007 (NASCOP, 2008). Other studies have also shown that awareness of the mechanisms through which HIV can be transmitted from mother to child is variable at community level. A study in Uganda found only 40% of women knew that MTCT was possible during pregnancy, 58% knew it was possible during delivery, and only 19% knew it could occur during breastfeeding (Population Council, 2002). This is consistent with the different levels of knowledge demonstrated from the current findings, and the fact that utilization bases on individuals' understanding and perception on benefits.

Because of the varied often un structured health education given by key informants to mothers in the ANC and PMTCT clinic, these mothers, though seemingly knowledgeable, they were left with varied understanding of what they were told to do. This compounded the dilemma they experienced on choice of various interventions that would prevent MTCT. Together with factors that were primarily from the clients, these issues appeared to affect how clients utilized PMTCT services.

Utilization of PMTCT services

Although most mothers reported consistency in complying with the clinic appointments and knew the benefits of utilizing the services available at the health centre, utilization of PMTCT services was generally sub-optimal. While there was evidence of late first ANC attendance, clients further discontinued these services at the time of delivery and the time to bring back the baby to MCH which was beyond the recommended 72 hours after delivery for ART. This was because of lack of money to pay at the delivery unit, lack of transport from the village to the health centre at night, abrupt labor pains.

When PMTCT clients attend clinic for the first time late into the pregnancy, underutilising of PMTCT services and the risk of MTCT is higher. Discontinuation appeared to be influenced by the both level of PMTCT knowledge they had acquired and the perceived benefits of fully utilizing the services. Misinformation also affected utilization of PMTCT services such that mothers who 'felt sick' because of taking ARVs got a solution in self-discontinuation from the service. When follow-up by the health care providers for such mothers lacked, they were generally more disadvantaged because their failure to use the services rendered through PMTCT program put their babies at greater risk for MTCT. Moore (2003) had documented loss of track of mothers already identified as PMTCT clients often meant that they would not utilise facility-based delivery where improved obstetric practices are available, would miss on ARVs and would be more pre-disposed to low uptake of recommended infant feeding behaviours.

Reluctance in enrolment into the PMTCT immediately following a positive HIV test result also contributed to low utilization of the services. When this is the case, the rate of MTCT is increased because the necessary ARVs which decrease the viral load, advice on choice of feeding method to avoid mixed feeding and selection of the safest mode of delivery are all lacking. Without these markers of utilization of PMTCT services, babies and foetuses of the HIV+ mothers are in more danger of contracting the HIV.

Clients' factors that hinder compliance

All the study participants had delivered at home. The aim of the study was to gain an insight as to the reasons that led them to do so yet they had attended ANC clinic and received counselling, were screened for HIV and had information on PMTCT.

The study participants had home deliveries due to the following reasons; access to the traditional birth attendants who were described as trusted by the pregnant women as stated by the health care providers. Whereas the delivery conducted by the traditional birth attendants was cheap, as there were no monetary charges, it was expressed that they enhanced infection of the baby with HIV, through the use of unsterilized kitchen knife they would use to cut the umbilical cord. The mothers who are HIV positive would be encourage to always prepare for delivery in case they are not able to reach the health facility they ensure they have a new sterile razor blade to be used to cut the umbilical cord when the baby is born.

In addition, it was also indicated that the pregnant mothers lacked transport to come to the health centre when the labor pains came especially at night. The expressed lack of transport money reflects badly regarding the preparations that these mothers received at the ANC clinic. Focus at the ANC clinic should have also been devising mechanisms within which the mothers can be facilitated to reach the health centre on time. However, from the health care perspective, mothers used the excuse of lack of transport, abrupt labor which went on for more than 15 hours devised by mothers to avoid coming to the clinic for delivery.

Considering that a majority of the mothers who delivered at home said they lacked transport, the Kshs. 500 charged at the delivery unit could also be prohibitive. The health care providers at the health centre, expressed that although there is a charge of Kshs. 500 per delivery, those that could not afford it would be waived. However, it was not clear if the waiver of the said amount was communicated to the mothers during the ANC clinic attendance. This fee many therefore have served as an obstacle for hospital delivery.

Some mothers reported to have delivered by themselves because they were alone at home at labor and

the person they sent to come and assist arrived when they had already delivered. The delay in cutting of umbilical cord may have allowed the blood of the mother to contaminate the babies hence making it possible for the baby to get HIV infection from the mother. Moreover, in majority of the mothers who delivered at home, most of them forgot to swallow the Nevirapine drug, either because they forgot or because the labor pains were swift in coming or did not have the Niverapine.

Subsequently, the babies did not receive their dose of Nevirapine and it was not surprising that the children turned to be HIV positive when they came to the hospital. A research by Kasenga, Hurtig and Emmelin (2007) on the implication of home deliveries on the adherence to Nevirapine showed that while 59% of the mothers who delivered at home took the Nevirapine before labor began, none of them gave the neonates the drug.

Health facility related factors preventing compliance

Problem of drug adherence can be attributed to lack of proper patient education (Avert 2010). The health care providers working at the health centre said that due to the nature of the workload, they do not emphasize enough on the need to adhere to the PMTCT regiment. Moreover, some of them who were said not to have a good attitude the patients could have made patient education ineffective. Elsewhere it has been reported that discriminatory practices centred on provider's behaviours within the sexual and reproductive care setting, and the effects of negative or indifferent attitudes toward women with HIV/AIDS on their willingness to access appropriate care (Engender health 2006).

In addition it has been found that in countries where PMTCT program is being implemented, there are shortages of staff which in essence compromises on the quality of services they offer to the patient. For instance, despite some improvements in quantity (small) and quality (more significant) of the workforce in Tanzania, severe staff shortages persist, particularly among the higher qualified cadres (Human Development Trust: 2009). The shortage of staff is further aggravated by the increasing number of HIV positive mothers whose lives are improved due to ARTs. It is therefore not surprising that the patients noted that the quality of care and the information given was inconsistent and inadequate.

Conclusion

From the study, it was apparent that the HIV positive mothers are appropriately recruited in the PMTCT program. In addition, it was clear that appropriate follow-up is made to ensure that they remain on course and adhere fully to the PMTCT program. However, the mothers did not take up the option to deliver at the health centre as a requirement for them due to various reasons such as abrupt onset of labour, inaccessibility of the heath centre, and lack of transport and fees to pay for the delivery services at the health centre. In addition, it was also apparent that although not directly, health related factors such as lack of incentives, staff attitude and lack of consistent information contributed to the mothers delivering at home. The home delivery was the missing link towards full compliance to PMTCT program. The circumstances under which these home deliveries were done made it impossible to prevent the mother from transmitting the HIV virus to the baby. This include self delivery where the mother delivered themselves and cut the cord by themselves, or asking the neighbour to do so, delivery through poorly equipped neighbour or traditional birth attendants. This set course for the infection of the neonates with HIV, as were reported by the participants.

REFERENCES

1. Avert 2010: Preventing Mother To Child Transmission (PMTCT) in Practice, accessed at http://www.avert.org/pmtct-hiv.htm on 14th july 2010
2. a) Besser, M., F. Paruk and N. Dinat. (2002) *Changing Obstetric Practices in the Context of HIV: An evaluation of service provision in the national PMTCT learning sites.* Health Systems Trust, Department of Health, Republic of South Africa. December 2002.
   b) Besser, M.J. et al. (2002*) A comprehensive and practical protocol for use in programs to prevent mother to-child transmission of HIV infection: Western Cape Province, South Africa*. Presented at XIV International AIDS Conference, Barcelona, July 7-12, 2002.
3. Cameroon Baptist Convention Health Board. (2003) *Healthy Mothers, Happy Babies: A Training Manual on the Prevention of Mother-to-Child Transmission (PMTCT) of HIV* [Draft]. Cameroon, January 2003.
4. Coutsoudis, A. et al (2002). Formula for Infants of HIV-Infected Women: Blessing or Curse? *Health Policy and Planning,* 17(2): 154-160, 2002.
5. Engender health (2006)Sexual and Reproductive Health of HIV Positive Women and Adolescent Girls: A Dialogue on Rights, Policies and Services-Global Electronic Forum Report on Results
6. GTZ (2005). *A Report on the Knowledge, Attitudes, Practices and Behaviour Survey (KAPB) in the Kenya Tea Growers Association's Tea growing Zones***.**
7. Human Development Trust(2009) Bottlenecks hindering full coverage of PMTCT in Tanzania-Analysis and

the way forward for Campaign to End Paediatric AIDS in Tanzania
8. KAIS. (2007) Kenya AIDS Indicator report survey 2007 report.
9. Kasenga F,Hurtig A, Emmelin L, 2007, Home deliveries: implications for adherence to nevirapine in a PMTCT programme in rural Malawi.AIDS care 19(5):646-52.
10. Manzi *et al* (2005) "High Acceptability of voluntary Counselling and HIV testing but unacceptable loss to follow up in prevention of mother-to- child HIV transmission programme in rural Malawi. Scaling up requires a different way of acting. Tropical Medicine and International Health TM & IH10(12)1242-50
11. Mona Moore (March 2003). *A Discussion Paper A Behavior Change Perspective on Integrating PMTCT and Safe Motherhood Programs* CHANGE Project: AED/The Manoff Group Washington, D.C.
12. Moore, K.M., D. Armbruster and J. Graeff. (2002) *Assessing the Caring Behaviours of Skilled Maternity Care Providers During Labour and Delivery:* Experience from Kenya and Bangladesh. The CHANGE Project, Academy for Educational Development/The Manoff Group, Washington D.C., August 2002.
13. Mother Care. Improving Provider Performance – an Exploration of the Literature. *MotherCareMatters*, 9(2), Rosslyn, Virginia, August 2002.
14. NACC. (2005) Kenya HIV/AIDS Data Booklet Nairobi 2005.
15. NASCOP. (2008) AIDS in Kenya Ministry of Health Nairobi, NASCOP 7th Ed
16. Ngashi, N. et al. (2002) *Factors of low uptake of a national prevention of mother-to-child transmission (PMTCT) of HIV program*, Botswana 1999-2001. Presented at XIV International AIDS Conference, Barcelona, July 7-12, 2002.
17. Nyblade, L. et al. (2002) *Unraveling the Complexities of HIV-related Stigma and Discrimination in Southern Africa.* International Center for Research on Women (ICRW), Washington D.C., November 21, 2002.
18. Piwoz, E. et al. (2002) *The feasibility of early rapid breastfeeding cessation to reduce postnatal transmission of HIV* in Lusaka Zambia. Presented at XIV International AIDS Conference, Barcelona, July 7-12, 2002.
19. Population Council. (2002) *A Demonstration Project on Approaches to Providing Quality Maternal Care in Kenya: Findings from a Baseline Survey in Four Districts in Western Province Kenya.* Nairobi, Kenya, January 2002.
20. Sozi, C.N.N. et al (2002) HIV voluntary counselling and testing: *Gateway to prevention and care.* Five case studies related to prevention of mother-to-child transmission of HIV, tuberculosis, young people and reaching general population groups. Presented at XIV International AIDS Conference, Barcelona, July 7-12,2002
21. UNAIDS. (2002) Report on the Global AIDS Pandemic 2002.
22. UNAIDS. (2004) Report on the Global AIDS Pandemic 2004.
23. UNAIDS/WHO. (2006) Report on the Global AIDS Pandemic 2006.
24. UNGASS. (2006) on HIV/AIDS Country Report Kenya
25. UNICEF. (2002) Draft Report of PMTCT Scaling Up Meeting. Mombassa, Kenya, September 4-6, 2002.
26. Wasonga, J.G. et al. (2002) Health workers attitudes to people living with AIDS. Presented at XIV International AIDS Conference, Barcelona, July 7-12.
27. Watindi, H.A. et al. (2002) Counselling awareness promotion among medical practitioners in Kenya. Presented at XIV International AIDS Conference, Barcelona, July 7-12, 2002.
28. WHO (2000) *New Data on the Prevention of Maternal to Child Transmission of HIV and Their Policy Implications: Conclusions and Recommendations.* Technical Consultation
29. WHO (2003) New coalition for access to antiretroviral. *Bulletin of the World Health Organization*, 81(1), 2003.
30. WHO. (2002) *Scaling up Anti-Retroviral Therapy in Resource Limited Settings: Guidelines for a Public Health Approach.* World Health Organization, Geneva,

APPENDIX I: CONSENT FORM

TITLE: UTILIZATION OF PMTCT SERVICES AMONG HIV POSITIVE MOTHERS WHO DELIVERED AT HOME: A CASE OF TURBO HEALTH CENTRE, ELDOET NORTH DISTRICT.

INVESTIGATOR
Murei, Sally Jelagat
SCHOOL OF PUBLIC HEALTH
P.O BOX 4606, ELDORET

PURPOSE AND BACKGROUND-This study intends to explore, and describe the factors which affect compliance to the utilization of PMTCT service packages among HIV positive women who delivered outside a health facility, between one and nine months at the time of study attending postnatal/MCH clinic in Turbo health centre.

PROCEDURE-This will be a cross sectional qualitative study. The researcher will conduct in depth Interviews with HIV positive postnatal women who delivered their babies outside a health facility as PMTCT users, at turbo health centre.

BENEFIT AND RISK-There will be no risk. The benefit of the study will be to explore the participant's experiences and learn from them strategies that may increase utilization of PMTCT services at their community level.

CONFIDENTIALITY-All information given in this study will be considered confidential and will be used only for the purpose of the study.

VOLUNTARY PARTICIPATION-Participation in the study is entirely voluntary and participants are free to accept or refuse to take part in the study and also withdraw at anytime of the study.

CONSENT- I have read/heard the nature of the study and voluntarily agree to participate in the study.

Signature / verbal Consent of participant ---------- Date ----------Signature of the researcher ---------- Date----------

APPENDIX II: PARTICIPANTS INTERVIW GUIDE

Interviewer guide for HIV + post natal mothers who delivered at home

Section A
Demographic data

1. Age _____
2. Parity _____
3. Marital status _____
4. Religion _____
5. level of education _____

Section B
ANC

6. What was the last gestational week that you visited the clinic?
7. What were you taught with regard to the following in the course of ANC visits?
   - Breastfeeding
   - Delivery
   - Family planning
   - Use of condoms
   - medication

History of HIV

8. When were you diagnosed with HIV? Or how and when did you learn about your HIV status?
   - Does your partner know that you are HIV+?
   - If yes when he learnt and what was his reaction
   - Is his HIV status known?
   - Who else knows your HIV status?
9. Do you receive support from the people that know your HIV status?

PMTCT

10. Can HIV be transmitted from the mother to the unborn child? Elaborate your answer

11. What hardships did you face in adherence to the PMTCT program

Delivery

12. What is the importance of hospital delivery for a HIV + expectant woman?
13. tell me why and how you chose to deliver at home
14. What did you do to yourself and the baby immediately after the delivery
15. How were you managed when you came back with the baby to the MCH clinic?
16. What are your plans with regard to future pregnancies

Thank you

APPENDIX III: KEY INFORMATS INTERVIEW GUIDE

Key Informants interviewer guide

Demographic

- Age
- Sex
- Level of education
- Professional Qualifications
- Pmctc training
- Experience

Section B:

1. Tell me more about the PMTCT program in this place
   - Education on the importance of delivering at the health facility
   - Prophylaxis ART
   - Breastfeeding choices
   - Family planning
2. What are the reasons that make HIV+ mothers who have been attending ANC clinic and PMTCT services opt to deliver at home rather than in the hospital
   - Hospital policy on HIV positive mother(waiver)
   - Do they make it easy for these mothers to deliver at the hospital(motivation/incentives)
3. have you encountered expectant mothers that have difficulties complying with the PMTCT program
   - reasons that the mothers give for not delivering
4. what remedial measures are available to the mothers who default on PMT CT program and give birth when they come to the clinic facility
   - policy- to prevent the neonate from contracting HIV(referral)
   - practice- medication

Appendix III: Ethics approval letter

INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE (IREC)

MOI TEACHING AND REFERRAL HOSPITAL
P.O. BOX 3
ELDORET
Tel: 33471/2/3

MOI UNIVERSITY
SCHOOL OF MEDICINE
P.O. BOX 4606
ELDORET
Tel: 33471/2/3

Reference: IREC/2009/110
Approval Number: 000504

19th March, 2010

Sally Jelagat Murei,
Moi Teaching and Referral Hospital,
P.O. Box 03-30100,
ELDORET, KENYA.

Dear Ms. Murei,

RE: FORMAL APPROVAL

The Institutional Research and Ethics Committee has reviewed your research proposal titled:

"Utilization of PMTCT Services among Home Delivery Clients: A case of Turbo Health Centre Uasin-Gishu District"

Your proposal has been granted a Formal Approval Number: **FAN: IREC 000504** on 19th March, 2010. You are therefore permitted to begin your investigations.

Note that this approval is for 1 year; it will thus expire on 18th March, 2011. If it is necessary to continue with this research beyond the expiry date, a request for continuation should be made in writing to IREC Secretariat two months prior to the expiry date.

You are required to submit progress report(s) regularly as dictated by your proposal. Furthermore, you must notify the Committee of any proposal change (s) or amendment (s), serious or unexpected outcomes related to the conduct of the study, or study termination for any reason. The Committee expects to receive a final report at the end of the study.

Yours Sincerely,

PROF. D. NGARE
CHAIRMAN
INSTITUTIONAL RESEARCH AND ETHICS COMMITTEE

INSTITUTIONAL RESEARCH & ETHICS COMMITTEE
APPROVED
19 MAR 2010
P.O. Box 4606 ELDORET

cc: Director - MTRH
Dean - SOM
Dean - SPH
Dean - SOD

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