USAGE AND ACCESS TO PREVENTION OF MOTHER TO CHILD TRANSMISSION (PMTCT) SERVICES BY MOTHERS

CASE STUDY: MULAGO NATIONAL REFERRAL HOSPITAL

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Declaration

I ***Juliet Bavuga*** declare that this is my original work and has never been presented to any other institution of higher learning for any academic award

…….
Juliet Bavuga

I……. supervising lecturer of Juliet Bavuga, student of Masters in Public Health declare that the research dissertation entitled **USAGE AND ACCESS TO PREVENTION OF MOTHER TO CHILD TRANSMISSION SERVICES BY MOTHERS** at the Mulago National Referral Hospital was submitted and duly approved.

…….
Mr. Ochieng Titus

Dedication

This work is dedicated to:

My two beautiful daughters Sasha Karlyani Kagiga and Charlyn Clarissa Komugisha for the extreme joy and happiness they brought in my life and to my loving husband Tracy Kagarura for the support, love and care

Acknowledgements

I acknowledge Dad and Mum, Mr. and Mrs. Bavuga John; the encouraging words and prayers you recite every day, give me the courage to climb mountains and you truly have no duplicate!

My sweet mother In-law Mrs. Kagarura Jocelyn! You are such a blessing to my life and a star in research….thank you for keeping me on my toes.

Mr. Ochieng Titus, my research supervisor; thank you for not getting bored with the endless phone calls, you are indeed a leader

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List of abbreviations

AIDS: ..... Acquired Immune Deficiency Syndrome
ART: ..... Antiretroviral Therapy
ARVS: .....Antiretrovirals
AZT: .....Zidovudine
CD4: .....Cluster of differentiation 4.
DHT: ..... District Health Teams
FP: .....Family Planning
HIV: ..... Human Immuno Deficiency Virus
IMR: .....Infant Mortality Rate
MTCT: ..... Mother to Child Transmission
NVP: ..... Niverapine
PHC: ..... Primary Health Care
PMTCT: .....Prevention of Mother To Child Transmission
RCT.....Routine Counselling and Testing
UNAIDS:..... United Nations against AIDS

Abstract

The study 'Usage and Access to Prevention of Mother to Child Transmission (PMTCT) services by mothers' set out to establish the link and barriers between access and usage to PMTCT services by mothers. It was conducted at Mulago National Referral Hospital. The specific objectives were: to determine the aspects influencing usage of PMTCT services, to identify the range of PMTCT services available; to explore the relationship between access and usage of PMTCT service; and to identify the barriers to access of PMTCT services by mothers. The study design was a descriptive cross-sectional survey. Qualitative and quantitative data was collected using semi-structured questionnaire interviews and Focus Group Discussions. 195 respondents attending PMTCT services consented to participate.

The leading influencers towards PMTCT usage were: provision of free ARVs to mothers (95%), provision of health education (95%) then hospital delivery (83%) followed by quality counseling and same day HIV results with 80%. Partner involvement was rated the least (30%) influencer towards access and usage of PMTCT services at Mulago Hospital. Additionally, the range of services available to mothers were: PMTCT Counseling, HIV Testing, ARVs, Septrin prophylaxis, Junior ARVs syrup, family planning counseling and symptom management for PMTCT; direct effect on access and usage of PMTCT services was determined by increase in the distance from the nearest PMTCT clinic, education level (62%), attitudes (89%) towards health workers and economic status (87%) . However, age (78%); marital status (81%) and religion (69%) of the mother did not have significant effect on the usage of PMTCT services. The leading barriers to PMTCT access and usage were waiting time in the queue 96.4% stigma with 94.6%, routine counselling and testing (90%), distance 89.7% and poverty 85.7%.

The study concluded that usage and access to PMTCT services is a complex and multi-dimensional matter involving various influencing factors. There was a broad range of PMTCT services provided to mothers at the Mulago National Referral Hospital and no provision of infant formula as an incentive to access the PMTCT service. The provision of access to PMTCT services alone was not sufficient to ensuring that mothers got a full range of services. Access influences usage since it followed that given access to a service mothers were keen to use it. Barrier removal alone was not sufficient either. Beyond access, the study compounded that barrier removal combined with improved access in combination, were necessary to solving the significant problem of MTCT of HIV.

The major recommendations to improve access and usage of PMTCT services: deliberately increase support for girl child education; promote mother's adult learning; women's empowerment; provide incentives like free infant formula to mothers accessing the services; increase the number of mothers accessing services through decentralization of PMTCT services away from the center, in house refresher courses, train more service providers, strengthen awareness and sensitization programs and revise and refresh medical and nursing ethical conduct. Areas for further investigation were found to be the influence of age on accessing PMTCT services, the relation between range of PMTCT services and access, the impacts of PMTCT services on children and the effects of the socio-economic status on waiting time.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

Chapter one contains the background to the study, statement of the problem, objectives of the study, research questions, significance of the study and the conceptual framework. It aimed at discussing the background of PMTCT services and HIV at large with the intent of establishing the way PMTCT services are accessed and used. This chapter further explored the main objectives of the study and justification of why the study was a critical area for research.

1.2 Background of the study

Access and usage of health care services had been a major concern worldwide. In developing countries, millions of lives had been lost to diseases as a result of lack of access and usage of the available health services. In view of this, the World Health Organisation in 1978 through the Alma Ata Declaration urged countries to improve the health status of their population by adopting the Primary Health Care (PHC) strategy, which emphasises universal access to health care (WHO 1978). As countries were making efforts to reorganise their health care systems to meet the challenges of PHC, they were also faced with new challenges posed by the HIV/ AIDS pandemic, which undermined previous efforts geared towards improving access to health care services. HIV/AIDS emerged in the early 1980s, and had since had an adverse effect on the lives of millions of affected and infected individuals as well as on economies of many countries. (WHO 2003)

WHO (2003) estimated that there were 14,000 infections occurring on a daily basis, and according to the UNAIDS (2004) report, an estimated 34-46 million people were HIV infected worldwide and more than 20 million people had already died of the disease since the beginning of the epidemic. From the WHO (2004) report, a cure was yet to be established for HIV/ AIDS, but an increase in life expectancy and quality of life had been made possible by the development and use of Antiretroviral drugs (ARVs). Availability of these drugs had changed the course of HIV/ AIDS from a rapidly fatal disease to a

chronic and more manageable disease. From the WHO PMTCT strategic vision, (2010-2015) globally there had been significant progress in the area of PMTCT over the years. In the 2009 WHO report, tremendous progress had been noted more in the developed world than with poor access in the low and mid income level countries and at the same time these developed continents had had their Infant Mortality Rates reduced tremendously as compared to developing continents leaving Uganda with a child mortality rate of about 140 per 1,000 WHO (2009).

With the persistently growing toll of rates of mother to child transmission cases, despite the availability of PMTCT services since 2000, the two variables access and usage of PMTCT services were critical to the study. These factors affected positively or negatively the uptake of a service and this study aimed at establishing the link between access and usage of PMTCT services by mothers. Penchansky and Thomas (1981) viewed access as reflecting a fit between the characteristics and expectations of providers and clients, and this was one of the classical perspectives of access cited by most authors where barriers were grouped into five dimensions: availability, accessibility, affordability, acceptability and accommodation.

The benefits of antiretroviral therapy (ART) in the management of HIV/AIDS had been well documented worldwide. Antiretroviral drugs decrease the viral load and increase CD4 cell count when used in HIV infected individuals, both of which contributed to a decrease in HIV related morbidity and mortality (WHO and UNAIDS 2003 reports). In the developed countries, the use of antiretroviral therapy was reported to lead to a significant decline in HIV/AIDS related morbidity and mortality, while in the developing countries access to antiretroviral therapy posed a major challenge (WHO, 2003). Despite the steady increase in ARVs, PMTCT access and usage had remained notably low (THET 2011). This study pointed out some of the barriers that hindered access and usage of these available services.

In the United States of America, the mother to child transmission rate was as high as 21% in 1994, before the standard Zidovudine (AZT) recommendation during pregnancy. With

the use of PMTCT strategies transmission risk of HIV from mother to child reduced rapidly and today risk of peri-natal transmission is below 2% in developed countries. This trend was seen in some developing countries especially those that had a well-coordinated PMTCT program (Maheswaran, H, Bland, R 2009). An HIV positive woman could transmit HIV to her baby during pregnancy, delivery and after birth. Mother to Child Transmission (MTCT) accounted for 400,000 HIV children infected through MTCT of which 90% are African children. High income countries had survived this scourge because of full usage and access of the PMTCT services provided by their government which included: Voluntary counselling and testing increased access to Antiretroviral (ARV) treatment, increased use and availability of infant formulas and available safe delivery service (African Broadcast media, 2007). As noticed from the Maheswaran et al and African Broadcast media, availability of proper strategies for combating HIV transmission to children was very important and this study set out to identify the available PMTCT services in Mulago referral hospital.

Transmission of HIV from mother-to-child is the primary cause of HIV infection among children. Without antiretroviral drugs during pregnancy, rates of mother-to-child transmission range from 50%–65% in Africa. (Nguyen et al 2005) have however shown that the PMTCT program in most developing countries is often difficult to access. (Skinner et-al.2005), barriers to accessing the PMTCT program were discovered to affect the usage of the PMTCT services.

UNAIDS (2010), reported that Uganda was among the countries with one of the highest prevalence of HIV/AIDS in the world. In 2010 an estimated 1,200,000 people out of a total population of 30 million people were living with HIV in Uganda. From these figures, Uganda had an adult HIV prevalence rate of 6.5%. HIV prevalence amongst mothers aged between 15-49 years in their reproductive years of life accounted for 57% and children with HIV were more in married and mobile populations and sex workers. HIV was reported high in the urban areas with mothers having a higher prevalence than the men nationally and Kampala only has a prevalence of 8.5%. From UNAIDS and the Uganda AIDS Commission, 2009 report, it was evident that over the years, the number of

health facilities that provided routine HIV counseling and testing for pregnant mothers had increased, raising the uptake of HIV testing to 80% of all mothers attending antenatal clinics but the usage of PMTCT services had remained notably low THET (2010). By 2011 over 200,000 people in Uganda were receiving antiretroviral treatment, an estimated 39% of those in need of it WHO (2010). At least 1.2 million mothers fell pregnant every year and Uganda remained one of the countries with the highest fertility rates globally of 7.1 percent and an annual population growth of 3.3% (THET, 2010). With the high rates of pregnancy and HIV prevalence, the chances of MTCT are enormous and therefore a study to guide the policy makers, health workers, mothers and fathers was crucial and timely.

UNGASS (2010) reported a high association with high prevalence, high education and wealth levels. The researcher concentrated on Kampala as a study area and specifically Mulago National referral Hospital since it had a high HIV prevalence with a mix of HIV vulnerable groups like the married, mobile populations and sex workers. From Makerere University John Hopkins University Care Limited, 2008 the Mulago PMTCT clinic was opened in 2000 and since then the clinic had provided routine testing and counselling to pregnant mothers attending ANC. General education and a single dose of Niverapine to HIV positive mothers for MTCT and psychosocial support were provided as well. In 2005, the PMTCT clinic introduced access to ART, treatment of opportunistic infections and screening of cervical cancer among others. In the same report it had been noted that the Mulago Hospital PMTCT clinic had screened 100,000 pregnant women and over 15,000 had the HIV virus. However, only 10,000 have had a single dose NVP for PMTCT.

1.3 Statement of the problem

The problem was that, the main source of HIV transmission in infants and children was from Mother to Child Transmission (MTCT). Poor access and usage of PMTCT services despite their availability in the country had contributed largely to the rampant spread of HIV from mothers to their children; few Ugandan pregnant mothers were accessing and using these services. 6.5 percent of the 200,000 children born in health centers everyday were HIV-positive. Uganda had one of the highest maternal mortality rates at 430 per

100,000 and child mortality rate of about 79 per 1,000. 1,500,000 children were born with HIV in Sub Saharan Africa and only 42% were covered with antiretroviral (UNICEF, 2009). In the same report, it was estimated that number of HIV positive pregnant mothers in need of ART for PMTCT was 1,700,000 in sub Saharan Africa but only 54% were covered with ART for PMTCT during pregnancy.

The Ugandan government offered free counseling, testing, free antiretroviral drugs and free symptom management to infected mothers and their babies. Despite this good gesture, some mothers seemed reluctant to enroll in this program aimed at protecting their infants, and amongst those that did enrol, most did so very late in pregnancy. This reduced the chances of success of the PMTCT interventions (Kebaabetswe, 2006). Some of the reasons for reluctance and late enrolment in the PMTCT program were linked to the presence of barriers to accessing the PMTCT services by mothers (UNAIDS, 2010). Studies done on access to PMTCT program had been focused mainly on challenges encountered during the implementation (Bajunirwe, F., Muzoora, M. 2005). At the time of the study, limited studies had been done to consider the relationship between the access and usage of PMTCT services offering a basis for this study.

General Objective:

To establish the link and barriers between usage and access to Prevention of Mother to Child Transmission services by mothers

1.4 Specific objectives:

I. To determine the aspects influencing usage of PMTCT services by mothers.

II. To identify the range of PMTCT services available to mothers.

III. To explore the relationship between access and usage of PMTCT services

IV. To identify the barriers to access of PMTCT services by mothers.

1.5 Research questions:

I. What aspects influence mothers' usage of PMTCT services?

II. What range of PMTCT services is available to mothers?

III. What is the link between access and usage of PMTCT services?

IV. What are the barriers to accessing of PMTCT services by mothers?

1.6 Significance of the study

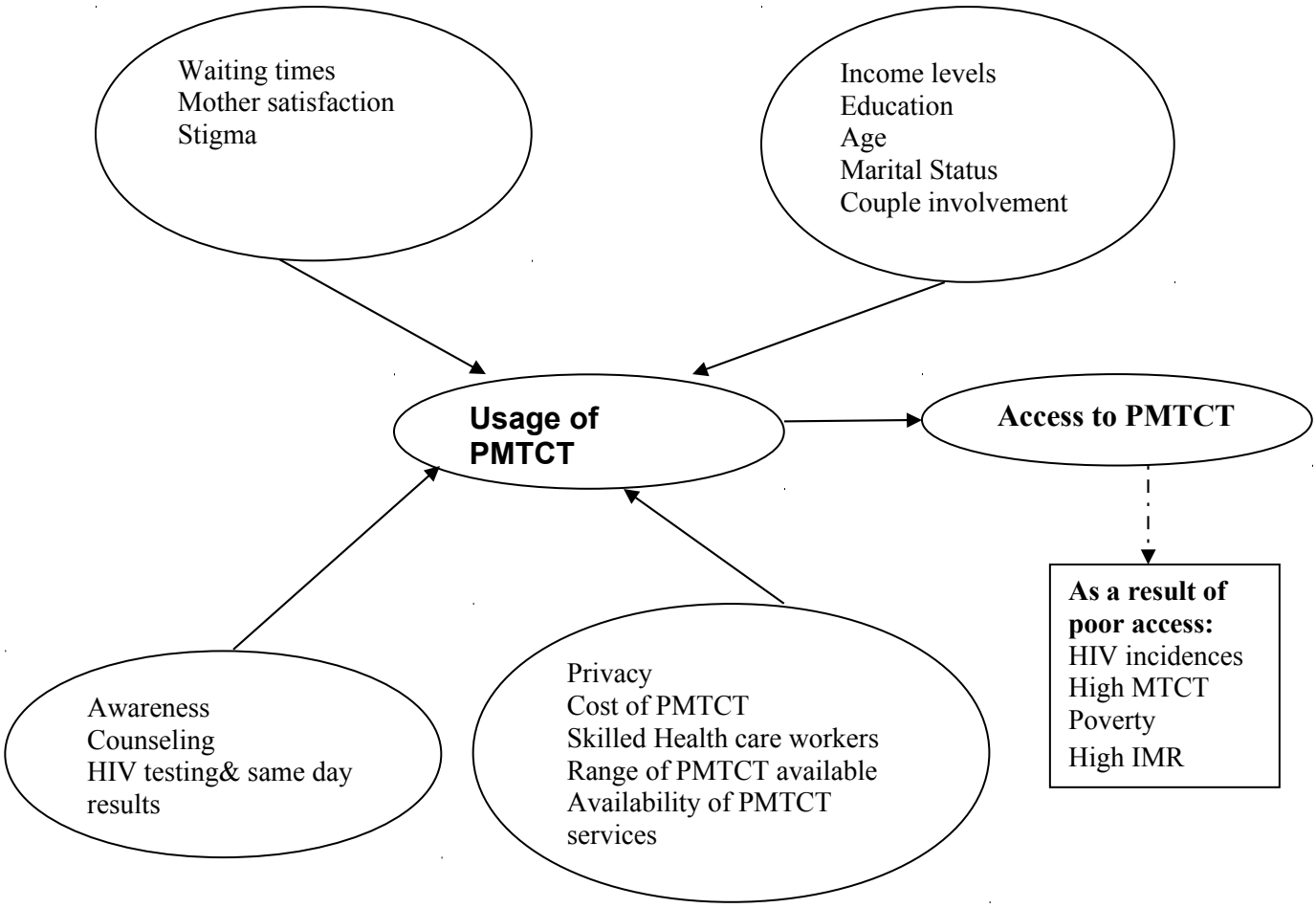
Initiatives to provide PMTCT services by various governments had been put in place, but nevertheless, mothers had poorly utilized these services as a result infant morbidity and mortality rates related to HIV/AIDS illnesses had continued to increase (THET, 2010). . Access and the way mothers used the PMTCT services were two different things which were interlinked. With the current level of commitment from the Ugandan government to extend PMTCT service provision to every part of the country, there was a need to establish why many mothers still did not sufficiently access and use these services.

Importantly, at Mulago National Referral Hospital, there was a potential for care delivery in PMTCT, PMTCT clinics, trained counsellors, HIV testing equipment and ART but the realization of this care still remained low due to poor access and utilization of these services.

Therefore, in-depth information was needed to inform the design of a strategic plan on how to promote service demand and use. This study was carried out in order to determine the aspects influencing usage of PMTCT services, the range of PMTCT services available, the link between access and usage of PMTCT services and the barriers to accessing PMTCT services by mothers. The information gathered is certainly very important to policy planners in designing appropriate policy interventions, planning and provision of PMTCT services.

Furthermore, the study provided the insight into the link between access and usage and identified barriers that will enable the design of interventions geared to decrease barriers that hinder the usage of PMTCT services. In addition, findings provide baseline useful information on issues related to access to PMTCT services on which future research studies can be developed.

1.7 Conceptual framework



Represents the line of influence

The concept of access and usage is a complex and multidimensional one. From the concept, mothers will only use PMTCT; services if they are aware of the available services, counseled properly and if they are HIV tested. The institutional factors which include privacy, cost associated with usage, availability of skilled man power and PMTCT services also affect the way these mothers use PMTCT services. As the mothers

use the PMTCT services, their attitudes will develop either positively or negatively as a result of the length of waiting times involved, their satisfaction and the stigma related to the HIV disease which in the process will influence usage and access of PMTCT services. At the same time, the personal factors of the mothers will come into play as well where by the age, marital status, and couple involvement, income and education level influence the way mothers utilize the PMTCT services. These independent variables will have an influence on how PMTCT services are used and therefore affecting access to these services.

The dependent variable which is access to PMTCT services will be influenced by variables that affect usage as discussed above and as a result the impact of poor access to PMTCT services will result in high HIV incidences in children, morbidity and mortality, increased poverty levels in families as most of the productive times and money are spent in hospitals as represented by the dotted line.

The researcher viewed usage and access as reflecting a fit between the characteristics and expectations of providers and clients. At the same time, the researcher acknowledged the fact that there could be other intervening variables emerging from the way PMTCT policy was designed that actually affect the usage of PMTCT services, however the researcher set out only to discover the relationship between the independent and dependent variables in this study.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

Chapter two reported on relevant publications about usage and access to PMTCT services that were consulted by the researcher. It is on this account that the topic was considered critical and timely. The researcher intended to identify roads into further studies and gaps that needed more clarification. This chapter discussed:

- Aspects influencing usage of PMTCT services by mothers.
- Range of PMTCT services available to mothers.
- Relation between access and usage of PMTCT services
- Barriers to access of PMTCT services by mothers.

2.2 Aspects influencing usage of PMTCT services by mothers

Personal factors like age, marital status and education, acted as barriers as well as facilitators of access to PMTCT by mothers, (Bajunirwe et al 2005) and (Mahendra et al 2002). Other influencers to access and usage reviewed in the above studies included, knowledge and awareness of the PMTCT services, socio-economic factors and cultural factors, issues of disclosure and male spousal participation which were discovered to influence access to PMTCT services. In line with these scholars, this study set out to understand the personal factors that influenced the usage of PMTCT services at Mulago National Referral Hospital.

Songwathana et al (1999) showed that providing more resources, particularly free antiretroviral therapy and infant feeding distribution for the HIV-positive mothers and babies, and went a long way to facilitating access to the program. Nguyen et al (2008) showed that training more service providers and organizing refresher courses for already trained staff improved access to PMTCT services. This study aimed at understanding what services influenced the usage of PMTCT services and the perception of mothers towards the service providers at Mulago National Referral Hospital.

Adequate knowledge about voluntary counselling, rapid HIV tests and Universal Primary Education were identified as personal characteristics and facilitators to accessing the PMTCT program by mothers in a study done by Bajunirwe et al 2005. According to McGrath et al 1993, some communities had a high level of social cohesion and integration which fosters an atmosphere of social support, thereby putting their members at a lower risk of ill health which facilitated access to health care services. The health care institution or delivery system where health care services were provided is an important component in determining access to health care. It was in this light that the researcher sought to understand whether the services provided in PMTCT and the methodology of service delivery influenced the way mothers accessed and used these services.

The delivery system based on the Aday and Andersen model includes the structure where care is provided as well as the organisation and coordination of services (Aday et al 1974). The researcher acknowledged the fact that the institutional barriers especially at Mulago National Referral Hospital needed to be explored further if the stakeholders and policy makers were to come up with proper interventions that would scale up the PMTCT uptake. This study therefore determined the personal and health care institutional aspects that were critical in access and usage in the PMTCT services.

2.3 Range of PMTCT services available to mothers

Globally, Nguyen et al (2008) reported that developed countries had a standard package of care in PMTCT provision that included PMTCT counseling, HIV testing, free ARVs, septrin prophylaxis, junior ARV syrup, family planning counseling, infant formula and symptom management. Nguyen went further to demonstrate that in developing countries not all antenatal care centers had free HIV testing kits; as a result many mothers' were not tested. Stock outs were very common especially in remote areas resulting in non-availability of ARVs and infant formula. In this accord, this study aimed at identifying what PMTCT services were available in Mulago Hospital.

Operational research studies in South Africa, India, Kenya, and Swaziland had suggested strategies by the health care system to augment health care resources as a way to improve access to the PMTCT program; these included training HIV-positive mothers to provide psychosocial support to mothers; reaching mothers with information, support, and referrals through community-based activities; and creating stronger linkages during the postnatal period between mothers and treatment and care (Mahendra et al 2002). In light with this, the researcher set out to discover whether these recommended actions were offered to the mothers accessing PMTCT services. At Mulago Hospital, stock outs had almost been the order of the day, sometimes therefore mothers would want to use the service, came to the health facility but only to find the service unavailable and this discouraged the mothers and decreased the success of PMTCT interventions. There existed a gap in the exact services available, the standard package for PMTCT and what actually the mothers were provided.

Range of PMTCT services identified from the above reviewed studies that improved quality of service delivery and acted as facilitators for the PMTCT program included improving quality of counseling and making PMTCT guidelines available to health services. HIV positive mothers should receive early HIV testing with adequate counseling by well-trained health personnel, safe care and prophylaxis in a positive atmosphere towards them (Skinner et al 2005). Early HIV testing was pointed as one of the PMTCT requirements increasing the chances of a safe baby. However, studies and reports showed that mothers present late for ANC which is a point where they were tested for HIV and later enrolled onto PMTCT programs. This study set out also to identify the timely provision of PMTCT services.

A study conducted in Uganda by Bajunirwe et al (2005) suggested that same-day results ensured high uptake of HIV testing services. Maintaining staff morale and adequacy helped curb negative attitude of health workers and improved services; for an effective

provision of HIV/AIDS related treatment and care, the health care delivery system needed resources, streamlined operational procedures, and a mind-set of goal directedness and team approach. As these researchers had put it rightly, institutional organization and stocking is vital to uptake of the services. In accordance with these studies, the researcher established how the PMTCT services were arranged and what was available for consumption to the mothers in need. Considering Mulago National Referral Hospital and Uganda at large, the health budget set aside to run the health programs with PMTCT inclusive and equip the service providers with necessary knowledge was too small compared to the demand for the services., The government was not in a position to provide free infant formula and free ARVs to all infected with HIV and babies under PMTCT. This study ascertained the exact services being offered for Prevention of Mother to Child Transmission at Mulago National Referral Hospital.

Availability of the PMTCT package was taken as a constant in most studies reviewed, it is important to note that a standard package in developed countries would be different from a package in developing continents due to their economic discrepancy and eventually affected the success of the PMTCT program. It is no point discussing the usage of PMTCT services when they are not available anyway. This study established the range of PMTCT services available.

2.4 Relation between access and usage of PMTCT services

Studies in high HIV prevalence settings had reported low coverage of PMTCT services (Nguyen et al 2008). Improving PMTCT services required an understanding of the multiple factors that influenced the ability of pregnant mothers to access and utilise PMTCT services. Access to PMTCT meant the extent to which pregnant mothers could utilize the PMTCT services either by traveling to those services or by services being brought to them. Improving patient access often had the added benefit of enabling health care workers as well as family members to access and use the provided healthcare facilities (Kebaabetswe et al 2006). From literature, it was assumed that improved access automatically increased the usage. This was also found to be a grey area and this study looked at the relationship between these two variables because much as PMTCT services had been made available at Mulago hospital, the usage was low and the reasons for this

low uptake still remained hidden.

Maheswaran et al (2009) revealed that most mothers willing to formula feed were not able to afford formula, while those who could afford formula chose breastfeeding to avoid stigma. These difficulties with infant feeding for HIV-positive mothers were also identified as a barrier in one of the studies (Songwathana et al 1998). As literature had pointed out, developed countries offer free infant formulas to HIV positive mothers; however in Uganda due to poverty it is impossible for the government and mothers to afford these formulas. Although some mothers accessed the PMTCT service, they could not use the service as they should because of poverty, availability and stigma as was noted. This confirmed a link between access and usage and for success; there should be equilibrium between the two. This study explored the link between usage and access from which effective recommendations to the appropriate authorities were drawn.

In some settings, HIV testing was reportedly done too late for optimal interventions and poor quality of care by health staff was frequently mentioned (Nguyen, et al 2008). While long waiting period in health care facilities, bad services, unkind talk and interaction from health care workers, lack of confidentiality and privacy, violation of patients fundamental human rights such as involuntary blood testing or PMTCT program enrollment were identified to affect access and usage to PMTCT (Peltzer et al 2007). These slowly created negative attitudes in the mothers in need of PMTCT and as thus influenced the way PMTCT services were accessed and used.

Mooney et al (2000) conducted a study which showed that proximity to the health care facility was one of the factors determining use of services, as the use of health facilities was observed to decrease with increase in travel distance. Health care deprivation had also been observed in areas farthest away from health care facilities (Jordan et al 2004). Skinner et al (2005) reported that poor infrastructure and social amenities also meant that many mothers did not have access to clean water, which complicates the use of infant formula by these mothers and predisposed them to mixed feeding. None of these studies was done in Uganda, the researcher deemed it necessary to study the relation between

access and usage where mothers were forced to HIV testing as a routine service.

2.5 Barriers to accessing PMTCT services by mothers.

Rapati et al (2000), on PMTCT access, contended that as an initial step in accessing PMTCT services, mothers needed to recognise their need for such services. A lack of knowledge and awareness of vertical transmission of HIV/AIDS, and of the PMTCT program, and low level of education, were identified as barriers to accessing PMTCT program. The researcher agreed with Rapati; it was in this light that despite the enormous efforts expended in the public health sector in educating individuals and communities about HIV/AIDS, cultural beliefs and norms continued to have a negative impact on the health seeking behaviours of many individuals. The study therefore aimed at identifying the barriers that hindered the access and use of PMTCT services.

Results of a study conducted in Thailand revealed that individuals perceived HIV/AIDS as a disease associated with dirt, high sexual promiscuity and prostitution amongst mothers. These perceptions brought about reluctance to HIV testing due to fear of knowing one's own HIV status and the stigma associated with being HIV positive (Gulliford et al 2002).

In view of this, fear and stigmatisation had remained significant barriers to accessing HIV/AIDS related health care, as a result of socio-cultural beliefs presented in every sector of society including families and communities that should ideally provide a supportive environment for members. Individuals infected with HIV revealed that they could not disclose their status to relatives or use PMTCT services because of fear of rejection and stigma related to the disease. Fear and stigma are seen to influence the decision to test for HIV, which was the first step in accessing health care (Songwathana et al 1998) and (Population council, Horizon 2007). In accordance to these studies, this study discovered whether stigma was also a barrier to accessing PMTCT services at Mulago Hospital.

According to Gulliford et al 2002, misconception about HIV/AIDS influenced individuals perception of risk and their ability to seek care, for instance in a study in

Thailand mothers were discovered to have very low perception of risk, which was associated with failure to seek health care services. Glanz et al reported that lack of male partners' support was a barrier which prevented pregnant mothers from accessing the needed care while male spousal participation was identified as personal characteristics which could facilitate access to the PMTCT program by mothers. It was in agreement with these studies that the researcher aimed at understanding male involvement and HIV misconception as barriers towards access and usage of the PMTCT services at Mulago Hospital.

Inadequacy of health care human resources resulted in staff shortage in most health facilities, and constituted a major barrier to access from a Vietnam study by Skinner. Major knowledge gaps, which constituted barriers to accessing services, were also identified at individual, care giver and community level (Skinner et al 2005). Physical distance and cost of transportation from the individual's home to the nearest health care facility, as well as availability of transportation means and other social amenities had an impact on accessibility to health care services amongst this group, since the impact of cost of travel on an individual's ability to access health care services was closely related to socioeconomic status as well as the distance to the facility.

Jordan et al (2004), socioeconomic factors had an affect on an individual's ability to access health care services in general; hence HIV/AIDS mortality remained high amongst people of low socio-economic status despite the universal health care coverage. In view of this, economically deprived individuals found it difficult to access health facilities. These factors were noticed in the rural settings who were hit hard by poverty and ignorance. This study explored the effects of socio-economic status of mothers on PMTCT access and usage.

Peltzer et al (2007) study in the Eastern Cape community in South Africa indicated that major potential barriers to implementation of PMTCT programs in a resource poor setting included lack of physical access to the health facility. It was observed that most families in communities had few resources for travel and most lived a long distance from health

facilities which made it difficult for them to access health care facilities. Accessing transportation was especially difficult and expensive considering the low socio-economic status of these dwellers. Results reported poor roads, an underdeveloped transport system and poor telecommunication services as common features in most communities, and that these served as barriers to accessing PMTCT services by mothers who resided in these communities (Skinner et al 2005). The researcher agreed with these studies on the basis that in the capital Kampala where Mulago Hospital is located, the majority of mothers were poor and when pregnant they opted to deliver from nearby health centers and clinics for lack of transport money to the national hospital, inevitably mothers came during labor which compromised the success of PMTCT.

In a study conducted by Mooney et al (2000), most mothers were reported to be limited by lack of knowledge and information on vertical transmission of HIV/AIDS, as a result of poor counseling in the health care facilities. In agreement with Mooney et al, this emphasized the fact that with poor or limited knowledge about HIV/AIDS, access and usage of PMTCT services would be hindered.

Nuwagaba et al (2006) revealed that non availability or inadequacy of certain municipal infrastructures affected accessibility to health care services amongst mothers. Bajunirwe et al (2005) and Nuwagaba et al (2006) identified poor counselling, male involvement, stigma and waiting periods as major barriers that hindered access and usage of PMTCT services. These studies were done in western Uganda and the researcher explored barriers that affected access and usage of mothers living in the capital city and in an urban setting.

In conclusion, studies reviewed have identified lack of awareness and knowledge of the PMTCT program, low socioeconomic status, and lack of male partner support, stigma, home delivery practices, poor counselling, late testing, and poor infrastructures as factors which constitute barriers to accessing and usage of PMTCT services by mothers. While factors such as male partner involvement, knowledge of voluntary counselling and testing and proper counselling, availability of ARVs and infant formula, recruitment and training of health service providers, and provision of good roads and social amenities amongst others things serve as facilitators for access to the program. This study considered information from mothers accessing PMTCT for in depth interviews whereas men and

service providers were in focus group discussions, and the study identified barriers to PMTCT participation, link between usage and access and the available PMTCT services.

CHAPTER THREE: METHODS

Chapter three explains the methods that were used in carrying out the study. It addresses study design, sources of data, study population, sample size calculation, sampling procedures, study variables, data collection techniques, plan for data analysis, quality control issues, plan for dissemination, ethical considerations and limitations of the study.

3.1 Study design

The study design was a descriptive cross sectional survey because the researcher was studying a sample of mothers at a single point in time whereby it was hard to determine the cause and effect relationships. Qualitative and quantitative approaches were used to maximize the strengths and minimize the limitations of each. Data was collected at a defined time and this was gathered by asking questions of mothers with babies less than 2 years old attending PMTCT clinic.

The researcher intended to describe the PMTCT situation at Mulago National Referral Hospital as it was and report the actual findings. This study established the link between access and usage of PMTCT services, the barriers and range of PMTCT services available for mothers at Mulago National Referral Hospital. The researcher used a tool that had both closed and open ended questions to generate more qualitative data that described the opinions and feelings of the respondents in detail through in depth interviews with mothers and key informants who were the men and service providers the health workers in focus group discussions.

3.2 Sources of data

Primary data was got from mothers, men and service providers and secondary data was got from internet search, books, articles, hospital records, journals and reports.

3.3 Study population

Mulago National referral hospital is the biggest hospital in Uganda with an estimated population of 100 mothers attending PMTCT clinic per day. The subjects were drawn from the PMTCT clinic and postnatal wards of Mulago hospital. The respondents were mothers with a child less than 2 years accessing PMTCT, men and service providers (midwives, doctors, lab technicians, nurses, counsellors' dispensers and ward in charges).

3.4 Sample size calculation

The sample was calculated using the estimated prevalence with 95% confidence limit

$$\mathbf{N = \frac{1.962 \times (P)(1-P)}{d2}}$$

Where

N = Minimum required sample size
1.96 = Z value for p = 0.05 or 95% confidence limits
P = Estimated prevalence of PMTCT access and usage (54%)
d = Desired precision (0.05 for ± 5%)

$$N = \frac{1.962 \times 0.54 \times 1-0.54}{0.05^2}$$

$$N = 1.06 \times 0.46$$

$$= 0.0025$$

$$\mathbf{N=195}$$

This study interviewed 195 mothers attending PMTCT care at Mulago National Referral Hospital.

3.5 Sampling procedures

This study used probability purposive extreme case sampling because the researcher intended to generalize results from a small sample of mothers to a larger population of mothers in the entire country and since PMTCT was a sensitive topic linked to a particular group of people, the researcher randomly selected information rich cases who were mothers already accessing PMTCT for in depth analysis related to PMTCT. The

focus was only on mothers who had a child aged less than 2 years at the time of the data collection. The sample size was 195 mothers attending the PMTCT clinic in Mulago Hospital. The respondents were informed of the study prior to data collection by their various heads of unit, who were earlier contacted and the aims and objectives of the study made known to them. The respondents were approached individually for their voluntary participation and those that agreed were asked to sign a consent form.

3.6 Study variables

Usage of PMTCT was the independent variable that directly influenced the access to PMTCT services which was the dependent variable in this study.

3.7 Data collection techniques

The methods of data collection included: open-ended and in-depth interviews (administered face-to-face), key informant interviews and focus group discussions (FGDs). The in depth interviews were conducted with mothers enrolled in PMTCT programs with children less than 2 years.

The FGDs were conducted with men whose wives were attending PMTCT and men with pregnant wives. The key informant interviews were with health care workers and ward in-charges involved in PMTCT programs. A total of 5 FGDs, 5 key informants' interviews and 195 in-depth interviews were conducted. All the interviews and discussions aimed at establishing the link between usage and access to PMTCT service and identifying the barriers to access.

The questionnaire contained both closed ended and open-ended questions comprising four sections.

Section A collected data on aspects influencing usage of PMTCT services

Section B addressed the range of PMTCT services available to mothers,

Section C addressed the link between access and usage of PMTCT services whereas

Section D explored the barriers to access PMTCT services by mothers.

The questionnaire was in the English language since all the research assistants were literate, trained and communicated well in English and Luganda. A total of 10 research assistants, each to interview 19 mothers were recruited and trained in quantitative and

qualitative methods of data collection for a day. This training included a review of MTCT of HIV and current national strategies, moderating skills for FGDs and in depth and key informant interviews and effective note taking techniques. The training was also to familiarize the research assistants with PMTCT.

3.8 Data analysis

Each questionnaire was numbered, and responses to questions were categorized, coded and entered into Microsoft excel (spread sheet). Quantitative data was summarized and analyzed using Epi-info, and Stata IC 10 statistical software program. Descriptive statistics was calculated for discrete and numerical data, while proportions and percentages were determined for categorical data. Qualitative responses were analyzed and classified by developing categories and summarizing these categories to make meaning.

3.9 Quality control issues

The researcher used various ways to ensure the reliability and validity of the study as highlighted:

To avoid interview bias only trained experienced research assistants who were outside Mulago Hospital were employed

Informed consent from the respondents was sought prior to obtaining data.

The research instruments were pre-tested for validity, accuracy and adequacy in the Uganda Reproductive Health Bureau (URHB-Kitintale) before embarking on the study.

To minimize errors, the researcher had direct involvement in the entire research process

Mixed methods (triangulation of data for credibility and validity) were used to triple check the findings as an attempt to map out and explain the study from many standpoints. This gave more detail and a balanced picture of the situation.

The researcher ensured that the study was free from any biases and desisted from any form of scientific dishonesty, reporting the findings as was.

The research assistants maintained the privacy of study respondents.

For confidentiality of data, the questionnaires did not carry any marker to identify the respondents only serial numbers were used and later kept under lock and key.

3.10 Ethical Considerations

The researcher considered the following ethical issues throughout the study:

Only respondents who consented to participate were interviewed. The consent obtained from respondents was documented by means of a signed consent form before they embarked on answering the questions. The signed consent forms were locked away in a cupboard.

The questionnaires did not carry any identifiers that could compromise the anonymity of respondents to ensure confidentiality. The researcher considered privacy concerns and these mothers were interviewed in private places.

Approval to conduct the study was obtained from the IHSU Higher Degrees Research and Ethics Committee. Prior to data collection, the research proposal was submitted and ethical clearance obtained from Mulago National Referral Hospital research committee where the study was conducted.

3.11 Limitations of the study

There was limited data on usage and access of PMTCT services and on the extent of analysis, and this portrayed an obstacle in finding a trend and a meaningful relationship between access and usage.

Self-reported data was also a limitation because it was very hard to independently verify it. Therefore, the researcher trusted the respondents words whether in interviews, focus groups, or on in depth questionnaires. Sometimes, biases arose as a result of selective memory, telescoping, attribution or exaggeration.

CHAPTER FOUR: RESULTS

4.1 Introduction

Chapter four presented the results of the study. Based on the expected total number of 195 mothers accessing PMTCT services in Mulago National Referral Hospital, the response rate for this study was 100%. The data is presented in tables and figures, starting from the socio-demographic details of mothers to the description of aspects influencing usage of PMTCT services by mothers, range of PMTCT services available to mothers, relation between access and usage of PMTCT services and barriers to access PMTCT services by mothers.

4.2 Socio-demographic characteristics of respondents

The characteristics described below were the socio-demographic characteristics of the study respondents which included age, marital status, religion, occupation, income levels, and level of education.

Table 1: Socio-demographic characteristics of respondents

Variable		**Number**	**Percentage**
Age	18-24 years	19	9.7
	25-31 years	58	29.7
	32-38 years	73	37.4
	39-45 years	45	23.2
Marital Status	Single	13	6.7
	Cohabiting	75	38.5
	Married	88	45.1
	Widowed	7	3.6
	Divorced/Separated	12	6.2
Religion	Catholic	95	48.7
	Anglican	24	12.3
	Pentecostal	24	12.3
	Muslim	38	19.5
	Other	14	7.2
Occupation	Have a business	136	69.7
	No business	59	30.3

Income level	< shs20,000	5	2.6
	shs20,001-shs100,000	65	33.3
	shs100,001-shs200,000	32	16.4
	shs200,001-shs300,000	15	7.7
	>shs300,000	20	10.3
	No Income	137	70.3
Education	Primary	71	36.4
	Secondary	75	38.5
	Tertiary	24	12.3
	University	6	3.1
	Post graduate	15	7.7
	Others	4	2.1

The respondents were aged between 18 and 45 years. The highest proportion of respondents were aged between 32 and 38 years (37.4%), followed by 25 to 31 years (29.7%), 39-45 years were (23.2%), 18-24 years were (9.7%). This implied that the respondents were in their reproductive ages fending for their families and as thus, keeping them waiting for long in queues affected their access and usage of PMTCT services.

With regard to marital status, the majority of the respondents, (88, 45.1%) were married, 38.5% were cohabiting, while 13 (6.7%) were single mothers. From the researcher's view, mothers who lived with their partners accessed PMTCT more than the single mothers as evidenced by 84% of married or cohabiting mothers who participated in this study Based on religion category, most 95 (48.7%) of the respondents were Catholics, 19.5% were Muslims, it was found out that Catholics accessed PMTCT more than mothers of other domains. Out of the 195 mothers interviewed, 69.7% of the respondents had a business and majority 33.3% earned between shs20, 001 and shs100, 000 per month.

The study discovered that mothers who attended PMTCT services had at least an income and majority 38.5% were secondary level graduates, primary school drop outs were 36.4% while some mothers had tertiary (12.5%) and post graduate (7.7%). Formal

education was discovered to be one of the influencers to access and usage of PMTCT with the majority of respondents having been to school at one point in their lives. Access to PMTCT services is complex as several factors like age, marital status, religion, education status, economic status affect the usage.

4.3 Aspects influencing usage of PMTCT Services by mothers

Pertaining to the aspects influencing usage of PMTCT services by mothers, 100% of the respondents had heard of and was using PMTCT services. This implied that the respondents were fully aware of the importance of PMTCT and as thus the researcher was not dealing with naïve mothers.

The study discovered that the leading influencers towards PMTCT access and usage from top to bottom were:

- Provision of free ARVs to mothers (95%) respondents in agreement,
- Provision of health education (95%) then
- Hospital delivery (83%) followed by
- Quality counseling and same day HIV results with 80%.

These factors influenced and contributed to the uptake of PMTCT services as they were mentioned as factors that actually motivated the mothers to access and use the available services. It was important to note that partner involvement was rated the least influencer towards access and usage of PMTCT services at Mulago Hospital. *See table 2 for details*

Table 2: Influencers to PMTCT

Influencers to PMTCT	**Rating (%) N= 195**				
	SD	**D**	**NS**	**A**	**SA**
Partner involvement	32	38	8	10	12
Education level	2	23	13	47	12
Hospital delivery	4	6	7	65	18
Provision of health education to mothers	0	2	3	68	27
Quality counseling	7	4	9	35	45
HIV results on same day	0	3	17	30	50
Free ARVs	0	2	0	58	40

SD = Strongly Disagree; D = Disagree; NS = Not Sure; A = Agree; SA = Strongly Agree

The majority of the respondents (70%) disagreed with the fact that the involvement of their partners could influence their use of PMTCT facilities. 80% of respondents in FGDs also accepted that actually with or without partner involvement empowered mothers still accessed PMTCT as long as they had money to reach the clinics.

With regard to whether education influenced access to PMTCT, the majority of the respondents (59%) agreed that the level of education influenced someone's decision to use PMTCT and only 25% of the respondents' disagreed. 13% of the respondents were not sure about the relationship between the level of education and usage of the PMTCT. This study discovered that the respondents who had attained a reasonable level of education (secondary school and above), were easy to mobilize for such discussions, and their response to the concept under study was good as they easily attached meaning to PMTCT service. As retrieved from literature and this study, education level influenced the way mothers accessed the PMTCT services and as thus affecting the usage of these services

76% of the respondents indicated that quality counseling went a long way to restoring hope in the mothers after discovering that they were HIV positive. As was noted from 64% of the respondents, health talks gave new hope as well and mothers learnt the importance of PMTCT and adhered to the recommendations. The FGDs revealed that most of the mothers did not seek PMTCT services because they did not know their HIV status, especially those who never went for antenatal care in hospitals. *"The medical team gave me new hope when they informed me that I will be able to give birth to an HIV-free baby if I followed their guidelines…… I made sure I went to every office they referred me to, for all the help I could access."*

Further into the study, it was highlighted that respondents who were tested declined to go back for the results especially if those results could not be availed on the same day. *"It takes courage for someone to go for HIV testing and one cannot have such courage every day…… I developed a lot of fear the day before my appointment to pick my HIV results and I did not go back….. Maybe I would have saved my son all this pain." A mother in the FGD*

This study discovered as well that free ARVs offered to the mothers during PMTCT influenced mothers to accessing and using the service. As highlighted as well from the FGDs conducted; *"I was mainly lured by the prospects of accessing free drugs since I had discovered that I was infected….. the medical team taught me about how I could save my unborn baby from HIV infection in the process……this is now the second pregnancy". Said one of the mothers*

These factors encouraged the mothers to use the available PMTCT services and as a result increasing the success and uptake of PMTCT services.

4.4 Range of PMTCT Services Available to Mothers

This section is in accordance to objective 2 of this study that was to identify the range of PMTCT services available for mothers at Mulago National Referral Hospital. The findings showed that Mulago Hospital offered the following services as a way to prevent mother to child HIV transmission;

1) PMTCT counseling,
2) HIV testing,
3) ARVS,
4) Septrin prophylaxis,
5) Junior ARVs syrup,
6) Family planning counseling and
7) Symptom management.

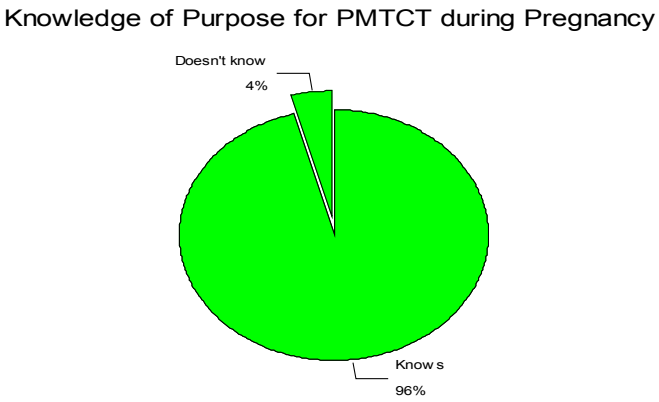


Figure 1: Knowledge of the purpose of PMTCT Services

Findings showed that the level of awareness about the importance and purpose of PMTCT services at Mulago Hospital was very high. The majority of the respondents 90% expressed a good understanding of the importance of the services in protecting the babies from HIV infection

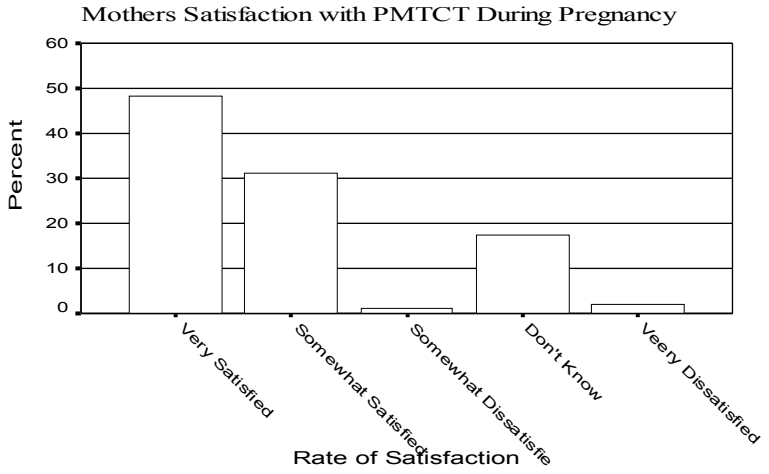


Figure 2: Level of Satisfaction about the existing range of PMTCT Services

As presented in the bar chart above, the majority of the respondents (80%) were satisfied with the available PMTCT services, only 19% were not yet sure of the service. This implied that the respondent's satisfaction prompted them to access PMTCT on a regular basis however, some work needed to be done to encourage the 19% respondents so as to increase the uptake of PMTCT services. From the researcher's point of view, respondents were happy and satisfied with the services they were receiving from Mulago Hospital

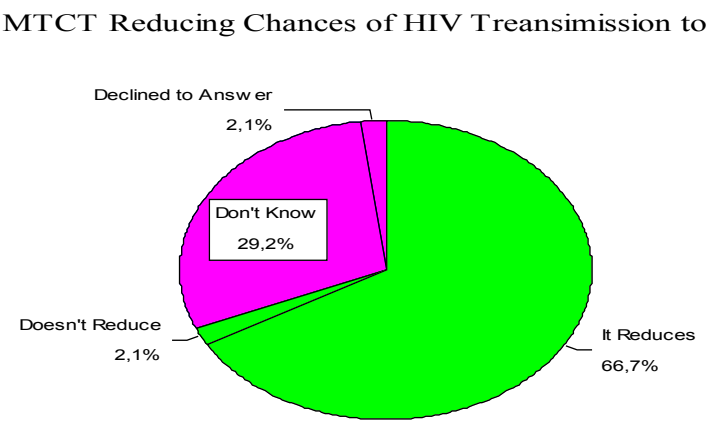


Figure 3: Effectiveness of PMTCT service in protecting from HIV Infection

Majority of the respondents (66.7%) agreed that PMTCT services helped to protect their children from HIV Infection. 29.2 % did not know if it was actually the PMTCT services that saved their children from getting infected. Although the majority of respondents knew about PMTCT, there was still a lot of work to be done to increase the awareness of the rest of the mothers as awareness affected directly the way these services are utilized.

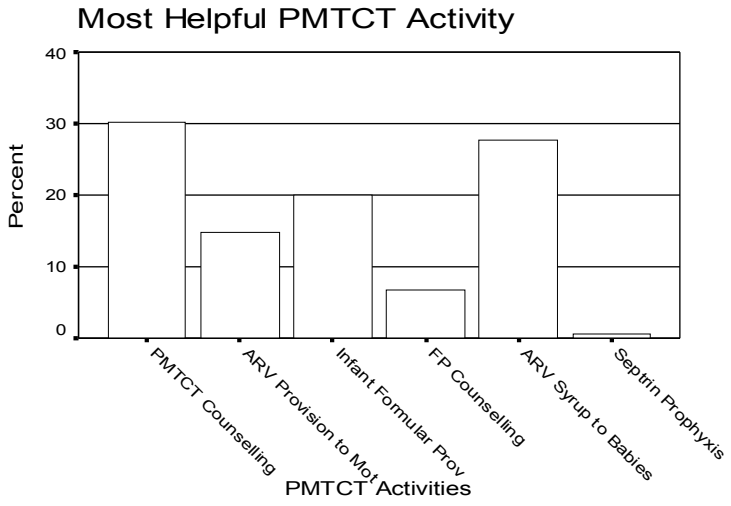


Figure 4: PMTCT Activity perceived important by mothers

The study revealed that the following were the most helpful PMTCT activities (ranked from high to low):

1) PMTCT counseling
2) ARV syrup provided for babies
3) Infant formula provision
4) ARV provision to mothers
5) Family planning counseling and
6) Septrin prophylaxis

95% of the respondents who attended FGDs argued that early counseling of mothers at ANC was extremely important in the prevention of mother to child transmission. PMTCT counseling was discovered to be an important service that enhanced the uptake of PMTCT and was perceived by respondents to be the most helpful service in PMTCT provision. *"... if I had got the counseling early enough, my first born would also be free from infection…… I think I infected him through feeding…."*

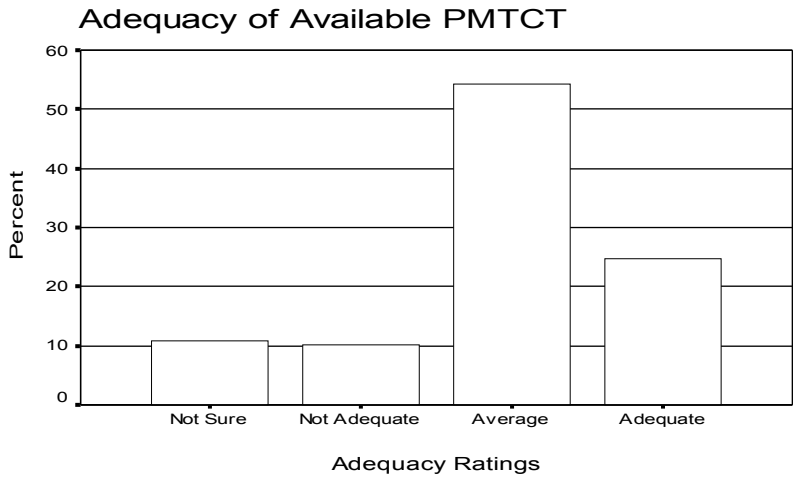


Figure 5: Adequacy of the Available PMTCT Services

The majority of respondents (53%) rated the PMTCT services as average and only 25% mentioned that the services available were adequate while the rest of the respondents rated the PMTCT services as inadequate since they lived in fear of ARV stock outs and the long waiting times at the clinic. *One of the participants said, "....with my current situation, it becomes worse if I am to wait for the services for too long hours..... I am generally weak and tired……."*

From the researcher's view, PMTCT services could only be utilized if they were adequate enough and in various ranges in order to be accessed by all mothers in need.

There was a broad range of PMTCT services provided to mothers at the Mulago National Referral Hospital which satisfied the respondents although there existed gaps in awareness and adequacy of the PMTCT services. It was keen to note as well that Mulago Hospital did not provide the infant formula as an incentive in the standard pack to access the PMTCT service.

4.5 The link Between Access and Usage of PMTCT Services

Objective 3 of this study was set out to explore the link between access and usage of PMTCT services. This section, discusses the findings that were set to answer objective 3. In summary, the study discovered:

1. Distance
2. Marital status
3. Attitudes towards health workers
4. Education level of the mother
5. Economic status

Had a link between access and usage of PMTCT services; even with the presence of the PMTCT services, the above factors influenced access and as thus hindered usage.

60% of respondents in this study lived 11-20km away from Mulago Hospital, 24% were 1-10km away while the rest were 21-30km away from the Hospital. As gathered, this study discovered that the further away from the clinic the mother lived, the less regularly

they attended their PMTCT clinic. This implied that a unit increase in the length of the distance away from the nearest PMTCT clinic reduced the usage of PMTCT services.

However, based on the FGDs results, it was discovered that some respondents preferred to get the services from distant places where they were not known due to fear of stigma. But these were only a few exceptional cases as the majority of the respondents were no longer shy of their status following the PMTCT counselling sessions attended. In Mulago Hospital where the survey was conducted, the PMTCT services were all offered free of charge so the response to that question was 100% in agreement and no cases of shortages in any of the PMTCT service were reported at Mulago Hospital.

Table 3: Other factors affecting access and usage of PMTCT services

Factors affecting access and usage to PMTCT services	**Rating (%) N= 195**				
	SD	**D**	**NS**	**A**	**SA**
Age of mother	35	43	10	7	5
Education status of mother	5	30	3	51	11
Marital status	3	11	5	73	8
Attitudes towards health workers	2	2	7	28	61
Religion	34	35	15	12	4
Economic status	2	11	0	69	18

SD = Strongly Disagree; D = Disagree; NS = Not Sure; A = Agree; SA = Strongly Agree

Referring to the table above,

a, Age of a mother

In this study 78% mentioned that the age of the mother did not have significant effect on the usage of PMTCT services. Respondents discussed that since mothers had a strong attachment to their children more than the fathers, mothers despite the age accessed and used the PMTCT services as long as they knew their HIV status and were aware of the available PMTCT services.

b, Education of a mother

Results showed that education level of mothers affected the usage of the PMTCT services with 62% of the respondents in agreement. Mothers will access and utilize a service according to the way they perceive and acknowledge the importance of the PMTCT service. In the FGD it was discussed that once the mother has acquired a level of formal education, their level of ignorance decreased and they are empowered to even request for these services for themselves.

c, Marital status

The majority (81%) of the respondents agreed that marital status affected usage of PMTCT Services. Results from the FGDs revealed that many mothers who were engaged to particular husbands were always encouraged by them to use PMTCT services. *"…… he always encouraged me to use PMTCT services at least to save our baby. ……. I wish he was still alive…" said one of the widows to HIV&AIDS.*

It was clearly evident that single mothers found it difficult to use PMTCT services publicly. 78% of the single mothers narrated the fact that they did not want to make their HIV status public as they still had hope of getting married. *"------but I would not want to make it public……. We all love the chance to be in marriage…." said one of the young single mothers.* This affected definitely the access and as a result hindered usage of PMTCT services provided at Mulago Hospital.

d, Attitude to health workers

Out of the 195 mothers interviewed, 89% agreed that mother's attitude towards service providers affected usage of PMTCT. The negative attitudes that built up over time were noted to emerge from the misconduct of the health workers and de-motivated mothers from accessing and in a long run affected usage of the PMTCT services provided at the National Referral Hospital

e, Religion of mother

The majority of the respondents (69%) disagreed that religion affected usage of PMTCT Services. However, it was revealed during the focus group discussions that some mothers sought spiritual intervention mainly from Pentecostal churches with high hope that they would receive miraculous healing and therefore looked at the PMTCT facilities as irrelevant. *"I started PMTCT on the second pregnancy ……. I used to go for prayers from my church for healing when I had just discovered that I was HIV positive……"*

f, Economic status of mother

Majority of the respondents (87%) agreed that the economic status of the mothers affected the usage of PMTCT services explaining that even with the free PMTCT services, money was needed for transport fare and good feeding as was discussed in the FGDs held. With the PMTCT services in place, access and usage was not possible due to the economic status of the mothers. *"……..because of the bad feeding, I sometimes do not have the breast milk, yet the nurse advised me never to feed my baby on anything else during the period it is breast feeding……it is generally a challenge……." Said one of the mothers during FGDs*

Notably, access and usage are two interlinked variables that form a complex dimension where by barrier removal alone did not necessarily improve the access and usage of PMTCT services. From the above findings, it was noted that when usage of PMTCT was affected it automatically hindered the access to PMTCT services.

4.6 Barriers to Access PMTCT by Mothers

Objective four of this study was to identify the barriers to access PMTCT services by mothers and this section portrays the findings to answer this objective.

From the study findings, ranking the barriers to access PMTCT as discovered

- Waiting time in the queue was the leading barrier with 96.4% followed by
  1) Stigma with 94.6%
  2) Routine counselling and Testing (90%)
  3) Distance 89.7%
  4) Poverty 85.7%

Table 4: Reasons that hindered mothers from using PMTCT services

Reasons that hindered mothers from using PMTCT services	**Rating (%) N= 195**				
	SD	**D**	**NS**	**A**	**SA**
Waiting time	0	1	2.6	63.6	32.8
Poverty	1.5	10.8	1	66.2	19.5
Stigma	1.5	1.5	2.1	32.3	62.6
Distance	4.1	5.1	1	41	48.7

SD = Strongly Disagree; D = Disagree; NS = Not Sure; A = Agree; SA = Strongly Agree

Waiting time

Results of the study showed the majority (96.4%) of the respondents agreed that waiting time before seeing a health worker hindered usage of PMTCT. Based on the revelations from the FGDs, waiting time was mainly attributed to the health workers coming late and departing before the normal time, as well as taking long lunch breaks. From the FGDs, 87% of mothers narrated that at first it was hard to join the program as they missed twice after waiting for the nurses for too long and got tired. *" .....at first I found it hard to join the program as I missed twice after waiting for the nurse for too long and got tired.....even at the moment the nurses take long to report in the morning and when they go for lunch..... sometimes they do not come back in the afternoon..." said a mother during one of the FDGs.*

Poverty

This study showed that poverty of mothers hindered the usage of PMTCT as the majority (85.7%) of the respondents were in agreement due to the fact that they were not supposed to feed their breast feeding babies on any food for the entire breast feeding period and as thus needed to feed well to produce enough breast milk for their babies.

Stigma

The majority of the respondents (94.9%) strongly agreed that stigma hindered the usage of PMTCT. This was also inconsistent with the revelations from the FGDs whereby 64% of the mothers mentioned that it took courage for anyone to hang around the PMTCT clinic as everybody began looking at them with a funny attitude which made them feel uneasy. *".....it takes courage for anyone to hang around the PMTCT clinic as everybody will begin to look at you with a funny attitude..... it really makes you feel un easy....."*

Other hindrances to PMTCT Utilization

From the study findings, the majority of the respondents (89.7) agreed that the distance from the nearest PMTCT clinic hindered the usage of PMTCT services due to the costs involved.

90% of the respondents interviewed mentioned that the routine counselling and testing (RCT) was discouraging mothers who were afraid of the HIV test. This ultimately compromised PMTCT uptake. Emerging from the FGDs, 87% of respondents agreed with the view that RCT was a hindrance to PMTCT usage. It was easy to deduce that mothers needed to have this test voluntarily, especially after thorough counselling. There were several factors that hindered access and usage of PMTCT services at Mulago Hospital.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

This chapter discusses the findings from the study according to the set objectives: to describe the aspects influencing usage of PMTCT services by mothers, determine the range of PMTCT services available to mothers, relation between access and usage of PMTCT services and barriers to access PMTCT services by mothers.

5.2 Aspects influencing usage of PMTCT services by mothers

In accordance with objective one, the leading influencers towards PMTCT access were provision of free ARVs to mothers, provision of health education, hospital delivery, quality counseling and same day HIV results. These factors increased the mothers' awareness on the PMTCT importance and these mothers were motivated to access and use the services. Most of these factors were geared at increasing the knowledge and awareness of mothers which empowered them to access and use the services. As long as a mother was fully aware of the importance of the available PMTCT services, usage was not a major problem.

Although the researcher had agreed with the previous researchers that the mother's age, marital status and religion influenced the way mothers utilized and accessed the PMTCT service, this study discovered that these factors actually had no significant impact on usage of PMTCT services. No matter how young or old; married or not married; whatever religion domain, mothers used PMTCT services if they were properly counselled, knew the available services and made aware of the importance of PMTCT to their babies.

Through antenatal visits, mothers discussed amongst themselves and the health care providers on the importance of PMTCT in relation to having healthy babies which made them more knowledgeable about PMTCT services. In these reviews, mothers had their HIV screening done and HIV results were given on the same day which encouraged them to join the PMTCT clinic. This was noted to reduce the duration of fear to pick results

that most mothers testified to having gone through. Same day HIV results influenced the mothers onto being courageous and start using the PMTCT services.
This study revealed that free ARVs influenced usage of PMTCT as well since these ARVs improved the mother's quality of life and so they continued working to fend for their families. Since they were free, the mothers were motivated to enrol in PMTCT as they were too poor to buy the ARVs for themselves. This therefore influenced the usage and increased the PMTCT uptake.

Contrary to a study done by Mahendra et al (2002) which discussed that male spousal participation was a very important aspect in influencing mothers to PMTCT, the study showed that as long as a woman could afford transport to the nearest PMTCT clinic, the male involvement was not as crucial. Respondents mentioned that when a child was born HIV positive and fell sick, it was a woman's responsibility to look after him or her while the father showed an "I don't care" attitude. And as thus the mothers ended up sleeping on the floors of Mulago Hospital; therefore mothers had to ensure that the child was born HIV negative. The responsibility role of mothers towards the health of their children was an influencer towards usage of PMTCT services.

5.3 Range of PMTCT Services Available to Mothers

With regard to the second objective, for an effective provision of PMTCT related treatment and care, the health care delivery system needed resources, streamlined operational procedures, as well as a mindset of goal directedness and team approach, in order to achieve its mandate of provision of health care services which includes PMTCT related services, universally, timely and with a high degree of coordination. The researcher explored the range of PMTCT services offered at Mulago National Referral Hospital in respect to the meagre budget, enormous numbers of mothers, strained human resource and general stocks out.

There was a general satisfaction with the services which revealed no stock outs of drugs, ARVs and testing kits had been experienced at Mulago Hospital ever since the respondents were enrolled onto the program. Although the researcher had agreed with

Nguyen et al, (2008) pointed out that some health centres in the developing countries did not have free services which hindered mothers usage, the situation at Mulago Hospital was different as all the available components of PMTCT pack were offered free of charge.

Other than the provision of free infant formula, all the other components of a standard pack for PMTCT as was highlighted from literature were present at Mulago National Referral Hospital, these included; PMTCT counseling, free routine HIV testing, ARVs, septrin prophylaxis, junior ARV syrup, family planning counseling and symptom management. These services improved the quality of service delivery and acted as influencers to enrol on the PMTCT program. The above services were all rated important with quality counseling and Junior ARV syrup rated as leading in importance.

Lack of provision of a free infant formula incentive for children of HIV positive mothers at Mulago Hospital posed a risk to children's health and nutrition and compromised the success of PMTCT service. Mothers were told to exclusively breastfeed but due to poverty, they lacked food for themselves, as a result failed to get enough breast milk to satisfy their babies. 90% of the respondents acknowledged the fact that bad feeding reduced their breast milk and compromised the advice given by the health workers to carry out exclusive breast feeding.

Mothers accessing PMTCT at Mulago Hospital were actually satisfied with the services and had adequate knowledge about PMTCT got from the health talks that were being conducted. However, despite the awareness sessions provided to these mothers, there was a big number that never knew clearly what the importance of PMTCT was. This study identified health talks as influencers to accessing PMTCT and therefore there was need for them to be better organized, regular and simplified to all mothers for easy understanding.

As noted, for success of PMTCT services, there was need for collective participation right from the village/community level to the Hospital. Mothers needed to be identified early in pregnancy with the involvement of village health teams who would ensure that

the pregnant mothers were encouraged to access antenatal care in facilities that offered PMTCT. For an effective provision of HIV/AIDS related treatment and care, the health care delivery system needed resources, streamlined operational procedures, and a mindset of goal directedness and team approach.

It was important to note that, although there was continued medical education for the service providers at Mulago National Referral Hospital, there was a limited budget and few staff so training in PMTCT and HIV care was not as regular as it should be. This definitely impacted on the quality of services provided to the mothers.

5.4 Link between Access and Usage of PMTCT Services

Objective 3 was about the relation between access and usage of PMTCT services and in accordance to this objective it was discovered that a unit increase in the distance from the nearest PMTCT clinic reduced access and usage of PMTCT services. Some mothers preferred to access the services from distant places where they were not known due to fear of stigma. Granted continual counselling, awareness and sensitization, the majority of mothers were no longer shy of their HIV status and stigma was no longer an issue of concern to them.

Age and religion had no significant effect on access and usage of PMTCT although a few of the single mothers expressed some concern that was in relation with their ages. It was clearly evident from the responses that education status, marital status, attitudes towards health workers and economic status of a mother were mainly responsible for the way these PMTCT services were accessed and utilized. The findings showed that the economic status of the mothers affected access and usage of PMTCT services. Even with the free PMTCT services, money was needed for transport and women empowerment was found to be a key strategy for PMTCT usage. The majority of the respondents wanted to use the PMTCT services but failed to do so because they had no transport fare to access the service. Their economic status was a driver to access.

Attitudes towards health care workers affected the access and usage of PMTCT services. Long waiting times at health care-facilities, bad services, unkind talk and interaction from health care workers, lack of confidentiality, violation of patients fundamental human

rights such as involuntary blood testing or PMTCT program enrolment slowly built up the negative attitudes towards health workers and the health facility. In the long run, these same aspects hampered access and utilisation of PMTCT services. In order to enhance PMTCT uptake, refresher courses in medical and nursing ethical conduct were necessary.

5.5 Barriers to Access and Usage of PMTCT by Mothers

In context to Objective 4 the study identified the barriers to accessing and utilizing PMTCT services. The leading barriers to access and usage of PMTCT services were: waiting time in the queue, followed by stigma, routine counselling and testing then distance and poverty in ranked order.

Waiting time before mothers saw the health worker hindered the usage of PMTCT. This was mainly attributed to the late coming of the health workers and departure before the normal time as well as taking long lunch breaks. Although the reasons given by the respondents interviewed mainly pointed the conduct of the staff, it was observed by the research assistants that mothers actually waited for long periods because of the patient-nurse ratio with overwhelming numbers vis-a-vis the number of staff.

Stigma which was ranked the 2nd leading barrier hindered the usage of PMTCT. From the researcher's view, some individuals still perceived HIV/AIDS as a disease associated with dirt, high sexual promiscuity and prostitution amongst mothers. These perceptions brought about reluctance to HIV testing due to fear of knowing one's HIV status and the stigma associated with being HIV positive and misconception about HIV/AIDS influenced individual's perception of risk and their ability to seek care. In view of this, fear and stigmatisation had remained significant barriers to accessing HIV/AIDS related health care and as a way forward; regular sensitization and awareness programs were required to combat the misconceptions people have about HIV/AIDS.

The 3rd barrier which was distance from the nearest PMTCT clinic hindered the usage of PMTCT services due to the cost involved. Distance and cost of transportation from an individual's home to the nearest health care facility, as well as availability of transportation had an impact on access to health care services. The impact of cost of

travel on an individual's ability to access health care services was closely related to socioeconomic status as well as the distance to the facility. In view of this, economically deprived mothers found it difficult to access PMTCT services.

This was also interlinked with poverty which hindered the usage of PMTCT. As rule for PMTCT success, mothers had to exclusively breast feed and due to poverty found it hard to consistently produce enough breast milk for their children, as a result starving the babies or violating the exclusive feeding technique. Mothers who had no business or less income were the most at risk and as thus poverty was rated as one of the barriers that hindered access and usage.

Most respondents would rather not attend antenatal care at Mulago Hospital because of the routine counselling and testing (RTC) scheduled for all pregnant mothers attending ANC clinics. The RTC created a lot of fear in mothers since it was involuntary for fear of the outcome of the test so as a result they tried all means to dodge this part and thus transmitted HIV to the unborn babies.

CHAPTER SIX: CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter highlights the conclusions in accordance to the research objectives. The major findings of the study were explored to derive conclusions. The researcher discussed the recommendations emerging from the study and pointed to areas for further investigation.

6.2 Conclusions

Aspects influencing usage of PMTCT services by mothers at Mulago Hospital

Level of education, knowledge and awareness, hospital delivery, quality counseling, same day HIV results and free ARVs influenced the usage of these services. As long as mothers were empowered, they did not depend on their partners' involvement to access the PMTCT service since children were considered a mother's responsibility. It is safe to conclude that access to PMTCT services is a complex and multi-dimensional matter involving various influencing factors.

Range of PMTCT services provided at Mulago Hospital

A minimum package of care to enhance PMTCT was offered at Mulago Hospital, which included PMTCT counseling, routine counseling and testing (RCT), free ARVs, Provision of septrin prophylaxis, junior ARV syrup provision, family planning counseling and symptom management. Among the services offered in the standard pack of PMTCT, only free infant formula was not offered at Mulago Hospital and this was related to the meager health budget allocated for PMTCT. There was a broad range of PMTCT services provided to mothers at the Mulago National Referral Hospital and no provision of infant formula as an incentive to access the PMTCT service.

Link between access and usage of PMTCT services at Mulago Hospital

Access to PMTCT services did not automatically increase usage since factors like education status; marital status, attitudes towards health workers and economic status

came into play and hindered the usage of the available PMTCT services. It is safe therefore to conclude that access influences usage; it follows that given access to a service mothers were keen to use it.

Barriers to accessing PMTCT services at Mulago Hospital

The leading barriers to access and usage of PMTCT services were waiting time in the queue, followed by stigma associated with being HIV positive, Routine Counselling and Testing that broke the self-perceived status/awareness, then distance from the health service provider and enduring poverty was the least barrier.

A large Patient- Doctor ratio at Mulago Hospital contributed to the long waiting time for patients and this directly affected the uptake of PMTCT services. Stigma was a barrier to accessing PMTCT services as mothers' feared hanging around the PMTCT clinic. Even with the perceived benefits of RCT, Routine Counseling and Testing had created a sense of fear in pregnant mothers and some opted not to attend antenatal care for fear of being involuntary tested.

There were several barriers to accessing PMTCT services at Mulago Hospital. Barrier removal would directly increase access and usage to PMTCT services by mothers. In conclusion, the provision of access to PMTCT services alone is not sufficient to ensuring that mothers get a full range of services. Barrier removal alone was not sufficient either. Beyond access, the study compounded that barrier removal combined with improved access in combination were necessary to solving the significant problem of Mother to Child Transmission of HIV.

6.3 Recommendations

Based on the findings of the study the researcher recommended as follows:

Aspects influencing usage of PMTCT services

Deliberately increase support for girl-child education to combat the issues arising from low education status that has been seen to hinder usage of PMTCT services.

Develop mechanisms to promote mother's adult learning as a way to increase their awareness and knowledge towards PMTCT services.

Engage in activities that result in women's empowerment so that these mothers can afford transport and proper feeding. Small business grants for mothers should be the government priority to empower these mothers.

Range of PMTCT services

Provide incentives like free infant formula to mothers accessing the services, through revision of the PMTCT budget. This would support especially mothers who are very poor and could pose a risk to their children due to poor feeding.

Relation between access and usage of PMTCT services

Increase the number of mothers accessing services through decentralization of PMTCT services away from the center.

Provide in-service training and refresher courses to health care workers to enhance their skills, ethical conduct, give up- to-date information on PMTCT and HIV care.

Train more service providers in PMTCT and allocate them to health facilities even in far communities so as to take services closer to the poor and minimize the waiting time for the mothers.

Barriers to accessing PMTCT services

Strengthen collaboration of the media, health facilities, community support groups especially the village health teams and use of HIV positive peer mothers in disseminating information on PMTCT services, to increase awareness of mothers and fight stigma.

Routine counseling and testing strategy should be revised to include awareness talks to mothers and quality counseling so as to reduce the fear of attending antenatal care.

6.4 Areas of further study or inquiry

- The influence of age on accessing PMTCT services
- The relation between range of PMTCT services and access
- The impacts of PMTCT services on children
- The effects of the socio-economic status waiting time on access to PMTCT services

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APPENDICES

Appendix 1: INFORMED CONSENT

Good day Sir/Madam,

a) Introduction

My name is Ms Juliet Bavuga a student of Master's in Public Health at International Health Science University. I am interested in knowing the link between access and usage of PMTCT services since Mulago hospital was among the few centers that started implementing these services way back in 2000.

b) Purpose of the study

The study is set out: To determine the aspects influencing usage of PMTCT services by mothers, To establish the range of PMTCT services available to mothers, To explore the relation between access and usage of PMTCT services and To identify the barriers to access PMTCT services by mothers.

c) Procedures of the study

You will be asked a set of open and closed questions that will require you to think, kindly answer as appropriate and as many questions as possible. The answers got from you will be analysed and shared to especially the service providers and policy makers as a way to improve the PMTCT services. The interview will take approximately 30 minutes to complete. All information provided by you will be strictly confidential and kept under key and lock system.

d) Benefits /risks

Some of the questions will be about your private life and you may find this exhausting and encroaching on your personal life. However, this is a study of choice, you are free not to respond or participate in the study whenever. There will be no negative consequences for this. However, by agreeing to respond to us, your answers will help

- Inform the policy planners and service providers in designing policies and interventions in order to better the PMTCT service provision,
- Contribute to existing knowledge in regards to PMTCT access and usage
- Provide baseline data for future research studies.
- Help the researcher acquire a masters' degree in Public Health

e) Contacts of Ethics chair and investigator

Feel free to contact me on 0777007300 / 0704211600 for any further clarification about this study. In case you feel this study is violating your rights or otherwise, you can report to the Ethics chair on 0414554008/1

f) Signature/thumb print

If you are willing to participate in this study, I will request you to sign below.

I have heard, read and understood clearly the aims/purpose of this study and I freely agree to take part.

Respondents Signature/thumbprint..... Date……

Investigator'sname.....Signature.....

Thank you for participating in this study

Appendix 2: RESEARCH QUESTIONNAIRE

SOCIO- DEMOGRAPHIC PROFILE

1) Your age(yrs)

14-20	1
21-27	2
28-34	3
35-41	4
> 41	5

2) Marital status:

Single	1
Cohabiting	2
Married	3
Widowed	4
Divorced/ separated	5

3) What is your religion?

Catholic	1
Anglican	2
Pentecostal	3
Muslim	4
Other.....	5

4) Do you have a business/work that gives you income
   1) Yes
   2) No

If yes, what is your monthly income from the business?

< 20,000sh	1
20,001 to 100,000sh	2
100,001 to 200,000sh	3
200,001 to 300,000sh	4
>300,001sh	5

5) What's your highest level of education?

Primary	1
Secondary	2
Tertiary	3
University	4
Post graduate	5
Other…… ……..	6

Aspects influencing usage of PMTCT services by mothers

1) Have you heard of PMTCT? **1)** Yes **2)** No

1a) If yes, which of the following do you think are PMTCT services?

PMTCT counselling	1
ARV provision to mother	2
Infant formula provision	3
FP counselling	4
Anti Retro Viral syrup provision to baby	5
Septrin prophylaxis	
Other…… …….	6

2) Have you ever used PMTCT services? **1)** Yes **2)** No

2a) If yes, are you satisfied with these services?

1. Somewhat satisfied
2. Somewhat dissatisfied
3. Don't know
4. Very dissatisfied

5. Declined to answer

3) When you accessed the PMTCT services was it voluntary? **1)** Yes **2)** No

4) Do you think that some of the reasons below could have influenced your PMTCT use?

Your partner's involvement

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Your Level of Education

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Your Hospital deliveries

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Provision of Health Education

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Available Quality counselling

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Getting HIV results on same day

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Offer Free ARVs

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Availability Skilled Health workers

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

5) Other than the above mentioned, do you know other factors that could influence mothers to access PMTCT?

1) Yes **2)** No

5 a) If yes, mention them.

1. .....

2. .....

Range of PMTCT services available to mothers

6) During your pregnancy, did you receive any of the following services? (Circle all)
1) PMTCT counseling
2) HIV testing
3) ARVs
4) Septrin prophylaxis
5) Junior ARV syrup
6) Family Planning counseling
7) Symptom Management

7) What do you think is the purpose of the above services?

……

……

8) Overall, how satisfied or dissatisfied were you with these services?
1) Very satisfied
2) Somewhat satisfied
3) Somewhat dissatisfied
4) Don't know
5) Very dissatisfied

9) Do you feel like any of the programs from PMTCT helped you reduce the chances of HIV transmission to your child?
1) Yes
2) No
3) Don't know
4) Declined to answer

10) What activities did you find most helpful?

PMTCT counseling	1
ARV provision to mother	2
Infant formula provision	3
FP counseling	4
Anti Retro Viral syrup provision to baby	5
Septrin prophylaxis	
Other……	6

11) Do you think that the available PMTCT services are adequate enough?

Not sure	1
Not adequate	2
Average	3
Adequate	4

12) Any improvement you need to be done in future for?

Relation between access and usage of PMTCT services

13) How far is your nearest PMTCT clinic?

5) 1-10km
6) 11-20km
7) 21-30km
8) Over 30km

14) Do you think this distance sometimes hinders the way you use these services?
1) Yes **2)** No

15) Availability of PMTCT services is very important, are there instances when you wanted to use some of the services and they were unavailable?

7) Yes
8) No

15a) If yes, mention them

……
……
……
……

16) Are the PMTCT services offered free of charge? **1)** Yes **2)** No

16a) If Yes, How much?

……

……

……

16b) were you able to access the paid service? **1)** Yes **2)** No

17) Do you think that some of the factors below affect the way PMTCT services are utilized?

Age of mother

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Education level of mother

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Marital status of mother

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Economic status of mother

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Attitudes of the mother

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Religion of the mother

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

17) Mention some of the reasons that you think have hindered you from using the PMTCT services even if you could access the services.

1) …….
2) …….
3) …….
4) …….
5) ……

Barriers to accessing PMTCT services by mothers

19) Do you think that reasons below could hinder mothers from using PMTCT services? (Circle your answer)

Availability PMTCT counselling

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Mothers waiting times

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Private HIV testing

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Availability of ARVs/Infant formula

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Availability of Health care workers

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Cost of PMTCT services

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Poverty among women

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Stigma

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Male involvement

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

Distance to PMTCT clinic

Strongly disagree	1
Disagree	2
Not sure	3
Agree	4
Strongly agree	5

20)

What do you think are other barriers to PMTCT ACCESS?

8) .....

9) .....

10) .....

21) Mention some of the provisions you think that the government should put in place to enhance PMTCT uptake.

.....

.....

..

Thank you for your cooperation, time and participation in this study. Your answers are very valuable to us.