FACTORS ASSOCIATED WITH HIV POSITIVE PREGNANT WOMEN'S PARTICIPATION IN PREVENTION OF MOTHER TO CHILD TRANSMISSION OF HIV PROGRAM AT THYOLO DISTRICT HOSPITAL, MALAWI

Master of Science (Nursing) Dissertation

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DECLARATION

I hereby declare that FACTORS ASSOCITED WITH HIV+ PREGNANT WOMEN'S PARTICIPATION IN PMTCT OF HIV PROGRAM AT THYOLO DISTRICT HOSPITAL, MALAWI is my original work, and has not been presented for any other awards at the University of Malawi or any other university. All sources that have been used or quoted in this document have been indicated, and acknowledged by means of complete references.

Name of student: Mrs. Serra Chanachi Date……

Signature…….

DEDICATION

This thesis is dedicated to my lovely husband William and our children Grace, Rose, and William Junior. These were my sources of inspiration during the whole process.

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Thanks to the library staff of Kamuzu College of Nursing of both Blantyre and Lilongwe campuses, for the assistance they rendered to me during the whole period of the study. Many thanks to my parents: Mr. Lapkeni Gama and Mrs. Elefiya Lapkeni Gama, who have taught me the value of education. I would also like to thank my sisters A. Mviha and J. Phonela and all my friends for their endless support and encouragements during the whole process. Furthermore, I would like to thank the Ministry of Health for giving me the scholarship to undergo a Masters Degree in Midwifery program at Kamuzu College of Nursing.

Finally, I would like to thank God almighty for the grace and strength he gave me in order for me to reach this far.

ABSTRACT

The Prevention of Mother to Child Transmission (PMTCT) of HIV program aims at reducing transmission of HIV infection from mother to child. The problem worldwide is that very few HIV positive (HIV+) pregnant women utilize PMTCT of HIV services.

The purpose of this study was to identify factors that influence HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital, Malawi.

This was a quantitative descriptive research study conducted at Thyolo District Hospital. A total of 106 HIV+ pregnant women, attending antenatal care services participated in this study. A Convenient purposive sampling was used to select the study respondents and a structured questionnaire with 46 questions was used to collect data from the respondents. The data was analyzed by the computer package called Statistical Package for Social Science, (SPSS) version 16.0 windows.

Results of this study showed that knowledge on Mother to Child Transmission (MTCT) and PMTCT of HIV among HIV+ pregnant women was very high and this significantly influenced utilization of PMTCT services. Among the respondents, 99.1% (n = 105) heard about MTCT and were able to mention the period of time when the virus can be transmitted from an infected mother to the baby. The most frequently mentioned period was during delivery (83 %, n = 88) followed by during breastfeeding (77.4%, n = 82) and during pregnancy (54.7%, n = 58). However, 1.9 %, n = 2 of the respondents did not know any way of how an HIV + pregnant woman can transmit the virus to her baby to her baby. In addition, 87.7 % (n = 93) of the respondents heard about PMTCT of HIV. All the study respondents (100%) were able to identify at least one way of PMTCT of HIV. Most frequently mentioned way was through practicing exclusive breast feeding (46.2%, n = 49) followed by having safe delivery at hospital (44.3%, n = 47). However, 9.4 %, n = 10 of the respondents did not know any way of PMTCT.

Other significant factors noted to influence the utilization of PMTCT services were educational level and knowledge of own HIV status before pregnancy. Most of the study respondents (78.3%, n = 83) had some education and (57.5 %, n = 61) had knowledge of their HIV status before they became pregnant and starting antenatal care. Some of the factors noted to hinder participation included distance to the PMTCT of HIV clinic and stigma and discrimination on HIV in the community. Most of the respondents (73.9%, n = 78), reported taking one to four hours to get to the clinic. This study found that stigma and discrimination against HIV and AIDS exists in Thyolo district because 1.1 % (n = 1) of the respondents were abandoned after disclosure of HIV + results to their spouses.

The study recommends that MOH should embark on IEC campaigns to improve knowledge on MTCT and PMTCT in the community and men should actively be involved. Additionally, there should be community based education and sensitization regarding HIV and AIDS, and specific education against stigma and discrimination. Furthermore, this study recommends that MOH should increase access to HTC services to all women of reproductive age so that they should know their status before they become pregnant. Additionally, referral from HTCT clinics to family planning, and PMTCT of HIV program should be strengthened. This study also recommends that MOH should also ensure an adequate number of health workers including support staff who are also trained in PMTCT of HIV in all PMTCT sites. All PMTCT staff should be supportive, and should take great care to ensure confidentiality and privacy.

The study recommends that individual and couple counseling should be stressed in all PMTCT of HIV clinics. All clients should be treated as individuals and more time should be set aside for counseling each client for them to make informed decisions. All PMTCT staff should have good attitude, be supportive and should take great care to ensure confidentiality and

privacy. This will also ensure that adequate information is passed to all clients. Evidence by several researchers has shown that HIV+ pregnant women fail to participate in PMTCT services because of bad attitudes of health workers (Varga, 2008), fear of their status being disclosed to other people, and fear of being discriminated by health workers, family and community members Kasenga, Hurtig, and Emmelin (2008); andNjunga (2008).

This study recommends that PMTCT of HIV should be incorporated in pre-service education curriculum and should also be part of topics taught during in-service education. This will ensure that all nurse/midwives are knowledgeable on PMTCT and able to offer the service at all levels.

Furthermore, this study recommends that more studies should be conducted in the area of PMTCT of HIV. These studies may be such as adherent to PMTCT program and experiences of HIV + pregnant women who go through PMTCT program. All participants in this study were participating in PMTCT program but we don't know if they were able to adhere to the program protocols.

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LIST OF ABBREVIATIONS

AIDS : Acquired Immune Deficiency Syndrome

ARV : Anti Retroviral

CCAP : Church of Central Africa Presbyterian

CHAM : Christian Hospital Association of Malawi

COMREC : College of Medicine Research and Ethics Committee

DHO : District Health Officer

HAART : Highly Active Antiretroviral Therapy

HIV : Human Immunodeficiency Virus

HIV+ : HIV positive

HSA : Health Surveillance Assistant

HPM : Health Promotion Model

HTC : HIV Testing and Counseling

IEC : Information Education and Communication

ITPC : International Treatment Preparedness Coalition

KCN : Kamuzu College of Nursing

MHEN : Malawi Health Equity Network

MDG : Millennium Development goals

MDHS : Malawi Demographic and Health Survey

MCH : Maternal and Child Health

MNH : Maternal and Neonatal Health

MOH : Ministry of Health

MTCT : Mother to Child Transmission

MSF : Medicines San Frontier

NGO : Non Governmental Organization

PMTCT : Prevention of Mother to Child Transmission

SPSS : Statistical Package for Social Science

TBA : Traditional Birth Attendant

UNAIDS : United Nations AIDS program

USA : United States of America

VCT : Voluntary Counseling and Testing

WHO : World Health Organization

DEFINITIONS

Mother to Child Transmission (MTCT) of HIV

Also known as vertical transmission is when an HIV positive woman passes the virus to her baby during pregnancy, labor and delivery, and or after delivery usually during breast feeding (Kennedy, 2003).

PMTCT of HIV

Is a concept which deals with activities aimed at preventing the transmission of HIV from mother to child during antenatal, labor and delivery, and after delivery. In this study it includes the following four core interventions recommended by WHO: primary prevention of HIV infection among women of child bearing age; prevention of unintended pregnancies among HIV infected women; prevention of HIV transmission from HIV infected mothers to the infants and provision of continuous care and treatment for infected mothers, partners, and their children (Ministry of Health, 2007).

HIV Human Immunodeficiency Virus

Is the virus that causes HIV infection and AIDS (Kennedy, 2003).

HIV testing

It is a process whereby blood is tested for the presence of HIV or its antibodies. This is usually done after counseling and obtaining consent from the client (Kennedy, 2003).

HIV positive women

These are women who have gone through HTC and found to be HIV positive (Ministry of Health, 2007).

CHAPTER 1

Introduction

Background Information and Introduction

Mother to Child Transmission (MTCT) of Human Immunodeficiency Virus (HIV), also known as vertical transmission, is the largest source of HIV infection in children (UNAIDS, 2008). It is estimated that more than 90 % of all children living with HIV worldwide acquire the infection during pregnancy, labour, and breastfeeding. Most of these infections occur in developing countries. Mother to Child Transmission accounts for 5 to 15 % of all new HIV infections occurring each year in developing countries (UNAIDS, 2008). Prevention of Mother to Child Transmission (PMTCT) of HIV services provides an entry point to prevention of HIV transmission. However, in many countries, very few HIV positive (HIV+) pregnant women utilize PMTCT of HIV services. In 2006, less than 10 % of HIV+ women utilized PMTCT of HIV services in low and middle income countries (Teasdale & Besser, 2008).

The Government of Malawi, through Ministry of Health (MOH), is working towards increasing access and utilization of PMTCT of HIV services by HIV+ pregnant women in order to reduce the spread of HIV infection through MTCT (Ministry of Health 2007). Malawi is one of the countries in the world with the highest incidence of HIV and Acquired Immune Deficiency Syndrome (AIDS) with an HIV prevalence of 12% among adults (Ministry of Health, 2007). Worldwide in 2007, people living with HIV (PLWHIV) were estimated to be 33.0 million, out of these 30.8 million were adults and out of the adults, 15.5 million were women (UNAIDS, 2008). In the same report, approximately 67 % of people living with HIV were in Sub-Saharan Africa and 59 %

were women. In the same year, it was estimated that in Malawi 898,888 people were living with HIV and 89,055 of these were children (Ministry of Health, 2007).

Without PMTCT of HIV program interventions, the risk of an HIV+ woman transmitting the virus to her infant is approximately 30 %. The 30 % consists of 5 % during pregnancy, 15 % during labor, and 10 % through breastfeeding (De Kock & Van der Walt, 2004). A number of factors affect the rate of MTCT. These are categorized as maternal, obstetrical, and infant factors. Factors that may increase the risk include: low CD4 count, high viral load, malnutrition of the woman, behavioral factors, maternal infections vaginal delivery, fetal trauma, prematurity, and mixed feeding. Some obstetrical practices such as vaginal cleansing with 0.25 % Chlorhexidene or Povidone iodine prior to vaginal examination in labor, elective caesarean section, and exclusive breast feeding for the first six months, in ideal conditions, significantly reduces the risk (De Kock & Van der Walt, 2004).

In resource rich settings such as the United States of America (USA) and Western Europe, the use of Highly Active Antiretroviral Therapy (HAART) regimens in pregnancy, labor, and after delivery has largely reduced MTCT. The risk for infant infection can be reduced to less than 2 % by the use of currently recommended prenatal Antiretroviral (ARV) drugs and obstetric interventions (Olanrewaju, Ola, Akantunde, Ibrahim, & Ibiyeni, 2007). Nevirapine, given in one dose to mother and child, is the easiest type of drug for PMTCT of HIV programs to administer. However, it only reduces the risk of transmission by around 50 %, and it can encourage HIV to develop drug resistance. According to World Health Organization (WHO) guidelines, the regimen currently recommended for PMTCT of HIV programs in resource limited settings uses a

combination of AZT and a single dose Nevirapine. This is more difficult to administer than a single dose Nevirapine but significantly more effective and is less likely to cause drug resistance (Kanabus & Noble, 2009).

Prevention of Mother to Child Transmission of HIV services were first piloted in Malawi in 1999 by non Governmental Organizations (NGOs) and the sites were Embangweni, Thyolo, and Chiradzulu. The official launch of the program was done in Thyolo district in June, 2003 by the then first Lady. By 2007, there were 140 public, private and NGO health facilities providing PMTCT of HIV services (39 %) coverage and they continue to scale up (Ministry of Health, 2007). By June, 2008, there were 454 sites (83 %) providing PMTCT of HIV services.

Single dose Nevirapine given to baby and mother has been used for PMTCT of HIV services since 2003 when the program started in Malawi. In 2007, a new combination regime was introduced in facilities with the capacity to offer this regimen. The combined prophylaxis therapy includes AZT 300 mg from 28 weeks taken twice a day till labor starts, SD-NVP 200 mg and AZT/3TC 600mg at the onset of labor and AZT/3TC 300 mg twice a day for seven days after delivery. In addition Cotrimoxazole 480 mg twice a day is given to all HIV positive pregnant women for life to prevent infections. Babies of HIV infected mothers are given Nevirapine syrup 6 mg within 72 hours after birth and AZT 4 mg/Kg twice a day for seven days. Babies whose mothers tested HIV positive during labor or after delivery and had no ARVs are given AZT 4 mg/Kg twice a day for four weeks (Ministry of Health, 2007).

The low participation in PMTCT of HIV programs is a national concern since HIV infection will continue to spread. There are many factors that influence pregnant

women's participation in PMTCT of HIV programs. Access to facilities providing PMTCT services is one of the major challenges to PMTCT of HIV programs uptake. Few studies have been conducted in Malawi on factors influencing participation of pregnant women in PMTCT of HIV programs. The studies done in Malawi have identified few factors hence there is need for more studies to be done to find out more factors and implement strategies to promote participation of pregnant women in PMTCT of HIV programs.

Nashind, Iipinge, and Hofrie, conducted a study in Namibia in 2009 to determine what motivates women to follow PMTCT of HIV program. The study found that factors motivating mothers to stick to the program included the health of their children, ensuring they stand a chance of receiving antiretroviral treatment, and wanting their children to live long lives. Factors identified as de-motivating mothers included family members who are still in denial that HIV and AIDS exists, stigma attached to people living with the disease, financial problems, and domestic violence. All mothers stated that the counseling and education given during antenatal care influenced their decision about whether to adhere to the program. Additionally, most of the participants stated that the support groups available for HIV and AIDS infected persons were few, and there was no proper channel of communication and referral between the hospital and the support groups.

Programmatic factors too can influence participation in PMTCT of HIV program. A study was conducted in Burkina Faso whose main objective was to identify factors predicting uptake of voluntary HIV counseling and testing in pregnant women. Results of the study showed that less than one-fifth of pregnant women (18.3 %) accepted voluntary

HIV counseling and testing, mainly at the first ante-natal visit (83.4 %) and at early gestational age (73.4 %, before week 24). The participation rate was independently associated with age, the number of previous pregnancies, and the number of previous miscarriages. The study concluded that the two-step approach of group education followed by voluntary HIV counseling and testing resulted in low participation rate in this setting. In addition the study concluded that scaling-up of voluntary HIV counseling and testing outside the clinical trial requires a mass sensitization campaign pointing out the program's benefits and addressing the stigma of HIV (Sarker, Sanou, Ganame, & Gondos, 2007).

A study was conducted in Blantyre and Balaka districts in 2007 on factors contributing to the low uptake of PMTCT of HIV services. The study found that most HIV+ women do not attend PMTCT programs because of some of the following factors: stigma and discrimination (90 %), opposition from male partners, women's fear of disclosure of HIV status to their spouse, friends, and families (30 %) and cost of infant formulas (85 %). In addition, the study identified a knowledge gap among PMTCT of HIV service providers. Furthermore, the study found that women do not participate in PMTCT of HIV program due to high cost of infant formulas in case they choose not to breast feed if found HIV+. The study recommended male involvement in PMTCT services because they play a significant role in decision making. In addition, the study recommended community awareness and review of PMTCT protocols for easy reference by health workers (Nyasulu, 2007). Human Immune Virus positive pregnant women need a lot of support from the health professionals, spouses/partners, family, and community members for them to participate and adhere to PMTCT of HIV programs.

This study was conducted at Thyolo District Hospital which is situated in Thyolo district. Thyolo is a rural district in the southern region of Malawi with a total population of 617,012. It covers an area 1,715 square kilometers with a density population of 270 per square kilometer. There are 128,800 women of child bearing age in the district and there are 30,581 births annually (National Statistical Office, 2005)

Problem Statement

In Malawi, there is high prevalence of HIV + pregnant women (12 %), (Ministry of Health, 2007). In Malawi, very few HIV+ women, 7.8 % utilize PMTCT services (Buhendwa, 2005) due to several factors. It was estimated that in Malawi, about 83,000 children were living with HIV (Ministry of Health, 2007). Antenatal attendance in Malawi is very high estimated at 92 % (MICS report, 2006), however not all women undergo HTC and not all HIV + pregnant women utilize PMTCT services. The 1998 MOH progress report indicated that there were 32,128 HIV+ women in Malawi .Among these only 20,028 (62 %) were utilizing PMTCT of HIV services. Thyolo district has a high HIV prevalence rate, estimated at 38 % (Ministry of Health, 2007), one of the highest in Malawi. It is reported that at Thyolo District Hospital, there were about 5,965 new clients who attended antenatal care services. On average, the antenatal clinic serves 17 new clients per day and 497 new clients per month. Among these 3,965 were tested for HIV, 685 were HIV + and all of them participated in PMTCT of HIV program (Thyolo Health Management and Information system, 2008).

Effects of HIV infection on children are not well documented in literature but HIV infection leads to increased morbidity and mortality rates in children. It is estimated that there were 400,000 AIDS related deaths in Uganda and 56,000 in Kenya each year

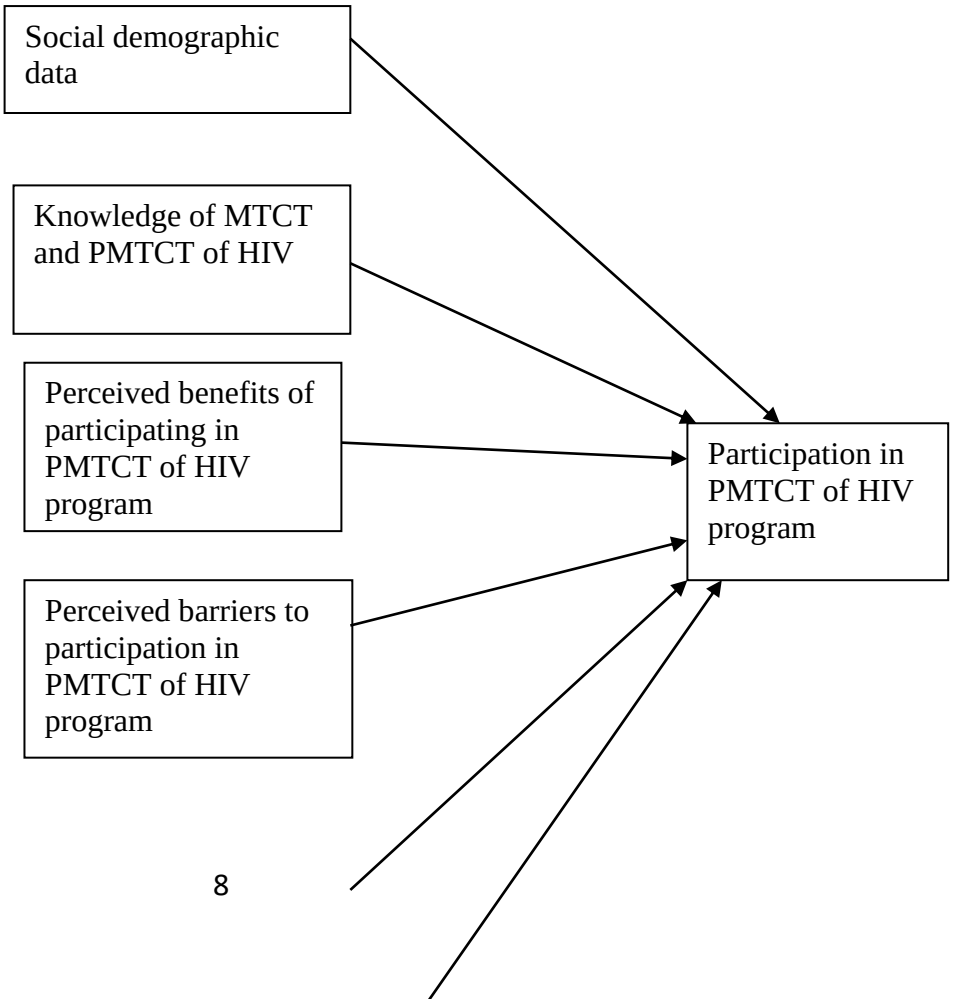
(Moore, 2003). Therefore, if interventions to prevent MTCT are not scaled up, infection rates will continue to increase. Without PMTCT of HIV program interventions, the risk of an HIV+ woman transmitting the virus to her infant is approximately 30 % (De Kock & Van der Walt, 2004).

Studies conducted in Malawi by Nyasulu (2007), Kasenga, Hurtig, and Emmelin (2008), and others identified certain factors influencing pregnant women's participation in PMTCT of HIV programs. However, there is a need to explore more on factors that lead women not to participate in PMTCT program. Consequently, recommendations on how to improve participation will be made. This study adds to what is known related to factors that lead to women not participating and then identify strategies to improve participation.

Rationale/Justification for the Research Study

This study identified factors that influence HIV+ pregnant women's participation in PMTCT of HIV programs. Understanding these factors will help in the development of strategies and interventions that will increase HIV+ pregnant women's participation in PMTCT of HIV programs. The information gained adds to a body of knowledge on PMTCT of HIV programs, service delivery, and utilization in Malawi. In addition, the information generated by the study will be used to revise the existing PMTCT of HIV guidelines, standards, and policies at all levels in Malawi. Health workers will use this information to address issues which will in turn increase HIV+ pregnant women's participation in PMTCT of HIV program thereby reducing the spread of HIV infection through MTCT. The information generated will also be used in the revision of curriculum which will be used in nursing education.

Pender's health promotion model (HPM) was chosen as a theoretical framework to guide this research study. The researcher adapted the model and used the concepts during formulation of objectives, literature review, development of the research instrument, data collection, and during report writing. Figure 1 below illustrates how the model was modified and used in this study by the researcher.



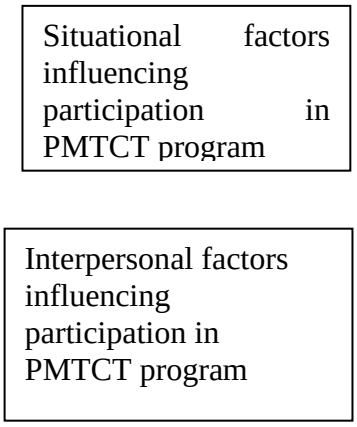


Figure 1: Adaptation of Pender's Health Promotion Model by the Researcher.

Personal Factors

These factors are categorised as, biological, psychological, and social cultural factors. These included social demographic data which included age, marital status, educational level, religion, occupation of respondents, and occupation of respondents' spouses. In order to explore further the social demographic characteristics of the study respondents also asked to identify place of delivery during last pregnancy. The respondents were also asked questions related to utilization of antenatal care during the current pregnancy, disclosure of HIV + results, knowledge of HIV status of spouse, knowledge on MTCT and PMTCT of HIV and how long it took them to reach the PMTCT clinic.

Perceived Benefits of Action

These are anticipated positive outcomes that will occur as a result of participating in PMTCT of HIV program. Knowledge of benefits of PMTCT by HIV + pregnant women was evaluated.

Perceived Barriers to Action

These are anticipated, imagined, or real blocks and personal costs of participating in PMTCT of HIV program. The barriers to participation in PMTCT of HIV program were explored. These included: stigma and discrimination, opposition from male partners.

Situational Influences

These are personal perceptions and cognitions of any given situation or context that can facilitate or impede HIV + pregnant women's participation in PMTCT of HIV program. They include perceptions of options, demand characteristics, and an aesthetic feature of the environment in which PMTCT services can be provided. This included means of transport to the facility, timely provision of services, quality of the environment for PMTCT services, male involvement, and gender sensitivity in provision of PMTCT services.

Interpersonal Influences

These are cognitions concerning behaviours, beliefs, or attitudes of others. It includes norms, social support and modelling. The behaviour of pregnant women will greatly be influenced by the people around them. Health workers play a big role in supporting the HIV + pregnant women. This included availability of trained health workers, attitudes of health workers towards PMTCT clients, and keeping of secrets about HIV + results for clients by health workers.

Participation in PMTCT of HIV Program

This is an end point or action outcome directed towards attaining positive health outcomes. If HIV+ pregnant women overcome barriers to participation in PMTCT program, they will end up participating in the program.

The objectives of this study were formulated in line with the adapted Pender's Health Promotion model as follows:

Broad Objective

- To identify factors that influence HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital- Malawi.

Specific Objectives

- To identify personal factors of HIV+ pregnant women who participate in PMTCT of HIV Program**.**
- To identify the social demographic factors of HIV + pregnant women who participate in PMTCT program.
- To determine knowledge of HIV + pregnant women on MTCT and PMTCT of HIV.
- To determine perceived benefits of HIV + pregnant women on utilization of PMTCT of HIV services.
- To identify perceived barriers to utilization of PMTCT of HIV services by HIV + pregnant women.
- To identify interpersonal factors of HIV+ pregnant women who participate in PMTCT of HIV program.
- To identify situational factors of HIV+ pregnant women who participate in PMTCT of HIV program.

CHAPTER 2

Literature Review

Introduction

Literature review is an organized, written presentation of what has been published on the research topic with an aim of conveying to the reader what is currently known on the topic of interest (Burns & Groove, 2005). According to Polit & Hungler (1999), the purpose of literature review is to orient the researcher about what is already known on the topic as well as uncertainties in order to select appropriate research methods that were previously used by others. This will also help to avoid flaws which may compromise the validity and reliability of the study and avoid unnecessary replication. The author in this section will present literature related to HIV + pregnant women and PMTCT program, the model used in this study, knowledge of MTCT of HIV, and its prevention by HIV+ pregnant women, factors that promote participation of HIV+ pregnant women in PMTCT of HIV programs, and factors that may hinder participation. Several sources were consulted during the literature review; this included the library and the internet.

Human Immune Virus Positive Pregnant Women and PMTCT of HIV Program

The HIV and AIDS epidemic remains an important global public health issue. Women currently represent the population with the fastest increase in HIV infection (WHO, 2007). Worldwide, approximately 39.5 million people are living with HIV and AIDS, including an estimated 17.7 million women, and 2.3 million children under the age of 15 (WHO, 2007). Out of the estimated 200 million women globally who become pregnant each year, about 2.5 million are HIV +. Human Immune Virus prevalence among pregnant women has continued to rise in the past decade. This has led to an increase in number of HIV + children born to HIV infected mothers. It is estimated that

more than 90 % of all children living with HIV worldwide acquire the infection through MTCT, and most of them live in Sub-Sahara Africa (UNAIDS, 2008). The prevalence of transmission from mother to the child in developing countries is about 30 %, the highest risk of infection being at the time of birth (Harms, Mayer, & Karcher, 2003).

The problem worldwide is that not all HIV + pregnant women receive ARV prophylaxis. Globally, by the end of 2006, only 11 % of HIV + were receiving ARV prophylaxis, ranging from 77% in Eastern Europe to 29 % in Latin America, 3% in West Africa, and 2 % in South Asia (WHO, 2007). Manzie et al., (2005) in Bajunirwe & Muzoora, (2005) reported that in Malawi, while 95 % of pregnant women had an HIV test, only 45 % f the HIV + pregnant women, and only 34 % of the babies born to HIV + pregnant mothers received ARV prophylaxis. Coulibaly, et al., (2005) in found that in Abidjan, only 36 % of 1,829 HIV + pregnant women received AZT due to several reasons. Some of the reasons were: women were worried about taking drugs during pregnancy; fear of stigma and discrimination; husbands opposing PMTCT program; long waiting times at PMTCT facility; and inability to afford transport costs for follow up visits. In addition, Painter et al., (2004) found that underlying mistrust in health workers and disbelief in HIV test results contributed to low uptake of ARV prophylactic drugs. Several authors have argued that quality of care needs to be improved in order to increase the uptake of testing services and prophylactic medication (Delva, et al., 2006).

Prevention of mother to child transmission of HIV was first proposed as a global health policy in the late 1990's (Bajunirwe & Muzoora, 2005). Drive for action in resource poor settings came from a trial completed in 1998 in Thailand. The trial found that a relatively short 25-day course of twice a daily of Zodovudine (AZT) was safe, well

tolerated, and in the absence of breastfeeding lessened the risk of MTCT by 50 %. As late as 2005, less than 10 % of HIV + pregnant women accessed PMTCT services worldwide. However, there has been improvement in recent years in PMTCT coverage (Bajunirwe & Muzoora, 2005).

Prevention of mother to child transmission of HIV has been identified as a variable intervention to reduce new HIV infections through a four pronged approach. The four pronged approach was introduced by WHO in 2002 (MOH, 2007). This includes: primary prevention of HIV infection among women of child bearing age; prevention of unintended pregnancies among HIV infected women; prevention of HIV transmission from HIV infected mothers to the infants; and provision of continuous care and treatment for infected mothers, partners, and their children (MOH, 2007).

PMTCT services were first piloted in Malawi in 1999 by non Governmental Organizations (NGOs) and the sites were Embangweni, Thyolo, and Chiradzulu. The official launch of the program was done in Thyolo district in June, 2003 by the then first Lady. By 2007, there were 140 public, private, and NGO health facilities providing PMTCT of HIV services (39 %) coverage and they continue to scale up (Ministry of Health, 2007).

Pender's Health Promotion Model

Pender's health promotion model (HPM) was chosen as a theoretical framework to guide this research study. A theory is a way of explaining some segment of the empirical world and can be used to describe, explain, predict, or control that segment, and guide any study (Burns & Grove, 2005). Pender's Health Promotion Model aims at predicting or explaining overall health promoting lifestyles, and behaviors. The model focuses on three areas: individual characteristics and experiences, behavior specific, and

affect and behavior outcomes (Allender & Spradley, 2005). The behavior specific cognitions and affect components of the model are considered the major motivational determinants of behavioral outcome. The behavior specific influences are perceived benefits of action; perceived barriers to action; perceived self efficacy; interpersonal influences from family, peers, providers and norms; and situational influences, demand characteristics and aesthetic features of environment. The model suggests that biological, psychological, social cultural characteristics and prior related behaviors influence behavior through behavioral specific cognitive and affective processes (Allender & Spradley, 2005).

Personal Factors

These are factors about a person that influence health promoting behaviour. These are categorised as biological, psychological, and social cultural. These factors are predictive of behaviour and shaped by the nature of the target behaviour being considered. Included in personal biological factors are variables such as age and gender. Personal psychological factors include variables such as self esteem, self motivation, personal competence, perceived health status and definition of health. Personal cultural factors include variables such as race, ethnicity, education, and social economical status (Tomey & Alligood, 2006).

Perceived Benefits of Action

These are anticipated positive outcomes that will occur as a result of health behaviour (Tomey & Alligood, 2006). Change is pursued if it increases comfort or leads to decreased symptoms.

Perceived Barriers to Action

These are anticipated, imagined, or real blocks, and personal costs of undertaking a given behaviour (Tomey & Alligood, 2006).

Situational Influences

These are personal perceptions and cognitions of any given situation or context that can facilitate or impede behaviour. They include perceptions of options, demand characteristics, and an aesthetic feature of the environment in which health promoting behaviour is proposed to occur (Tomey & Alligood, 2006). These have direct or indirect influence on health behaviour. Aesthetic features of the environment are environments which are considered to be safe as well as interesting and can facilitate health-promotion behaviour (Tomey & Alligood, 2006).

Interpersonal Influences

These are cognitions concerning behaviours, beliefs, or attitudes of others. It includes norms, social support and modelling. Primary sources of interpersonal influences are families, peers, and health care providers (Tomey & Alligood, 2006). Being able to predict health promotion behaviour enhances health professionals' ability to work with clients.

Health Promoting Behaviour

This is an end point or action outcome directed toward attaining positive health outcomes such as optimal well being, personal fulfilment, and productive living (Tomey & Alligood, 2006).

See figure 2 below for an illustration of Pender's Health Promotion Model.

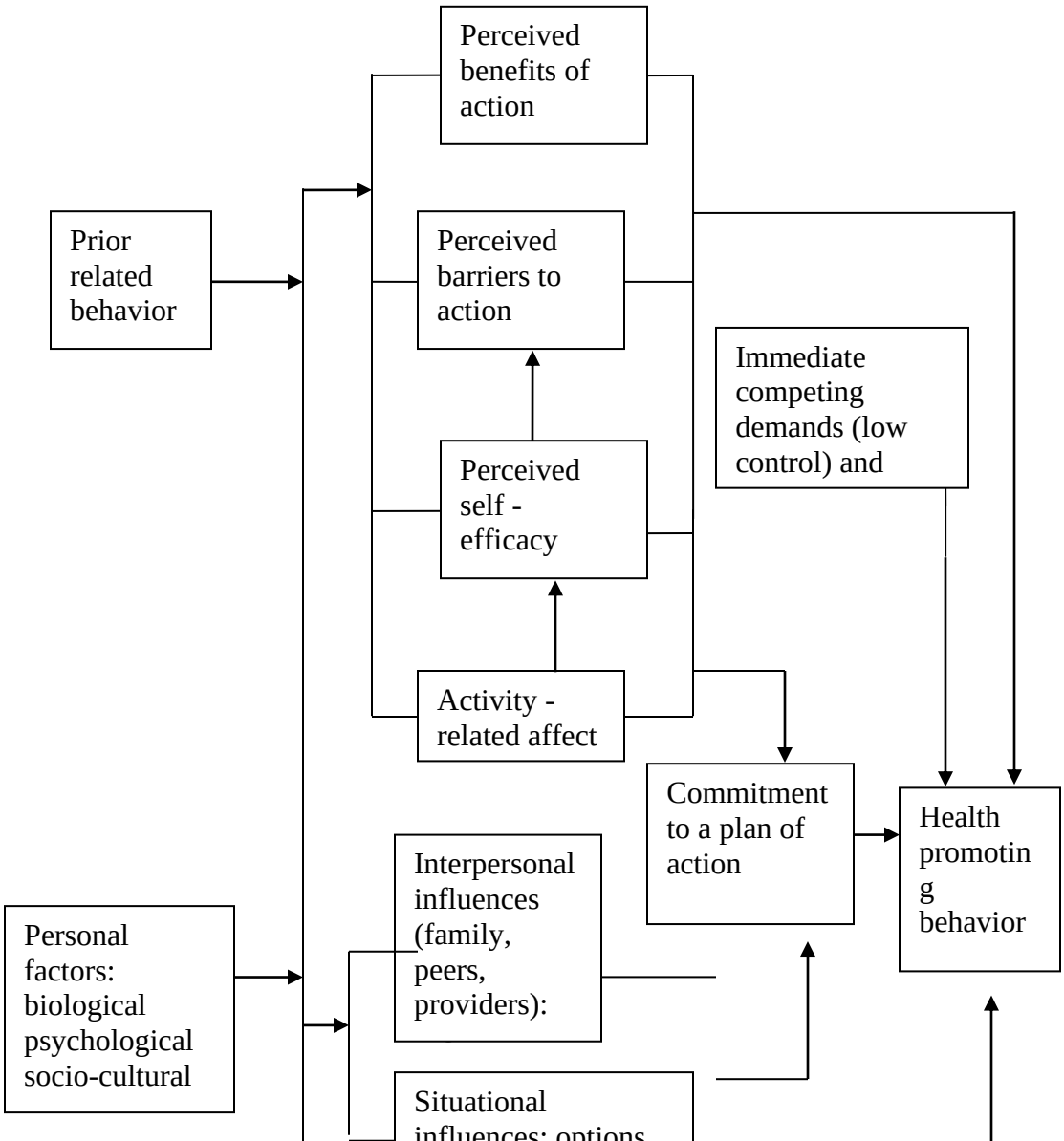

Perceived benefits of action
Prior related behavior
Perceived barriers to action
Immediate competing demands (low control) and
Perceived self - efficacy
Activity - related affect
Commitment to a plan of action
Health promotin g behavior
Interpersonal influences (family, peers, providers):
Personal factors: biological psychological socio-cultural
Situational influences: options

Figure 2: Pender's Health Promotion Model (Revised). Source: Pender, N.J., Murdaugh, C.L., and Parsons, M.A. (2002). Health Promotion in Nursing Practice (4th ed.). New Jersey: Pearson Education, Inc, p.60

Personal Factors That Influence Participation of PMTCT of HIV Programs by HIV+ Pregnant Women

Social Demographic Factors

A study was conducted in Lilongwe, Malawi to identify the social demographic factors that are associated with client's continued participation in the PMTCT of HIV program's follow-up care and; to identify clients' stated reasons for continued participation and the defaulters' reasons for not fully participating in the program's follow-up care. The study revealed that education and age of pregnancy at enrollment into PMTCT of HIV program played a role but it did not explain how it influenced participation. In addition, it was noted that negative community and family reactions and gender and power inequalities, can contribute to clients not participating in PMTCT of HIV programs (Chinkonde, 2006).

Furthermore, a study was conducted in Ethiopia on factors affecting utilization of PMTCT services in East Wallanga Zone of Oromia Regional State. It was found that level of women's education and their low status had a strong relationship with women not using PMTCT services. The other problems were cultural beliefs and norms and power imbalances between men and women (Aga, 2008). Furthermore, the utilization of PMTCT services differs among ages. A study conducted in Nigeria found that women

aged between 25 and 35 were 1.9 times more likely to accept VCT than women under the age of 25. Women of ages 35 and older were 2.4 times more likely than women under age of 25 of age to agree to VCT. Additionally a study conducted on pregnant women in Nigeria showed that married women were more likely to accept HIV testing compared to women who were single or living with their partner and not formally married (Mekonnen, 2009).

In addition, gender issues are one of the key factors accelerating spread of HIV and AIDS and low utilization of PMTCT of HIV services. Men dominate in most African countries. Gender imbalances put many women in economically dependent positions in the community. Most women have no power over their own bodies and are unable to make decisions without partners' consent. This in turn affects their PMTCT utilization (Mekonnen, 2009).

Knowledge of MTCT and PMTCT by HIV + Pregnant Women

Studies have shown that communities have inadequate knowledge on PMTCT of HIV services. An assessment on utilization of PMTCT of HIV services was done at Nyanza Provincial Hospital, Kenya. The study found that 54% of the clients had no prior knowledge on PMTCT of HIV and received the information at the facility. In addition, it was found that knowledge of MTCT and PMTCT of HIV was inadequate, even after counseling, as participants could not recall all the information given to them during counseling. Inadequate counseling services delivered to clients, affected service utilization in that there were many dropouts at different stages (Moth, Ayayo, & Kaseje, 2005). The study concluded that more information on MTCT and PMTCT of HIV should

be given to women in the community and also during antenatal care visits in order to promote utilization and adherence to PMTCT services.

Similarly, a study was conducted by Bajunirwe and Muzoora (2005), in Uganda on barriers to the implementation of PMTCT of HIV programs. Contrary to the above findings, level of knowledge of MTCT, and preference for rapid HIV testing was equally high (80%) in rural and urban areas, but rural women had a high tendency to indicate that they would consult their husbands before testing. Predictors of willingness to test for HIV were post primary education and knowledge about rapid HIV test. The strongest predictor of willingness to accept was the woman's perception that her husband would approve of her testing for HIV. The study concluded that male spousal involvement should be considered particularly for rural women in order to increase their participation in PMTCT of HIV programs. Additionally, the study concluded that same day results were likely to ensure high uptake of PMTCT of HIV services, and universal primary education supports the success of PMTCT programs.

The National Statistics Office (2005) collected information on whether people knew about MTCT and its prevention. Only 37 % of all people asked, comprised of men and women, were knowledgeable about MTCT and PMTCT. In the same study, it was noted that women were more knowledgeable than men. This is because PMTCT of HIV information enters the community mostly through the antenatal care services, via the clients of this service, who are mostly women. Men feel marginalized by inadequate access to information. Tadesse, Muula, and Misiri (2004) in their study in Blantyre, found that antenatal women get health information on HIV and AIDS from the radio (96.3%), health workers (82.2%), religious gatherings (66.7%), friends (54.8 %), and

news papers (39.3%). The study concluded that information for PMTCT of HIV should be passed to the community using these channels with more emphasis on the radio.

Interpersonal Factors That Influence Participation of PMTCT of HIV Programs By HIV+ Pregnant Women

Many studies have documented stigma and discrimination attached to HIV infected persons in all settings all over the world. The social stigma of HIV and AIDS continues to undermine the success of prevention programs including PMTCT of HIV programs. Human Immune Virus related stigma is a social phenomenon and a process that results in a powerful and discrediting social label. This label negatively affects the way HIV+ pregnant women are treated by others and how they view themselves. Human Immune Virus positive pregnant women who may wish to disclose their status often fear abandonment, exclusion, and domestic violence or being blamed. A study was conducted in El Salvador to identify factors on reducing vertical transmission: identifying barriers and supportive factors. The study revealed strong support for offering universal HIV testing for pregnant women. There was little resistance from the general public, prenatal care providers, pregnant women, and or their spouses/partners (The Change Project, 2007). A study conducted in Kenya (Njagi, et al., 2004), identified low level of male involvement and lack of women empowerment as some of the key barriers to utilization of PMTCT of HIV services.

Another study was done at Malamulo Mission Hospital, Makwasa, on HIV positive women's experiences of a PMTCT program in rural Malawi. The study revealed that some women had dilemmas in disclosing their status to their spouse, family, and friends due to fear of stigma and discrimination (Kasenga, Hurtig, and Emmelin, 2008).

Njunga (2008) had similar findings in a study in Chiradzulu, Malawi; where PMTCT of HIV program was referred to as "the divorce program" as men were abandoning their families after disclosure of their HIV+ results.

A study on TBAs involvement in PMTCT of HIV program in Lilongwe, Malawi (Kabondo, et al., 2008) identified the following key barriers to participation in PMTCT of HIV programs: lack of transport for referral, women's preference to deliver at TBAs, lack of sustainable source of income influencing TBAs to continue conducting deliveries, and non disclosure of status by HIV+ women. The study made the following recommendations: training and supervision of TBAs on HIV and AIDS, PMTCT of HIV and their new roles; intensifying community sensitization on hospital delivery; increased availability of reliable transport; increase in infrastructures to accommodate antenatal women who are waiting for labour; developing a proper mechanism to track referrals from TBAs to health facilities.

Attitudes of Health Workers

Another factor that can affect utilization of PMTCT of HIV services is attitudes of health workers. Clients may fail to access PMTCT of HIV services due to bad attitudes of providers. A study was done in Limpopo Province in South Africa on factors influencing teen mother's enrollment and participation in PMTCT of HIV services. Client-counselor dynamics during pretest counseling were essential in promoting uptake, and participation. Additionally, counselor's profile strongly influenced the nature of the interaction. Other factors found to negatively influence adherence to PMTCT services included early premarital pregnancy, stigma, fear of an HIV+ test result, concerns over confidentiality, and poor treatment by health care providers (Varga, 2008).

Similar to this study, a study conducted in Cote d' lvoire found that a significant number of women who had been diagnosed with HIV infections were unwilling to take part in follow up visits because they had bad experiences when dealing with health workers. Problems included distrust of the staff and their medicines, dissatisfaction with counseling, disbelief of test results, and fear of hostile staff (UNAIDS, 2009).

A study was conducted in Ethiopia on factors affecting utilization of PMTCT services in East Wallaga of Romia Zone Region State in 2008. It was found that long waiting time during services, poor attitudes of health workers and lack of privacy are among the major problems that compromise PMTCT services (Aga, 2008).

Situational Factors That Influence Participation in PMTCT of HIV Programs by HIV+ Pregnant Women

Access to PMTCT of HIV Services

Around the world, access to PMTCT of HIV services is limited, particularly in poor countries, due to lack of services. However, several studies have revealed that even when the services are available, HIV infected women experience many problems to obtain better care for themselves and their children. Reasons for HIV+ women not accessing services include not being offered an HIV test, refusing to take the test, not returning for follow up visits, and not adhering to self administered drugs (Kanabus & Noble, 2007).

In a study in South Africa, Skinner, Mfecane, Gumede, Henda, and Davis (2005) found that despite good interventions and commitment from providers and provision of free services, PMTCT of HIV services can be difficult for women to access. Poor roads, underdeveloped transport system were common. Additionally it was found that families had few resources for travel and most of them lived a long distance from the clinic.

Studies have shown that PMTCT of HIV program interventions can easily be given if women attend antenatal care services and deliver in health facilities. Nevirapine infant doses, which are given to babies of HIV+ women, are in syrup form and are usually available only to women who deliver in health facilities (Teasdale & Besser, 2008). Nevirapine syrup is not given to women during the antenatal period due to its short shelf life and storage problems. HIV+ pregnant women should therefore be encouraged to deliver in health facilities and be assisted by skilled birth attendants in order to avoid MTCT (Teasdale & Besser, 2008).

Skilled birth attendants refers exclusively to people with delivery skills for example doctors, midwives, and nurses who have been trained to proficiency in the skills necessary to manage normal delivery and diagnose, manage, and refer obstetric complications (Frazer, Cooper, & Nolte, 2006). However, the problem in Malawi is that only 58 % of the deliveries occur in health facilities, the rest take place in the community (National Statistical Office, 2005). To attain high coverage and promote utilization, PMTCT programs also need to be available to those who deliver at home.

A study was done at Malamulo Mission Hospital, Makwasa, Malawi on home deliveries: implications for adherence to Nevirapine in a PMTCT program. Adherence to Nevirapine was found to be higher in women who delivered in hospital (53 %) than those who did not (47 %). Among the women who did not deliver in hospital, only 57 % took Nevirapine before delivery. All women (100 %) who delivered in hospital took Nevirapine tablets and their babies were given Nevirapine syrup except for the babies who died soon after birth. Of the 27 traced women who did not deliver at the hospital, 16 (59.3 %) took Nevirapine which was given to them at PMTCT clinic but none of them

took their babies to the health facility to be given Nevirapine syrup. This study suggests that adherence to Nevirapine for both mother and baby is influenced by the place of delivery. The study concluded that TBAs might be crucial in efforts aiming to increase adherence to Nevirapine among women, and their babies. The study suggested that other means to increase adherence to PMTCT should include intensified educational campaign, and strengthened antenatal, and facility delivery services (Kasenga, Hurtig, & Emmelin, 2007).

Numerous studies have found that switching from voluntary testing and counseling (VCT) to routine testing can dramatically improve HIV+ women's participation in PMTCT of HIV programs (Kabanas & Noble, 2009). In Botswana, testing rates increased from 75% to 90 % when it changed testing procedures to routine testing nationalwide. Similarly in rural Uganda, the proportion of women with documented HIV status in one hospital doubled from 39% to 88 % after routine testing was introduced (Kanabas & Noble, 2009). Additionally integration of PMTCT of HIV services into antenatal care services and existing health facilities can promote utilization of PMTCT of HIV services. Malawi is currently offering routine HIV testing on "opt-out" basis. Pretest counseling is done to women, before testing them for HIV, in all facilities providing maternal and child health services. "Opt-out" means that HIV testing is routinely offered as part of the laboratory testing of all antenatal clients (Ministry of Health, 2007).

In a study, Nyasulu (2007) found that the common problems related to HTC services which discourage women from joining PMTCT of HIV programs were: lack of confidentiality by health workers, long waiting time for HTC services, and irregular

availability of VCT reagents. Additionally, it was found that shortage of test kits, preventive drugs, and other supplies could limit the efficiency of PMTCT of HIV programs.

On gender sensitivity, a study was conducted in Ethiopia on factors affecting utilization of PMTCT services in East Wallaga of Romia Zone Region State. The study found that women preferred to be assisted by both male and female nurse/midwives. In addition, it was found that women usually gather information about who is the best (Aga, 2008).

Availability of Adequate Number of Trained Staff in PMTCT of HIV Clinics

One of the factors that can promote participation of HIV+ women in PMTCT of HIV programs is the availability of an adequate number of trained staff in PMTCT of HIV in PMTCT sites. A study conducted in Cameroon on factors influencing HIV testing uptake among pregnant women in Cameroon's PMTCT of HIV program found that HIV testing uptake was significantly higher in sites with more than five trained counselors than in sites with less than five. The number of trained counselors in PMTCT of HIV sites promoted HIV program uptake more than the cost of HIV testing. The study recommended that emphasis should be made on increasing the number of well trained counselors at PMTCT of HIV sites to ensure good quality and comprehensive PMTCT of HIV program package and increase the number of pregnant women accepting HIV testing (Tsague, et al., 2004).

As a UNICEF report states, PMTCT of HIV programs are being introduced into health systems that in many countries are already seriously under staffed. This is due to outflows of trained providers to private institutions or to other countries that offer higher

salaries, and possibly due to AIDS related mortality among health workers (UNAIDS, 2009). A shortage of human resources for health threatens the health care delivery system in many countries, particularly in Sub Sahara Africa and other countries in the developing world. The health personnel to population ratios in Africa have been high as compared to the rest of the world with 1 to 10,000 or more for doctors and 1 to 20,000 or more for midwives in the 1990's for most of African countries (Huddart, Picazo & Duale, 2003). In 2003, Malawi was estimated to have less than 4,000 doctors, nurses, and midwives serving a population of approximately 12 million with doctor population ratio of 1 to 30,000 (Mangham, 2007).

Summary of Literature Review

As noted in the literature review, numerous factors influence HIV+ pregnant women's participation in PMTCT of HIV programs. The factors that have been shown to promote participation include: male involvement, women empowerment, community sensitization on PMTCT of HIV services, accessibility of PMTCT services, availability of community support groups, universal primary education, and availability of well trained counselors, and resources. Factors that have been noted to hinder participation include: stigma and discrimination, unavailability of services, fear of being found HIV+, early premarital pregnancy, and poor attitudes by health workers. Strategies to increase participation in PMTCT of HIV programs relevant to the specific sites should be developed and implemented in order to promote HIV+ women's participation in PMTCT of HIV programs of HIV.

CHAPTER 3

Methodology

Introduction

This chapter describes the research design of this study, place of study, target population, sample size, data collection procedures, training of assistant data collectors, data management, data analysis, and ethical consideration.

Study Design

The word "design" implies the organization of elements into a masterful work of art. A research design is the overall plan for a research study (Wood & Huber, 1994). The purpose of a research design is to provide the scheme for answering specific research questions (Polit & Beck, 2006). A quantitative descriptive design was used in this study in order to meet the study objectives. Quantitative research is designed to establish relationships between one variable and another in a population and does not establish causality (Hopkins, 2000). Quantitative research uses effect statistics such as correlations, relative frequencies, and differences between means (Hopkins, 2000). A quantitative design involves the investigation of phenomena in a rigorous and controlled design using precise measurement (Polit & Beck, 2006).

Descriptive designs are used to obtain information about the characteristics of phenomena within a particular field of study. Descriptive designs can be used to develop a theory, identify problems in current practice, justify current practice, make judgment, and determine what others are doing in similar situations (Burns & Grove, 2005). According to Burns and Grove (2005), the purpose of descriptive design is to provide a true picture of situations by observing as they naturally happen. The descriptive design

was expected to give a true picture of factors influencing participation of PMTCT program by HIV + pregnant women and make recommendations on how to improve their participation. A quantitative descriptive research design was used in this study because it provides detailed information about variables under study namely HIV + pregnant women and factors that influence participation in PMTCT programs.

Place of Study/Setting

Setting refers to the physical location and conditions in which data takes place in the study (Polit & Beck, 2006). The setting for this study was Thyolo District Hospital, in Thyolo district situated in the southern region of Malawi. Thyolo district was chosen because it is one of the districts with a high HIV prevalence among pregnant women (38 %), one of the highest in Malawi (Ministry of Health, 2007). Thyolo District Hospital is a government hospital with 300 beds. The services provided at the hospital include: outpatient care and inpatient care, family planning, antenatal care, Prevention of Mother to Child Transmission of Human Immune Virus (PMTCT), management of sexually transmitted infections, under-five care, maternity, and Antiretroviral Therapy services. It acts as a referral hospital for 25 health facilities in the district belonging to government, private and Christian Hospital Association of Malawi (CHAM). It makes its referrals to Queen Elizabeth Central Hospital (QECH) in Blantyre which is about 40 Kilometers away.

The service under study is a component of maternal and child health department, one of the largest departments of the hospital which provides reproductive health services .The antenatal clinic opens from Monday through Friday from 7.30 am to 5.00 pm for both adults and adolescents but Saturday is set aside for adolescents only. On average, the antenatal clinic serves 17 new clients per day and 497 new clients per month (Thyolo

Health Management and Information system, 2008). The clinic is managed by six nurse/midwives who have been trained in PMTCT of HIV. Two of the six nurse/midwives are at professional level and four are enrolled nurse/midwives.

Target Population and Sample Size

A population is an aggregate of all objects and subjects that conform to a set of specifications (Polit & Hungler, 1999). A sample is a subset of the population (Polit & Beck, 2006). Sampling is a process of selecting a portion of the population to represent the entire population in a study (Polit & Beck, 2006). A sample was selected by the researcher as it is easier to study a sample rather than the whole population (Polit & Beck, 2006).

In this study, the population included all HIV + pregnant women in Thyolo district. Convenience purposive sampling was used to select the participants. Convenience sampling or accidental sampling involves the use of the readily available people as participants (Polit & Beck, 2006). Purposive sampling or judgmental sampling is a strategy in which the researcher's knowledge of the population and its elements is used to handpick the participants, the researcher select participants who are judged to be knowledgeable about the issue under study. However, there is danger of bias being introduced in a sample selected by purposive sampling (Wood & Huber, 1994). According to (Burns & Grove, 2005), convenience sampling is also considered a weak approach to sampling because it provides little opportunity to control for biases as the researcher may choose people from own social and cultural group. Therefore convenient samples may not be a true representation of the target population and generalization of results may be limited. To control for biases, the researcher chose Thyolo District Hospital because she does not work there and does not know the clients and was not be

affected culturally, socially and professionally. Therefore the sampling method was not weak.

Another weakness of convenient sampling is that respondents may decline to take part and the sampling may turn into self selected sample (Burns & Grove, 2005). To control for this weakness, the study site that was used was Thyolo District Hospital which has many HIV + pregnant women (38 %) and even if some declined to participate in the study, some HIV + pregnant women accepted and therefore there were no self selected sample.

Convenience purposive sampling was chosen for this study because the HIV+ pregnant women had already come to the hospital to get antenatal services and it was convenient to recruit them to participate in the study. Ministry of Health PMTCT progress report (2008), indicated that there were 32,128 HIV+ women in Malawi and among these, 20,028 (62 %) were utilizing PMTCT of HIV services. These figures were used in the calculation of the sample size using a formula as follows:

$$Sample\ Size\ n = \left(z_{\frac{\alpha}{2}} + z_{\beta} \right)^2 \frac{\{\pi_0(1-\pi_0) + \pi_1(1-\pi_1)\}}{(\pi_0 - \pi_1)^2}$$

π_0 proportion of women utilizing PMTCT of HIV services

π_1 proportion of women not utilizing PMTCT of HIV services

$$n = (1.96 + 1.64)^2 \frac{\{0.62(1-0.62) + 0.38(1-0.38)\}}{(0.62 - 0.38)^2}$$

n = 106.2

Therefore sample size was 106.

Inclusion Criteria

Human Immune Virus positive pregnant women who had undergone HIV Testing and Counseling (HTC) and were attending antenatal care services at Thyolo District Hospital were eligible to participate in this study.

Exclusion Criteria

Human Immune Virus negative pregnant women and women who had not undergone HTC (That is, pregnant women whose HIV status is unknown) but were attending antenatal care services at Thyolo District Hospital were not eligible to participate in this study.

Data Collection Instrument

Data was collected through structured interviews and structured questionnaires (See appendix 1and 2). In a structured interview, the interviewer has a list of prepared questions that the researcher uses to provide a format for the respondent's answers (Demsey & Demsey, 2000). The structured interview has an advantage of accommodating the semiliterate participants and those who may find it difficult to understand technical terms (Polit & Beck, 2006). A questionnaire is a paper and pencil data collection instrument that is completed by study subjects themselves or may be administered face to face (Demsey & Demsey, 2000). Questionnaires which were used during this study were developed by the researcher with assistance from the supervisor. As commented by Polit and Hungler (1999), structured instruments yield data that is easy to analyze, however there is little opportunity for participants to qualify their responses. In addition, the structured questionnaire was chosen because it assists the data collectors to collect same type of data as it assists them to ask the clients same type of questions

without any bias or being subjective (Polit & Hungler 1999). This ensured that good quality data was collected.

For this study, a questionnaire with forty six items was administered by the researcher with assistance of two assistant data collectors. Section A of the questionnaire was collecting social demographic data of study respondents, and addressed objectives number one and two. The data collected in section A included the following: age, marital status, educational level, religious affiliation, occupation of respondents, and occupation of respondents' spouses. In order to understand the social-demographic data of the respondents better, they were also asked questions on means of transport used by participants to get to the PMTCT clinic, number of antenatal visits, gestational age of their pregnancy, place of delivery during the last pregnancy, and reasons for choice of last place of delivery. Section B of the questionnaire contained questions to capture information on pregnant women's knowledge on MTCT and PMTCT of HIV. Data collected in this section was addressing objective number three of this study. Section C of the questionnaire, collected data on perceived benefits and barriers on utilization of PMTCT of HIV services and addressed objectives four and five of this study. Section D of the questionnaire, collected data on interpersonal and situational factors of HIV+ pregnant women who participate in PMTCT of HIV program. Information collected in section D, addressed objectives six and seven of this study. The questionnaire was translated into Chichewa for easy communication with the respondents. This language was chosen because it is the commonly spoken local language in Thyolo district. Section B of the questionnaire contained questions to capture information.

Validity and Reliability of the Data Collection Instrument

Validity refers to how accurately the measure yields information about whether a measurement measures accurately what it is designed to measure (Wood & Huber, 1994). According to Burns and Grove (2005), validity is concerned with the extent to which the instrument reflects the phenomenon being examined. It addresses the appropriateness, meaningfulness, and usefulness of specific inferences drawn from instrument scores.

Reliability means that a measure can be relied on consistently to give the same result if the aspect being measured has not changed (Macnee & McCabe, 2008).

To ensure validity in this study, the data collection instrument used in this study was given to the supervisor and peers for checking and modifications were made. The use of a structured questionnaire and the face to face interviews in this study helped to ensure consistency of questions asked to all respondents and clarity of information. Additionally, this ensured reliability of information collected in the study. Furthermore, to ensure reliability of the instrument, a pretesting of the data collection instrument was conducted before the full study was conducted.

Pretesting of the Data Collection Instrument

Pretesting of the study instrument was carried out at QECH at the antenatal clinic to test the data collection instrument. Pretesting is the advance testing of something such as a questionnaire, product or idea (Retrieved from http://www.thefreedictionary.com/pretesting on 27/12/2010). The aim of pretesting was firstly to assess whether the questionnaire was relevant and easily understood by respondents. The second aim of pretesting was to assess the technical function of the questionnaire.

After permission was granted by the hospital management, the researcher visited the antenatal clinic. Five HIV+ pregnant women who met the inclusion criteria of this study were selected by the researcher. This was done by checking their HIV status in their health profiles before they entered examination rooms. Interviews were conducted after the clients were given antenatal care services in quiet and closed rooms. Before the interviews were conducted, consent was obtained from the respondents and an explanation was given to them on the purpose of the study. After getting their consent, the HIV+ pregnant women were asked to sign a consent form (Refer to appendix 3 and 4). The questionnaires were read to them and they were asked to respond. The researcher was recording the responses on the questionnaires.

Refinement of Data Collection Instrument

The final version of the questionnaire was compiled based on the results of the pretest. After the pretesting of the data collection instrument, modifications were made. Some of the modifications included changes in order of the questions, deleting, adding and rephrasing some questions and adding of some instructions. This helped the researcher to make the instrument understandable to the study respondents. In addition, this helped the researcher to collect the necessary information in order to meet the study objectives.

Training of Assistant Data Collectors

Two assistant data collectors, who were nurse/midwife technicians, were recruited to assist in data collection. These were already working in the antenatal clinic and were conversant with reproductive health terms in both English and Chichewa. The assistant data collectors were trained on how to administer the questionnaire by the researcher. During the training, they were given a chance to administer the questionnaire to each

other and to ask questions and clarification was provided. The training was conducted on 19th February, 2010, a week before data collection. It was conducted for half a day at Thyolo District Hospital at the antenatal clinic. The training of assistant data collectors ensured standardization of the data collection process. This was done in order to ensure that good quality data was collected during the study.

Data Collection

Data collection was conducted during the period 24th February to 18th March, 2010. A structured questionnaire with 46 questions was used for data collection in order to meet the study objectives (Refer to appendix 1and 2).

Data Collection Process

After permission was granted by the hospital management, the researcher and the two assistant data collectors visited the antenatal daily clinic from Monday to Friday during the period of 24th February to 18th March, 2010. The researcher was actively involved in collecting the data to ensure that good quality data was collected and that the objectives of the study were met. In total 106 HIV+ pregnant women, who met the inclusion criteria of this study, were selected by the researcher and the assistant data collectors. The assistant data collectors were also providing antenatal care. As the pregnant women were entering the rooms for antenatal examination and counseling, their health profiles were checked and if they met the inclusion criteria, they were requested to participate in the study after receiving antenatal care.

Interviews were conducted after the clients were given antenatal care services. Before the interviews were conducted, consent was obtained from the clients and an explanation was given to them on the purpose of the study. After obtaining their consent, the HIV+ pregnant women were asked to sign a consent form. The questionnaires were

read to them and they were asked to respond. The questionnaire took appropriately 15 to 20 minutes per respondent to complete. It took 16 days for the researcher and the assistant data collectors to collect data for this study. Data was collected between 24th February and 18th March, 2010.

Data Management

According to Polit and Hungler (1999), data management involves data cleaning which is the preparation of data for analysis. This is achieved by performing checks to ensure that data is consistent and correct. The questionnaires were checked for completeness by the data collectors, soon after the interviews, to ensure that all questions were asked. The researcher also checked all the questionnaires completed daily by the assistant data collectors to ensure consistency of the data collected. In case of any inconsistencies, the researcher contacted the assistant data collectors for clarifications and corrections were made. No names were used on questionnaires only numbers and the questionnaires were kept in big envelops and were kept in locked drawers in order to maintain privacy and confidentiality.

Data Analysis

After data collection, the responses of the questionnaires were coded, entered, and analyzed using SPSS version 16.0 computer package. Descriptive statistics such as means, frequencies and percentages were obtained. Data was presented in summary tables, summary statements and graphs. This was done with the assistance from the supervisor and a professional statistician.

Ethical Consideration

Ethical issues that were observed in this study were as follows: ethical procedures, client rights, informed consent, confidentiality, anonymity, privacy and minimizing client's risks. Approval to conduct the study was sought from College of

Medicine Research and Ethics Committee (COMREC), refer to appendix 5. For a pre test, approval was sought from the Director of Queen Elizabeth Central Hospital, refer to appendix 6. Permission to conduct the full study was sought from the District Health Officer (DHO) of Thyolo District Hospital (Refer to appendix 7).

The research study was conducted with caution and human rights were respected. Human rights in this study were observed by asking the study respondents to choose whether to participate in the study or not. An informed consent was obtained from all respondents. A consent form which was in Chichewa was read to the study respondents and after agreeing to participate, they were asked to sign a consent form (Refer to appendix 3 and 4).

The research study was conducted with minimal client risks in order to observe the right to protection from discomfort and harm. To ensure this, the interviews were carried out for a maximum of twenty minutes and respondents were assured that the interview would not take more than twenty minutes of their time. In addition, questions were asked in a way not to embarrass them, and they were told that they were free not to answer some questions if they wished. In Malawian society, HIV and AIDS are still strongly associated with promiscuity, infidelity, and prostitution. Because of this there is stigma attached to it (Lwanda, 2004). Because of stigma, people would not want their HIV status to be disclosed by anyone. In order to address this issue, the right to privacy was strictly observed during this study by conducting the interviews in a quiet, closed room which provided both audio and visual privacy.

To ensure anonymity and confidentiality, no names, addresses or any form of identification were used on the questionnaires. In addition, the respondents were assured

that the instruments used were kept in a locked drawer during the study and would be destroyed after the study to ensure privacy and confidentiality. Privacy is a fundamental right of an individual and it is also critical for safeguarding patient's well being and the good of the society (Mappes & Degrazia, 2001). The study respondents were also assured that their HIV + status and their information would not be disclosed to any one and that it would only be used for the purpose of this research study.

CHAPTER 4

Study Results

Introduction

This chapter presents results of a study on factors influencing HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital, Malawi. Pender's HPM was used to guide this study. The overall objective of this study was to identify factors that influence HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital, Malawi. The specific objectives were to: identify personal factors of HIV+ pregnant women who participate in PMTCT of HIV Program**;** identify the social demographic factors of HIV + pregnant women who participate in PMTCT program; determine knowledge of HIV + pregnant women on MTCT and PMTCT of HIV; determine perceived benefits of HIV + pregnant women on utilization of PMTCT of HIV services; identify perceived barriers to utilization of PMTCT of HIV services by HIV + pregnant women; identify interpersonal factors of HIV+ pregnant women who participate in PMTCT of HIV program; identify situational factors of HIV+ pregnant women who participate in PMTCT of HIV program. The study results will be presented in consistence with the objectives.

Personal Factors

Social Demographic Characteristics of Study Respondents

In order to describe the sample population of this study, social demographic data were collected. Over half of the study respondents (53.8 %, n = 57), were within the range of 21 to 30 years with a mean age of 28 years. The majority of the study respondents were married (89.6 %, n = 95).Additionally, most of the study respondents (65.1 %, n = 69), attended primary school education. Further to that, more than half of the

study respondents (51.9 %, n = 55) were house wives. Table 1 below presents a summary of the social demographic characteristics of respondents of this study.

Table1: *Social Demographic Characteristics of Respondents (N= 106)*

Variable	*n*	%
Age		
15- 20 years	7	6.6
21- 30 years	57	53.8
31- 40 years	34	32.0
41 years and above	1	0.9
Marital status		
Married	95	89.6
Single	3	2.8
Divorced	6	5.7
Widowed	2	1.9
Educational level		
Never attended school	23	21.7
Primary education	69	65.1
Secondary education	13	12.3
College/university	1	0.9
Religious affiliations		
CCAP	10	9.4
Roman Catholic	15	14.5
Seventh Day Adventist	8	7.5
Islam	4	3.8
Other	69	65.1
Occupation of participants		
Housewife	55	51.9
Farmer	34	32.1
Businesswoman	6	5.7
Skilled worker	6	5.7
Laborer	5	4.7
Occupation of participants' spouses		
Businessman	18	17.5
Farmer	14	13.2
Skilled worker	25	23.6
Laborer	23	21.7
Other	15	14.2

Place of Delivery during the Last Pregnancy (N = 106)

In order to explore further the social demographic characteristics of the sample population, the study respondents were asked to identify their places of delivery during the last pregnancy. The majority of the respondents (89.6 %, n = 95) were able to identify their place of delivery during the last pregnancy. Slightly over half of the study respondents (51.9 %, n = 55), delivered in hospital during the previous pregnancy while the rest delivered either at home, at a TBA, and in transit to hospital. Table 2 below presents a summary of the findings.

Table 2: *Place of Delivery during Last Pregnancy* (N = 106)

Place	*N*	%
Hospital	55	51.9
Home	16	15.1
TBA	20	18.9
In transit to hospital	4	3.8
Not applicable	11	10.4

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Reasons for Choice of Place of Delivery during the Last Pregnancy (N = 106)

The study respondents were asked to give reasons for their choice of place of delivery during the last pregnancy. The majority of the respondents (89.6 %, n = 95) responded to this question and the following answers were given. Among the respondents who delivered in hospital (51.9 %, n = 55), 81.8 %, n = 15 said they wanted to be assisted by health workers, 9.1 % (n= 5) said wanted to save their lives, and 9.1 %, n = 5 said wanted to get PMTCT services. The study respondents, who delivered at home, at a TBA and on transit to hospital (37.7%, n = 40), also reported various reasons for their choice

of place of delivery. Sixty percent (n = 24) said it was too late for them to get to the hospital, 20 % (n = 8) said the hospital was too far from their homes, 12.5 % (n = 5) had no transport to take them to the hospital when labor started, and 7.5 % (n = 3) said TBAs are friendly and caring as compared to health workers.

Utilization of Antenatal Care Services during the Current Pregnancy (N = 106)

The study respondents were asked questions related to the utilization of antenatal care services during the current pregnancy. One-third of the study respondents (34.9 %, n = 37), had a total of two visits to the clinic. Significantly, 57.5 % (n = 61) knew their HIV+ status before they became pregnant and beginning antenatal care. Table 3 below presents a summary of utilization of antenatal care services by study respondents during the current pregnancy.

Table 3: *Utilization of Antenatal Care Services during the Current Pregnancy* (N = 106)

Variable	*n*	*%*
Number of antenatal visits		
One visit	33	31.1
Two visits	37	34.9
Three visits	22	20.8
Four visits	11	10.4
Five and more	2	1.9
Gestational age at time of interview		
< 3 months	7	6.7
3 – 6 months	41	39.0
7 months and more	59	55.7
Time of HIV testing by respondents		
Before pregnancy	61	57.5
After pregnancy	45	42.5

Disclosure of HIV Test Results by Study Respondents Who Tested HIV+ On the Day of the Interview (N =18)

Study respondents were asked to identify whom they would share knowledge of their HIV+ status with. Only 17.0 % (n = 18) of the respondents responded to this question because they were tested for HIV on the day of the interview. Each respondent was asked to identify one to three individuals. Among the study respondents who tested HIV+ on the day of the interview, 83.3 % (n= 15) stated that they would share their HIV + results with their spouses. Consequently, almost all the study respondents were going to share their HIV+ results with at least one person.

The study respondents who tested HIV+ on the day of the interview (17.0 %, n = 18) were also asked to state how they thought their spouses would react to their HIV+ results. Half of the study respondents (50 %, n = 9), said their spouses would accept the results while the other half (50 %, n = 9), did not know how their spouses would react.

Disclosure of HIV Test Results by Study Respondents Who Tested HIV+ During the Previous Visits

The study respondents were asked to mention whom they shared knowledge of their status with. Among the study respondents 83 % (n = 88) were able to respond to this question because they were tested during the previous visits and had a chance to share their results with individuals of their choice. Each respondent was asked to mention one to three individuals. All the study respondents who tested HIV positive during the previous visits (100 %, n = 88) shared their results with someone. Significantly, 81.8 % (n = 72) of the respondents shared their HIV+ results with their spouses. The table 4 below presents a summary of the findings.

Table 4: *Disclosure of HIV Test Results by Study Respondents Who Tested HIV+ During the Previous Visits* (N = 88)

Variable	*n*	*%*
Spouse	72	81.8
Mother	25	28.4
Sister	23	26.1
Family members	10	11.4
Father	6	6.8
Brother	5	5.7

Reasons for Sharing HIV Test Results by Study Respondents Who Tested HIV+ During the Previous Visits (N =88)

The study respondents were asked to identify the reasons why they shared their HIV+ results with someone. Among the study respondents, 83 % (n = 88) were able to respond to this question because they were tested during the previous visits and had a chance to share their results with individuals of their choice. The following reasons were given: 80.7 % of the respondents (n = 71) said to get support, 11.4 % (n = 10) said as a cultural norm, and 8.0 % (n = 7), said to show respect.

Reactions of Spouses after Sharing HIV+ Results (N = 88)

The study respondents were asked to state the reactions of their spouses after sharing their HIV+ results. Among the study respondents, 83 % (n = 88) were able to respond to this question because they were tested during the previous visits and had a chance to share their results with their spouses and the following reactions were given. A majority of the study respondents' spouses (90.9%, n = 80), accepted the results, 1.1 %, n = 1 were abandoned, while 7.9 %, n = 7 did not accept the results.

Knowledge of Spouses' HIV Status (N = 106)

The study respondents were asked if they knew the HIV status of their spouses. The results of knowledge on HIV status of their spouses were almost evenly divided; 47.2 % (n = 50) did not know the status of their spouses while (46.2 %, n = 49), knew the status of their spouses. For the remainder of the study respondents (5.6 %, n = 7), they

were not able to respond to this question as they were unmarried and staying away from their spouses.

Knowledge of PMTCT of HIV Program (N = 106)

The study respondents were asked if they heard about PMTCT program. The majority of the study respondents (87.7 %, n = 93), heard about PMTCT while 12.3 % (n = 13) did not hear about PMTCT program.

Knowledge on PMTCT of HIV (N = 106)

The study respondents were asked to identify the three major ways of preventing MTCT. Each study respondent was asked to identify one to three ways of prevention to determine their knowledge on PMTCT. All the study respondents were able to identify at least one way of PMTCT of HIV. Most frequently mentioned way was through practicing exclusive breast feeding (46.2 %, n = 49) followed by having safe delivery at hospital (44.3 %, n = 47). However, 9.4 %, n = 10 of the respondents did not know any of PMTCT. The results are summarized in table 5 below.

Table 5: Study Respondents Knowledge on PMTCT of HIV (N =106)

Variable	*n*
	%
Exclusive breast feeding	49
	46.2
Safe delivery at the Hospital	47
	44.3
Mother taking ARV drugs	43
	40.6
No breast feeding	8
	7.5
Don’t know	10
	9.4

The study respondents were also asked to give comments or ask questions related to PMTCT of HIV. The majority of the study respondents (90.6 %, n = 96) had neither questions nor comments while few a participants (9.4 %, n = 10) asked the following knowledge questions: Is it possible for a woman to be HIV positive while her husband is negative? Is it possible for a mother to transmit the HIV virus to her baby when she is not sick? How can I prevent my baby from being infected?

Sources of Information on PMTCT of HIV for Study (N = 106)

The study respondents were asked to identify their sources of information on PMTCT of HIV. The primary source of information on PMTCT of HIV was from nurse/midwives (79.2 %, n = 84). This was followed by doctors, clinical officers, and medical assistants (11.3 %, n = 12). Other sources included: Health Surveillance Assistants (HSAs), friends, family members and counselors. Figure 3 below presents a summary of the results.

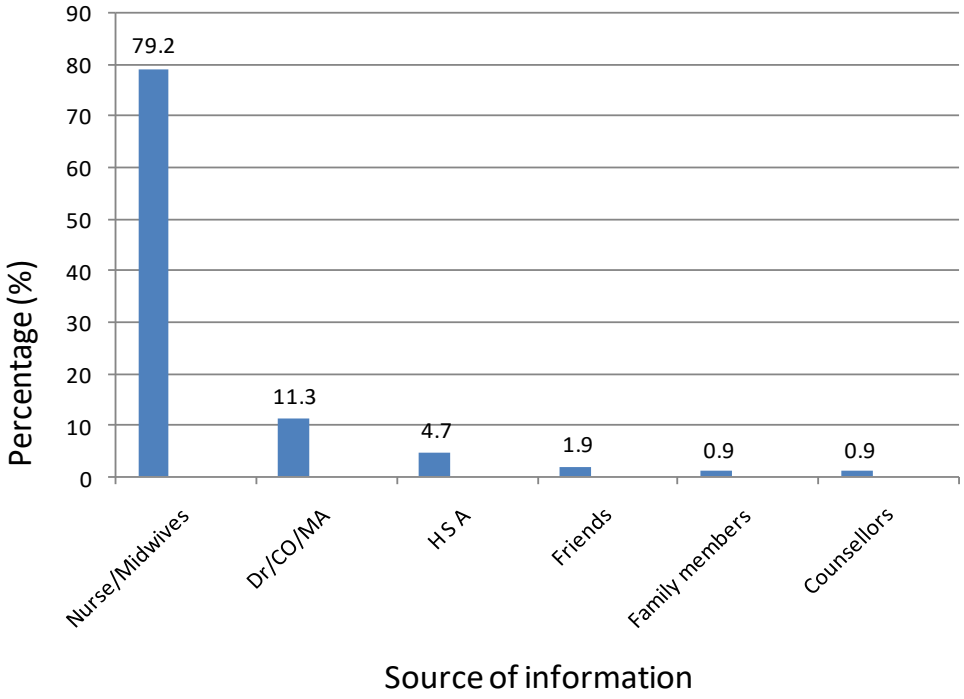

Figure 3: *Sources of Information on PMTCT of HIV*

Reasons for Participating In PMTCT of HIV Program

The study respondents were asked to give reasons why they participated in PMTCT of HIV program. The study respondents were further asked to identify from one to three reasons for their participation. All the study respondents were able to identify at least one reason for their participation in PMTCT program. The most common stated reason was to save the life of their baby from HIV infection (58.5%, n = 62). This was followed by (17.0%, n = 18) who gave the reason of the issue of MTCT. Table 6 below presents a summary of the findings.

Table 6: *Reasons for Participating In PMTCT of HIV Program* (N =106)

Variable	*n*	*%*
To save life of my baby from HIV	62	58.2
Issue of MTCT	18	17.0
To access ARV drugs	16	15.1
To access PMTCT counseling	12	11.3
Issue of AIDS	6	8.5
To access food supplements	1	0.9

Permission to Participate In PMTCT of HIV Program (N =106)

The study respondents were asked if they sought permission from anyone before participating in PMTCT program. The majority of the study respondents (85.8 %, n = 91) did not seek permission from anyone for them to participate in PMTCT program while only 14.2 % (n = 15) of the respondents reported seeking permission. It is important to note that among the participants who sought permission before participating in PMTCT, (73.3 %, n =11) was from their spouses. The remainder of the study respondents sought permission from others such as family members.

The study respondents were also asked if they told their spouses that they were coming to the clinic on the day of the interview. The majority of the study respondents (87.7 %, n = 93) told their spouses that they were coming to the clinic while 4.7 %, n = 5 did not. For 7.5 %, n = 8 of the study respondents, this question did not apply as they were unmarried and not staying together with their spouses.

Reasons for Seeking Permission to Participate In PMTCT of HIV Program (N = 15)

The study respondents who sought permission before participating in PMTCT of HIV program were asked to give reasons why they sought permission and the following were the responses: to get support (60 %, n = 9), fear of being abandoned (26.7 %, n = 4), and to show respect (13.3 %, n = 2).

Knowledge of MTCT of HIV (N = 106)

The study respondents were asked if they heard about MTCT. The majority of the study respondents (99.1%, n = 105), heard about MTCT while only 0.9%, n = 1, had no knowledge of MTCT.

Sources of Information on MTCT of HIV (N = 106)

The study respondents were asked to identify their sources of information on MTCT of HIV. The study respondents received information on MTCT of HIV from different sources. The primary source of information was mostly from nurse/midwives (69.5%, n = 73). The other sources included Doctors, Clinical Officers, Medical Assistants, Health Surveillance Assistants (HSAs), friends, and family members. Figure 4 below presents a summary of the findings.

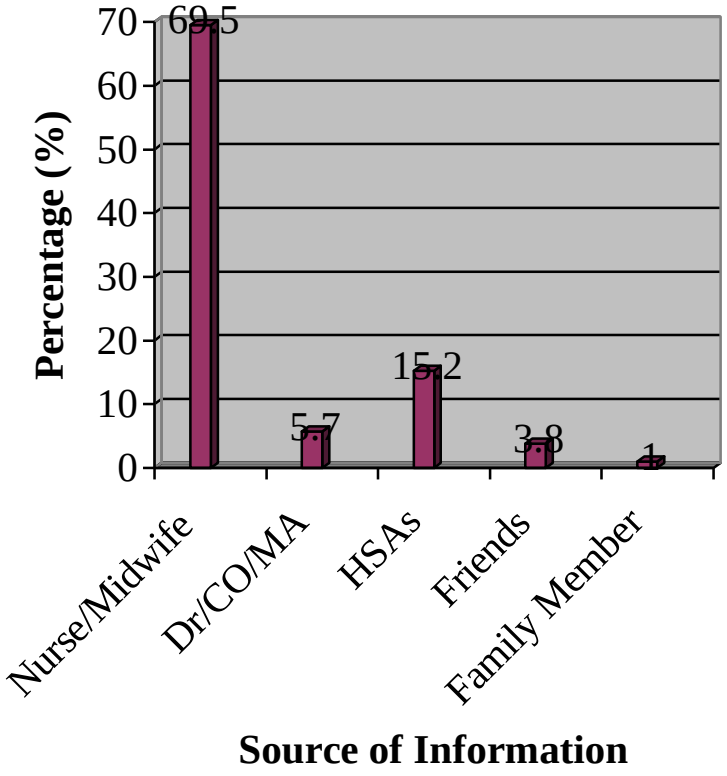

Figure 4: *Sources of Information on MTCT of HIV*

Knowledge on When a Mother Can Transmit HIV to Her Baby (N = 106)

The study respondents were asked to identify the period when a mother can transmit the HIV infection. The most frequently mentioned period was during delivery (83 %, n = 88) followed by during breastfeeding (77.4 %, n = 82) and during pregnancy (54.7 %, n = 58). However, 1.9 %, n = 2 of the respondents did not know any way of how an HIV + pregnant woman can transmit the virus to her baby.

Interpersonal Factors That Influence HIV Positive Pregnant Women's Participation in PMTCT of HIV Program

Availability of adequate number of staff trained in PMTCT at PMTCT of HIV Clinic (N = 106)

The study respondents were asked to comment on the statement that "PMTCT of HIV clinic has adequate number of staff." More than half of the study respondents (59.4

%, n = 63) felt that the clinic always had adequate number of staff while 25.5 % (n = 27) said some of the times, 6.6 % (n = 7) said most of the times, and 7.5 % (n = 8) did not know.

Attitudes of Health Workers towards PMTCT of HIV Program Clients (N = 106)

The study respondents were asked to comment on two statements related to staff attitudes. Most of the study respondents (58.5 %, n = 62), reported that they were always treated well by health workers. In addition, 67.0 % (n = 71) of the study respondents reported that staff and counselors at the PMTCT clinic were always friendly to clients. Table 7 below presents a summary of the findings.

Table 7: *Responses of Study Respondents to Statements Related to Attitudes of Health Workers towards PMTCT of HIV Program Clients* (N=106)

Statement	Always		Most of the times		Sometimes of the times		Never		Don't know	
	n	*%*	*n*	*%*	*n*	*%*	*n*	*%*	*n*	*%*
Clients Are treated with respect by health workers at the clinic	62	58.5	11	10.4	27	25.5	1	0.9	5	4.7
Counselors and staff at the clinic are friendly	71	67.0	8	7.5	24	22.6	1	0.9	2	1.9

Furthermore, the study respondents were asked to comment on the statement that "health workers at the clinic do not like to see men at the clinic." The majority of the study respondents (82.1 %, n = 87), disagreed with the statement while 12.3 % (n = 13) agreed with the statement, and 5.7 % (n = 6) were undecided

Keeping of Secrets about HIV Results for Clients by Health Workers (N = 106)

The study respondents were asked to comment on the statement that "staff at PMTCT clinic keeps secrets about HIV results for their clients." Most of the study

respondents (98.1%, n= 104), agreed with the statement, while only 1.9 % (n = 2), disagreed with the statement.

Situational Factors That Affect Pregnant Women's Participation in PMTCT Program
Means of Transport to PMTCT of HIV Program Clinic and Time Taken To Reach the Clinic (N = 106)

The study respondents were asked to state the means of transport they used to get to the PMTCT clinic and time taken to get to the clinic. The most common means of transport to PMTCT clinic by the study respondents was walking (48.1 %, n = 51) or use of cars/buses (48.1 %, n = 51). In addition, most respondents (73.9 %, n = 78) reported taking one to four hours to get to the clinic. Table 8 below presents a summary of the findings.

Table 8: *Means of Transport to PMTCT Clinic and Time Taken To Reach the Clinic* (N = 106)

Variable	*n*	*%*
Means of transport to PMTCT clinic		
Walking	51	48.1
Car/buses	51	48.1
Bicycle	4	3.8
Time taken to reach PMTCT clinic		
< 1 hour	21	19.8
1 – 4 hour	78	73.9
5 hours and more	6	5.7
Don't know	1	0.9

Furthermore, the study respondents were asked to comment on the statement that "facilities that provide PMTCT services are far and difficult to reach." Most of the study

respondents (98.1 %, n = 104), agreed with this statement while1.9 % (n = 2) disagreed with the statement.

Timely Provision of PMTCT of HIV Services (N = 106)

The study respondents were asked to comment on the statement that "PMTCT services are provided on time". Half of the study respondents (50.0 %, n = 53), said the services were always provided on time. Only 6.6 % (n = 7) said most of the times, 34.0 % (n = 36) said sometimes, 2.8 % (n = 3) said were never attended to on time, and 6.6 % (n = 7) said did not know.

Environment for Provision of PMTCT of HIV Services (N =106)

The study respondents were asked to comment on the statement that "the environment where PMTCT services are provided is attractive and comfortable." Most of the study respondents (89.6 %, n = 95) agreed with this statement while 10.4 % (n = 11) disagreed with the statement. The study respondents were also asked to comment on the statement that "the environment at the PMTCT clinic provides privacy to clients". The majority of the study respondents (89.6 %, n = 95), agreed to this statement while 8.5 % (n = 11) disagreed with this statement.

Male Involvement in PMTCT of HIV Program (N =106)

Study respondents were asked to comment on statements related to male involvement in PMTCT program. Some respondents (43.4 %, n = 46), disagreed with the statement that "PMTCT program has done little to involve men." In addition, 85.9 % (n = 91) agreed with the statement that "PMTCT clinic should be opened during weekends so that men should attend the clinic." Table 9 below presents a summary of the findings.

Table 9: *Responses to Statements on Spouse Involvement in PMTCT* (N = 106)

Statement	Agree		Disagree	
	n	*%*	*n*	*%*
PMTCT program has done little to involve men	50	47.2	46	43.4
PMTCT clinic should be opened during weekends so that men attend the clinic	91	85.9	15	14.1

Gender Sensitivity in Provision of PMTCT of HIV Services (N= 106)

The study respondents were asked to comment on the statement that "at PMTCT clinic, women should be attended by female health workers only." More than half of the respondents (64.2 %, n = 68), disagreed with this statement, while 35.8 % (n = 38) agreed with this statement.

CHAPTER 5

Discussion of Study Results

Introduction

This chapter presents a discussion of the findings of a study on factors influencing HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital, Malawi. The study findings will be discussed based on the study objectives. The overall objective of this study was to identify factors that influence HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital, Malawi. The population sample comprised of 106 HIV+ pregnant women who were all participating in PMTCT of HIV program.

Personal factors that Influence HIV + Pregnant Women's Participation in PMTCT of HIV Programs

Social Demographic Factors

Age

Over half of the study respondents (53.8 %, n = 57), were within the range of 21 to 30 years with a mean age of 28 years. This agrees with a study was conducted in Nigeria which found that women aged between 25 and 35 were 1.9 times more likely to accept VCT than women under the age of 25 (Mekonnen, 2009). As women age, they are more likely to use health services including PMTCT services. They may be due to the fact that they have been exposed to more knowledge on health issues in different settings.

Marital status

The majority of the study respondents (89.6 %, n = 95) were married, 2.8 % (n = 3) were single, 5.7 % (n = 6) were divorced, and 1.9 % (n = 2) were widowed. However in this study, the majority of the respondents, 85.8 % (n = 91) reported they did not seek permission from anyone for them to participate in PMTCT program. Few respondents

(14.2 %, n = 15), sought permission before participating in PMTCT program. Furthermore, it is important to note that the respondents who sought permission before participating in PMTCT was mainly from their spouses (73.3 %, n = 11). Furthermore, the respondents who sought permission before participating in PMTCT gave the following reasons: To get support (60 %, n = 9), fear of being abandoned (26.7 %, n = 6), and to show respect (13.3 %, n = 2). In Malawi, most decisions in the homes including those regarding seeking health care are made by husbands (National Statistics office, 2005). This means that men have an influence in decision making about women's health seeking behavior including participation in PMTCT of HIV program, and have to be involved.

However, men do not have enough information regarding women's reproductive health services and male involvement is a challenge in all reproductive health programs in Malawi. The National Statistics office (2005) found that only 37 % of all men and women were knowledgeable about MTCT and PMTCT of HIV. In the same study, it was noted that women were more knowledgeable than men. This is because PMTCT of HIV information enters the community mostly through the antenatal care services via the clients of this service who are mostly women. Men feel marginalized by inadequate access to information and feel women's reproductive problems are women's business yet they are decision makers in the homes. Despite inviting men to attend antenatal clinics, most antenatal clinic set ups are not male friendly and men do not like to come to the clinics, and even if they come they are not respected and welcomed by health workers. Health workers should make the clinics male friendly, sensitize men on PMTCT of HIV

program in the communities and couple counseling should be encouraged in all PMTCT clinics.

These study findings were similar to findings of a study by Nyasulu (2007), on factors contributing to low uptake of PMTCT services in Blantyre and Balaka rural Malawi. In this study, it was found that women do not have powers on their own to make decisions to join the PMTCT program and male partners are the decision makers in health decisions. These findings were similar because the study was also done in Malawi and the settings and some social-cultural practices are similar.

From this study, it is not known whether those that were divorced was a result of their HIV+ status. This is because there was no question to elicit this information. However, 1.1 % (n = 1) of the respondents mentioned that she was divorced after disclosing her HIV+ status to her husband. This shows that stigma and discrimination because of HIV exists among societies in Malawi and this can prevent HIV+ pregnant women's participation in PMTCT programs. Though there was one client who mentioned this, this is a major concern for PMTCT program and it has to be eliminated. This can be achieved through health education to the community on issues of HIV and AIDS and need to avoid stigma and discrimination. In addition, stigma and discrimination can be eliminated if couple counseling is practiced in all PMTCT clinics. Couple counseling assists in reducing the burden HIV+ pregnant women bear in disclosing their HIV+ status to their spouses and also reduce spread of HIV infection among family members. If couple counseling is practiced, couples bear the burden of HIV infection together, assist each other in accessing treatment and counseling, and make future plans together. For

example, if a couple is HIV+ and counseling is done together, they can plan together for feeding options, and whether to continue having children or not.

The study results agree with studies conducted by Kasenga, Hurtig, and Emmelin (2008) and Njunga (2008); where women had problems in disclosing HIV+ results to family and friends due to fear of stigma and discrimination; and where PMTCT of HIV program was referred to as "the divorce program" as men were abandoning their families after disclosure of HIV+ results. The social stigma of HIV and AIDS continues to undermine the success of prevention programs including PMTCT programs. It also agrees with a research conducted by the International Treatment Preparedness Coalition (ITPC) and Malawi Health Equity Network (MHEN) which revealed that stigma and discrimination towards HIV/AIDS still exists in Malawi despite the government's efforts to stop these (Nyasa Times, 2010).

Though there is stigma and discrimination, disclosure of one's HIV status enables women to access prevention and treatment programs. It also provides increased opportunities for risk reduction and helps in planning for the future. A majority of the study respondent's spouses (90.9 %, n = 80), in this study accepted the HIV test results, 1.1% (n = 1) were abandoned, while 7.9 % (n = 7) did not accept the test results. This shows that women should not be afraid to disclose their HIV+ results to their spouses as spouses may be understanding and supportive in coping with the HIV infection, taking ARV drugs and making appropriate infant feeding choices. This reflects increased knowledge and understanding of HIV+ status and its implication for society or region.

Additionally, these study findings agree with findings of a study conducted on pregnant women in Nigeria. The study showed that married individuals were more likely

to accept HIV testing compared to women who were single or living with their partner and not formally married (Mekonnen, 2009).

Educational Level

In this study, most of the study (65.1 %, n = 69), attended primary school education, 21.7 % (n = 23) never attended school, respondents 12.3 % (n = 13) attended secondary school education, and 0.9 % (n= 1) attended college education. Though a large number of the women were educated, the uneducated (21.7, n = 23) is of great concern because this may negatively affect their knowledge levels. A higher educational level was positively identified with participation in PMTCT program. This agrees with findings of National Statistics Office (2005), which indicated that 62 % of the women in Malawi were literate. Education is one of the social economic factors that are important because it affects women and girls in decision making that affect their sexual and reproductive lives. Educated women are more likely to use health services than the uneducated ones (National Statistical Office, 2005). In addition there is a saying that "if you educate a woman, you educate the whole nation". Furthermore, education can help project planners to design effective health messages which may include take home messages. Universal education should therefore be advocated in all countries including Malawi in order to educate all women. These study results are also in agreement with results of a study done in Uganda by Bajunirwe and Muzoora (2005), on barriers to the implementation of PMTCT of HIV programs. In this study, one of the predictors of willingness to be tested for HIV was post primary education.

Occupation

The results of this study indicate that over half of the study respondents (51.9 %, n = 55), were housewives and the remainder (48.1%, n = 51) had other occupations and other sources of income. Occupation of respondents did not affect the results of this study. The housewives depended on their spouses for financial and material support. The study respondents' spouses were mostly skilled workers (23.6 %, n = 25) and the remainder (76.4 %, n = 81), were businessmen, farmers, skilled workers, labors and other occupations. As commented by (Chinkonde, 2006), gender and power inequalities can contribute to clients not participating in PMTCT of HIV programs. Women's occupation reflects woman's source of income and also has implications for their empowerment (National Statistical Office, 2005). Women with a source of income are economically empowered and are able to make their own decisions pertaining to their own health. If women have no source of income, it is difficult for them to make decisions including seeking health care. It is very important for women to be encouraged in income generating activities so that they can have a source of income. In the absence of their spouses, women should be able to make decisions to utilize health services and be able to support themselves. All women in Malawi should have a source of income in order for Malawi to achieve MDG 3 which is on women empowerment and in turn all MDGs (4, 5 and 6) related to health will be achieved.

Religious affiliation

All the respondents (96.2 %, n = 102) belonged to Christian denominations and only 3.8 % (n = 4) were Moslems. The Christian denominations were distributed as follows: 9.4 % (n = 10) CCAP, 14.5 % (n = 15) Roman Catholic, 7.5 % (n = 8) Seventh Day Adventist and other denominations 65.1 % (n = 69). Religious institutions are major

influences of MNH because the majority of the community members belong to a religious group. Religions such as Zion, Full Gospel, and Seventh Day Reformer prohibit its members to seek hospital care including PMTCT of HIV services. This forces some pregnant women not to access MNH services such as antenatal care, PMTCT of HIV services, labour and delivery, and postnatal care. Members of Zion and Full Gospel may not be reflected in this study as they may not have attended the PMTCT clinic because of their religious conviction. Sensitization on PMTCT of HIV program should be done to the community including in all religious denominations.

Prior knowledge of own HIV+ status

Most of the study respondents in this study 42.5 % (n = 45) were tested for HIV while they were already pregnant while (57.5 %, n = 61) tested HIV + before they became pregnant and they were aware of their HIV+ status. The author concludes that knowledge of one's HIV + status before pregnancy seemed to promote participation of HIV+ pregnant women in PMTCT program. This is because one of the respondents of this study commented that, "PMTCT is so helpful because many children born from HIV+ women are not infected". This shows that study respondents came to PMTCT of HIV clinic because they were already aware and confident of the benefits of the service. From this study, it is not known whether the pregnancies were planned or not because there was no question to elicit this information. One of the United Nations prongs of PMTCT of HIV is to prevent unwanted pregnancies among HIV+ women through use of family planning services (Ministry of Health, 2007). As reported by Gombachika (2004) in her study, in Malawi the desire to have a pregnancy surpasses the obvious consequences and risks posed by HIV and AIDS. This is because child bearing is

respected highly in Malawian context as it symbolizes adulthood and responsible membership of the society for both men and women. Therefore, HIV+ pregnant women require informative counseling and appropriate treatment and follow up. To promote participation of HIV+ pregnant women in PMTCT of HIV program, all women of reproductive age should be counseled and tested for HIV before they become pregnant and should make informed choices whether to become pregnant or not. Additionally, all women of reproductive age should have access to family planning services in order to prevent unwanted pregnancies.

Utilization of antenatal care services during current pregnancy

One third of the respondents in this study (34.9 %, n = 37) had made 2 antenatal visits, 31.1 % (n = 33) one antenatal visit, 20.8 % (n =22), three antenatal visits, 10.4 % (n = 11) four antenatal visits, and 1.9 % (n = 2) made five and more antenatal visits during this pregnancy. Most respondents (55.7%, n = 59) were 7 months or more pregnant, 39 % (n = 41) were 3 to 6 months pregnant, and 6.7 % (n = 7) were less than three months pregnant at the time of the interview. This indicates that most of them were in the second and third trimester of their pregnancies. However the results of this study do not reflect the gestation at which the participants started attending antenatal and whether these visits are appropriate as compared to their gestational age.

Focused antenatal care recommends that pregnant women should start antenatal care early during the first trimester at 0-12 weeks (Ministry of Health, 2007). In addition focused antenatal care recommends four targeted visits during the antenatal period. However, HIV+ pregnant women may require more than the four visits due to problems related to the HIV infection and the need for increase in counseling on PMTCT.

According to Malawi Multiple Indicator Cluster Survey (MICS) report of 2006, antenatal care attendance during the first visit is very high in Malawi estimated at 91.8 %. However, women may not meet the four targeted visits as many start antenatal care late. The number of antenatal visits by an HIV+ pregnant woman may affect access to information and care on PMTCT of HIV. An adequate number of visits may promote and inadequate number of antenatal visits may hinder participation and adherence to PMTCT of HIV program.

Pregnant women need proper monitoring, to be provided with iron supplements, treatment for worms to prevent anemia, Fansidar for malaria prophylaxis, and syphilis screening (Ministry of Health, 2006). These are all possible if a woman starts antenatal care early. In addition gestational age at first antenatal visit affects access to information and care on PMTCT as those who start early will be given treatment and counseling early thereby reducing the risk of MTCT.

In Malawi, traditionally women do not want to be recognized as being pregnant until the pregnancy is more than three months. This is because they want to be sure they are really pregnant in fear of being laughed at by the community if found to be not pregnant. In addition, they are afraid that if some members know that they are pregnant at an early gestational age, they may bewitch them and may loose the pregnancy. Other factors that may hinder women from starting antenatal during the first trimester include long distance to the facility and lack of funds to pay for services.

A study was done in South Africa on “why do women seek antenatal care late? Perspective from rural South Africa.” This study found that most women do not perceive significant health threats during pregnancy. Contrary, women perceive labor and delivery

as a time of significant health risks that require medical attention and most women prefer to give birth in a health facility. Consequently, pregnant women view more than one antenatal care visit as unnecessary (Myer & Harrison, 2003). Information Education and Communication (IEC) programs are required to continue explaining the importance of effective antenatal care thereby promoting MNH.

Knowledge of HIV+ Pregnant Women on MTCT of HIV

This study found that knowledge of HIV+ pregnant women about MTCT of HIV was very high (99.1%, n = 105). However, the researcher questions this finding as it was supposed to be 100 %, because this is some of the basic information given to women during counseling. The one respondent who said that she had not heard about MTCT of HIV might be secondary to other reasons. Furthermore, not all respondents who said that they knew about MTCT of HIV, 99.1% (n = 105) were able to mention ways of MTCT of HIV. The most frequently mentioned period was during delivery (83 %, n = 88) followed by during breastfeeding (77.4 %, n = 82) and during pregnancy (54.7 %, n = 58). However, 1.9 % (n = 2) of the respondents did not know any way of how an HIV + pregnant woman can transmit the virus to her baby. This is some of the basic information given to women who go through HTC at PMTCT of HIV clinic and this might not be true. The 1.9 % (n = 2) respondents who were not able to mention ways of MTCT might be due to other reasons. They may have the information but were shy to mention the ways of MTCT and or wanted to hear from the health worker as to what happens. These results of this study are in line with results of a study by Bajunirwe and Muzoora (2005), in Uganda on barriers to implementation of PMTCT of HIV programs. The results are similar because the studies were done in developing countries with similar health and

management problems. In this era of HIV and AIDS epidemic, programs are put in place and education is given a priority in all health care settings.

Knowledge of HIV+ Pregnant Women on PMTCT of HIV

Most of the respondents knew the specific ways of PMTCT. Most frequently mentioned way was through practicing exclusive breast feeding (46.2 %, n = 49) followed by having safe delivery at hospital (44.3 %, n = 47). However, 9.4 % (n = 10) of the respondents did not know any of PMTCT. The number of respondents who did not know ways of PMTCT of HIV 9.4 % (n = 10), is of the great concern because all women who pass through PMTCT program need to know this information. Adequate information is a right and is necessary to all pregnant women as they are to make informed decisions regarding their reproductive health life. Health workers have an obligation to give adequate information to their clients in all health settings. From the researcher's experience as a midwife, health workers are frequently in a hurry and do not fulfill this obligation. This results in clients lacking important health information.

Contemporary bioethics stresses on the importance of respect for autonomy. This is defined as acknowledgement of a person's right to hold information, make choices, and take actions based on personal values and beliefs. Respect for autonomy means treating clients as individuals with rights and not as objects of care (Burkhardt & Nathaniel, 2008). Respect for individuals requires that each individual should be treated as unique respecting their values and customs. Giving health information to clients empowers them to make informed decisions and take necessary actions. In this era of HIV and AIDS, all pregnant women need to have adequate information on health.

In addition, some of the respondents in this study (9.4 %, n =10), lacked basic information on PMTCT of HIV even after going through counseling as evidenced by type of questions which they asked. The questions that the HIV+ pregnant women asked were as follows: Is it possible for a woman to be HIV+ while her husband is negative? How can I prevent my baby from being infected? Is it possible for a mother to transmit the HIV virus to her baby when she is not sick? This shows that though the women were counseled on PMTCT of HIV, the information was not adequate. This may be attributed to the fact that group counseling was done and less time was dedicated to individual counseling. This may also be attributed to the educational level of respondents since 21.7 % (n = 23) of the respondents were under-educated. Educational level of the study participants has a direct effect on different health issues including knowledge on prevention of MTCT of HIV.

Best practice requires that all clients should be treated as individuals and not as groups because clients have different needs. Use of support staff that has been trained in PMTCT of HIV should be considered in all PMTCT of HIV clinics to supplement shortage of staff. Additionally, heath workers should consider staggering of clients across the week rather than having large numbers of clients on some days of the week .Enough time should be set aside for counseling each client during each visit. This is meaningful because care becomes client centered other than health worker centered.

However, the results of this study are similar to the results of an assessment on utilization of PMTCT of HIV services at Nyanza Provincial Hospital, Kenya by Moth, Ayayo, and Kaseje (2005). The study found that 54 % of the clients had no prior knowledge on PMTCT of HIV and received the information at the clinic and that

knowledge on MTCT and PMTCT of HIV was inadequate even after counseling. The similarities may be attributed to how the program was implemented, availability of resources (both material and human) which influenced the provision of the service. The similarity may also be due to similarities in settings, culture and social practices of the participants.

Knowledge of HIV+ Pregnant Women on PMTCT of HIV Program

Among the respondents, 87.7 % (n = 93) had knowledge of PMTCT program of HIV while only 12.3 % (n = 13) had none though they were participating in the program. Though a small number of respondents (12.3 %, n = 13) had no prior knowledge of PMTCT program, this is of great concern since these women had a responsibility of taking care of themselves and the baby. This might be attributed to the fact that though the program was popular in the district, some women may not know about it and just followed other women to join the program without having adequate information. All clients have a right to health information and to access health care services.

When the study respondents were asked to give reasons why they participated in PMTCT of HIV program, all the study respondents were able to identify at least one reason for their participation in PMTCT program. All the respondents were able to identify at least one reason for their participation in PMTCT program. The most common stated reason was to save the life of their baby from HIV infection (58.5 %, n = 62). This was followed by (17.0 %, n = 18) who gave the reason of the issue of MTCT. This finding is attributed to the fact that Thyolo District Hospital is one of the first sites to implement PMTCT of HIV program in Malawi and knowledge levels on the benefits of PMTCT of HIV program in the community were high. Since the program had been in the

district for three years, the HIV+ pregnant women learnt about HIV program from health workers and observed the benefits of the program from fellow community members.

From the researcher's own experience, health workers do not usually spend adequate time with clients and large amounts of information is given to clients within a short period. Hence the clients are not given a chance to express their own views, and or ask questions. This makes it difficult for the clients to understand the information given to them considering that clients have different educational backgrounds.

Interpersonal Factors That Influence HIV+ Pregnant Women's Participation in PMTCT of HIV Program

Availability of Adequate Number of Trained Staff

Thyolo District Hospital antenatal clinic which includes PMTCT clinic had adequate number of trained staff at the time of the study. Apart from nurse/midwives employed by MOH, some nurse/midwives were employed by a Non Governmental organization (NGO) called Medicines San Frontier (MSF) to complement shortage of staff at the antenatal clinic. In addition, a locum system was used to complement staff shortage at the clinic. The antenatal clinic had six nurse/midwives of which two were registered nurses and four nurse technicians and a clinical officer at the time of the study. On average the clinic attends to 17 new clients per day and 497 new clients per month in addition to the clients who come for subsequent antenatal visits (Thyolo Health Management and Information System, 2008).

When asked to comment on adequacy of staff at the clinic, the majority of the respondents in this study, 59.4 % (n = 63) felt that staff was always available. This adequate number of trained staff positively influenced HIV+ pregnant women's participation in PMTCT of HIV program at Thyolo District Hospital. When there is

adequate numbers of staff, clients are attended to on time and waiting time is reduced. This agrees with a study which was done in Cameroon by (Tsague, et al., 2004), on "factors influencing HIV testing uptake among pregnant women in Cameroon's PMTCT of HIV program," where HIV testing uptake was significantly high in sites with an adequate number of staff who were also trained in PMTCT. Furthermore, an adequate number of staff in PMTCT clinics helps health workers to have adequate time for counseling the clients and providing comprehensive PMTCT services. Consequently this promotes participation of PMTCT programs by HIV+ pregnant women.

Attitudes of Health Workers towards PMTCT of HIV Program Clients

When asked to comment whether the study participants were treated with respect by health workers at the PMTCT clinic, more than half of the respondents in this study (58.5 %, n = 62), said they were always treated well by health workers. The study respondents were also asked to comment on the statement that, "counselors and staff at PMTCT clinic are friendly." More than half of the respondents of this study (67.0 %, n = 71) reported that staff and counselors at the clinic were always friendly to clients, 22.6 % (n = 24) said some of the times, 7.5 % (n = 8) said most of the times, 0.9 % (n = 1) said staff is never friendly, and 1.9 % (n = 2) of the respondents said didn't know. Additionally, the respondents of this study were asked to comment whether health workers at the clinic do not like to see men. The majority of the study respondents (82.1%, n = 87), disagreed, 12.3% (n = 13) agreed, and 5.7 % (n = 6) were undecided. This shows that health workers had good attitudes towards all PMTCT clients including men and this promoted participation in PMTCT program at Thyolo district hospital. However this is not as good as expected as all health workers (100 %), are supposed to

have good attitudes towards their clients when providing all health services to clients including PMTCT of HIV services.

The results of this study are in line with results of a study which was done in Limpopo Province in South Africa by Varga (2008), on factors influencing teen mother's enrollment and participation in PMTCT of HIV services. Client-counselor dynamics during pretest counseling were essential in determining uptake and participation. A study, in Cote d' lvoire found that a significant number of women who were HIV+ were unwilling to come for follow up visits because they had bad experiences when interacting with health workers (UNAIDS, 2009). This shows that good attitudes by health workers promote participation in PMTCT of HIV program. In Malawi, the public usually complain that health workers have bad attitudes towards clients. This was not the case at Thyolo District Hospital. This is commendable and should be emulated by all health workers. This can be achieved by sensitizing all health workers on client's rights, and punishing health workers who show bad attitudes towards clients.

Provision of Privacy and Keeping of Secrets about HIV Results of Clients by Health Workers at PMTCT of HIV Clinic

The study respondents were asked to comment on the statement that "the environment at the PMTCT clinic provides privacy for clients." The majority of the study respondents (89.6, n = 95) felt the clinic provides privacy to clients. Additionally, respondents were asked to comment on the statement that "staff at PMTCT clinic keeps secrets about HIV results for their clients." Most of the respondents in this study (89.6 %, n = 95), agreed with the statement, while only1.9 % (n = 2) disagreed with the statement. Privacy refers to the right of an individual to control personal information or secrets that are disclosed to others. Privacy is a fundamental right of an individual and it includes both

audio and visual privacy. Respect for patient's privacy is also critical for safeguarding patient's well being and the good of the society (Mappes & Degrazia, 2001). Privacy promotes intimate human relationship including health worker client relationship. It is instrumental to individual's self development and capacity to be self governing (Davis & Aroskar, 1991). Privacy positively influenced HIV+ pregnant women's participation in PMTCT at Thyolo District Hospital. As commented by Lwanda (2004), clients do not want their status to be disclosed to anyone because of stigma which is associated with HIV and AIDS. Keeping of privacy helped to maintain confidentiality and client's trust helps thereby promoting participation in PMTCT program.

Situational Factors That Influence HIV+ Pregnant Women's Participation in PMTCT of HIV Programs

Accessibility of PMTCT Services

The results of this study have shown that HIV+ pregnant women were coming from long distance. This is reflected in the use of cars or buses by the participants which were either public or from tea estates where the participants or their spouses were working. Additionally, 73.9 % (n = 78) of the respondents took one to four hours to get to the PMTCT clinic, 5.7 % (n = 6) took five hours and more to get to the clinic. Furthermore, the study respondents were asked to comment on the statement that "facilities that provide PMTCT services are far and difficult to reach." Most of the study respondents (98.1 %, n = 104), agreed with this statement while1.8 % (n = 2) disagreed with the statement. Distance to the PMTCT clinic is one of the factors that may hinder utilization of health services including participation in PMTCT program and delivery of services.

These study findings agree with a study conducted by Skinner, Mfecane,

Gumede, Henda, and Davis (2005) who found that though providers may be committed and provide good interventions and services are made free, PMTCT of HIV services can still be a problem for women to access due to reasons such as a poor and underdeveloped transport system. Prevention of Mother to Child Transmission of HIV services need to be available and accessible to all HIV+ women for them to utilize thereby preventing MTCT of HIV.

In this study, more than half of the respondents, 51.9 % (n = 55) delivered at a hospital during their previous pregnancy but the rest delivered at a TBA, at home, or in transit to hospital. Reasons for choice of place of delivery varied. One of the reasons for deliveries outside the hospital was that hospital was far from their homes (20 %, n = 8) and there was no transport to take them to hospital when labor started (12.5 %, n = 5). Distance to a health facility may hinder access to services. According to Malawi MICS Report (2006), 53.8 % of pregnant women give birth in health facilities in Malawi, the rest deliver in the community. One of the reasons for home deliveries is distance to health facilities.

A study was done at Malamulo Mission Hospital, Makwasa, on home deliveries: implications for adherence to Nevirapine in a PMTCT program in rural Malawi by Kasenga, Hurtig, and Emmelin (2007). In this study, adherence to Nevirapine was found to be higher in women who delivered in hospital (53 %) than those who did not (47 %). Home deliveries meant that mothers and infants will not be given ARV drugs which they need to complete PMTCT treatment regime. Information, Education, and communication programs are required to continue explaining the importance of health facility delivery thereby promoting MNH.

However, one of the components of focused antenatal care is birth preparedness. Birth preparedness helps to ensure that women reach professional care when labour starts. Birth preparedness can reduce delays that may occur when women experience obstetric complications. During antenatal care, the midwife should discuss with the woman the expected date of delivery, place of delivery, and make plans to deliver in a health facility. The woman can be advised to come to the health facility and wait for delivery at a maternity waiting home before the estimated date of delivery, and / or arrange for transport to take her to the facility when labour starts. If a woman stays far from a health facility, plans should be put in place on how to get to the health facility on time. In most health settings, midwives do not have time to discuss birth preparedness with their clients such that the women do not even know their expected date of delivery. If midwives have time to discuss with clients on birth preparedness during antenatal period, community deliveries would be reduced and PMTCT services would be promoted. This in turn will reduce spread of HIV through MTCT.

The respondents of this study were asked to comment on the statement that "PMTCT services are provided on time". Half of the participants (50.0 %, n = 53), said the services were always provided on time, 6.6 % (n = 7) said most of the times, 34.0 % (n = 36) said sometimes, 2.8 % (n = 3) said were never attended to on time, and 6.6 % (n = 7) said did not know. All services should be provided on time for HIV+ pregnant women not to spend time waiting for services at the clinic as they have a lot of responsibilities in their homes. Timely provision of services promotes HIV+ pregnant women's participation in PMTCT program of HIV.

Quality of Infrastructure Used To Provide PMTCT of HIV Services

The respondents of this study were asked to comment on the statement that "the environment where PMTCT services are provided are attractive and comfortable". The majority of the study respondents (89.6 %, = 95), felt that the PMTCT clinic environment was attractive and comfortable while 10.4 % (n = 11), felt the clinic environment was not attractive and comfortable. The type of infrastructure seemed to have positively influenced participation in PMTCT program at Thyolo District Hospital. The clients were attracted to come to the clinic because the infrastructure was good. The physical environment in which clinics provide health care activities has a direct influence on the quality and efficiency of the services.

Gender Sensitivity in Provision of PMTCT Services

When asked to comment on the statement that "clients should be attended to by female health workers only," the majority of the study respondents (64.2 %, n = 68) disagreed with the statement, 35.8 % (n = 38) agreed with the statement. These results imply that gender did not have an influence on provision of PMTCT services at Thyolo District Hospital, though people may think that clients would prefer to be treated by female health workers only. From the researcher's experience as a midwife, clients prefer male health workers to female health workers. It is believed that male health workers are more caring than female health workers. These findings are similar to study findings by Aga (2008) in a study which was conducted in Ethiopia. In that study, it was found that women do not have preference of health workers. They preferred to be seen by both female and male health workers provided they have good attitudes.

Male Involvement in PMTCT Programs

When asked to comment on the statement that "PMTCT program has done little to involve men," the respondents of this study were almost equally divided. That is, 47.2 % (n = 50) agreed, 43.4 % (n = 46) disagreed. Additionally, 85.9 % of the respondents agreed to the statement that "PMTCT clinic should be opened during weekends so that men can access the services". This shows that the respondents of this study felt the desire to involve men in PMTCT program.

The respondents of this study were also asked if they knew the HIV status of their spouses. The results of knowledge on HIV status of spouse were almost evenly divided. Among the respondents, 47.2 % (n = 50) did not know the status of their spouses while 46.2 % (n = 49), knew the status of their spouses. For the remainder of the respondents (5.6 %, n = 7), they were not able to respond to this question as they were unmarried and staying away from their spouses. The study results have shown that the PMTCT clinic at Thyolo District Hospital, did not fully involve men in the program and this may negatively affect participation of HIV+ pregnant women in PMTCT program. If number of spouses who attend PMTCT clinic increases, knowledge of HIV among couples will also increase. This will in turn increase uptake of PMTCT of HIV program and subsequent care, psychosocial support and treatment services. Men have a strong influence on women's health and their access to care. The benefits of male involvement in women's Reproductive Health (RH) services have been noted by many researchers. A lack of male involvement deprives women of their partner's care and support.

Many researchers have revealed gaps in knowledge of RH issues as they relate to men. Male involvement is one of the challenges for RH services including PMTCT in Malawi. In a study, (National Statistical Office, 2005) noted that women were more

knowledgeable on PMTCT than men. In a study done by (Bajunirwe and Muzoora, 2005) in Uganda on barriers to the implementation of PMTCT of HIV programs, the strongest predictor of willingness to accept was the woman's perception that her husband would approve of her testing for HIV. Their study recommended that spousal involvement should be considered especially for rural women in order to increase their participation in PMTCT programs.

Male involvement includes encouraging a range of positive reproductive and social behaviors by men to help ensure women's and children's well being. Male involvement programs ensure shared responsibility for reproductive issues. Women will continue using services if they have their partner's support (Wang, 2002).

This study found that there is a relationship between, personal factors, social demographic factors, knowledge of MTCT and PMTCT of HIV, interpersonal factors, situational factors, and participation of HIV + pregnant women in PMTCT program. This has been reflected in the discussion above.

Additional Study Findings

According to the findings of this study, all HIV + pregnant women who participated in this study were participating in PMTCT of HIV program. This study finding is different to a study by Teasdale and Besser (2008), which found that less than 10 % of HIV+ pregnant women utilized PMTCT of HIV services in low and middle income countries. This finding is also different from a report by Buhendwa (2005), that 7.8 % of HIV+ pregnant women in Malawi utilized PMTCT services. This finding is attributed to the fact that Thyolo District Hospital is one of the first sites to practice PMTCT in Malawi (Ministry of Health, 2007) and knowledge levels in the community were high. Another reason might be that since the program was three years old in the

district, the pregnant women may have learnt about PMTCT program from health workers and observed the benefits of the program among fellow community members. The results of this study indicate that participation rates in PMTCT program by HIV+ pregnant women in Malawi have improved. The study findings agree with findings of University of Carolina project study in four health facilities in Lilongwe – Malawi: Bwaila, Kawale, Area 18 and Area 25. In this study, 98 % of pregnant women attending first antenatal care visits accepted HIV testing. Out of those who were tested for HIV, 15 % were HIV+. All pregnant women who tested HIV+ in this study (100 %) participated in PMTCT of HIV program (University of North Carolina Project- Malawi, 2010). This study finding is similar because it is a recent study which has been done in Lilongwe, Malawi. Awareness on HIV and AIDS and PMTCT of HIV program is increasing among Malawian communities which is a recommendable development.

These differences may be due to the fact that years have passed between the above studies and reports and this study. In addition, countries worldwide including Malawi, are responding vigorously to the HIV and AIDS epidemic hence the improvement.

The respondents of this study got information on MTCT and PMTCT of HIV from different sources but mainly from nurse/midwives (69.5 %) and 89.4 % respectively. The other sources of information included doctors, clinical officers, medical assistants, radio, friends, and women volunteers. This shows that nurse/midwives play an important role in information giving to HIV+ pregnant women to make decisions to participate in PMTCT of HIV program. This means that nurse/midwives are important if Malawi is to achieve the Millennium Development Goals (MDG) 4, 5 and 6 on

empowering women, reducing child mortality, reducing maternal mortality and averting and reducing spread of HIV and AIDS respectively. In addition to the nurse/midwives, all health workers including support staff, and women volunteers should be used to give information on health. All health workers should be well equipped with knowledge on PMTCT in order for them to convey relevant information to all clients including HIV+ pregnant women. The results agree with study results by Tadesse, Muula, and Misiri (2004), which was done in Blantyre, Malawi. The study found that pregnant women get information on HIV and AIDS from a variety of sources including health workers (82.2 %). The other sources (17.8 %) were: radio, religious gatherings, friends and news papers. This shows that an effective mechanism to convey information on MTCT and PMTCT of HIV to the community is through health workers. However, other mechanisms such as public media like the radio, news papers, and television may also be used.

Limitations of the Study

One of the limitations of this study is that the study was done in the environment and context of Thyolo District Hospital only and this may limit the generalization of the study results. Additionally, the study was limited due to participation of HIV+ pregnant women only who were already participating in PMTCT program. This meant that views of HIV+ pregnant women who did not participate in PMTCT services were not heard. This was contrary to what the researcher had planned to involve 53 HIV+ pregnant women who were participating in PMTCT of HIV program, and 53 HIV+ pregnant women who were not participating in PMTCT of HIV program so as to hear from both. However, when the researcher went to the research site, it was found that all HIV +

pregnant women at Thyolo District Hospital were participating in PMTCT of HIV program.

Another limitation arose from the use of data collectors who though trained by the researcher may have influenced the data. This could be done through their own understanding, their presence or biases during the interviews, and information bias from incorrect information provided by participants.

Another limitation of the study was the sampling method which was used. According to Burns and Grove (2005), convenience sampling is considered as a weak approach to sampling because it provides little opportunity to control for biases as the researcher may choose people from own social cultural group and generalization of results may be limited. To control for biases, the researcher chose Thyolo District Hospital because the researcher does not work there and does not know the clients and was not affected culturally, socially and professionally. Another weakness of convenient sampling is that respondents may decline to take part and the sampling may turn into self-selected sample (Burns & Grove, 2005). To control for this weakness, the study site was Thyolo District Hospital which has many HIV+ pregnant women and even when some declined to participate in the study, some accepted and therefore, there was no self-selected sample.

Recommendations

Management

The study recommends that MOH should embark on IEC campaigns to improve knowledge on MTCT and PMTCT in the community and men should actively be involved. Evidence has shown that increasing knowledge in the community will promote participation in PMTCT program. A study conducted in Tanzania by Berke, Rajabu, and

Burke (2004), on maximizing male participation in PMTCT program found that male acceptance and support, facilitates program implementation. Another study was done in Burkina Faso on determinants of HIV counselling and testing participation in a PMTCT program. Communication with partner promoted uptake of HIV testing and participation in PMTCT program. The study recommended that there should be community based education and sensitization on HIV and AIDS and specific education against stigma and discrimination.

Furthermore, this study recommends that MOH should increase access to VCT services to all women of reproductive age so that they should know their status before they become pregnant. Evidence in this study has shown that knowledge of own HIV status before pregnancy promoted participation in PMTCT of HIV program.

This study also recommends that MOH should also ensure adequate number of health workers including support staff who are also trained in PMTCT of HIV in all PMTCT sites. Evidence in this study has shown that adequate number of trained staff in PMTCT of HIV promoted participation in PMTCT of HIV program. Additionally, other researchers have indicated that increasing the number of trained staff in PMTCT sites will also increase participation. A study was conducted in Cameroon by Tsague et al., (2004) on factors influencing HIV testing uptake among pregnant women in Cameroon's PMTCT program. The study found that the number of trained counselors positively influenced uptake in the program and it emphasized on need to increase number of well trained counselors.

Midwifery Practice

The study also recommends that individual and couple counseling should be stressed in all PMTCT of HIV clinics. All clients should be treated as individuals and more time should be set aside for counseling each client for them to make informed decisions. All PMTCT staff should have good attitudes, be supportive, and should take great care to ensure confidentiality and privacy. This will also ensure that adequate information is passed to all clients. Evidence by several researchers has shown that HIV+ pregnant women fail to participate in PMTCT services because of bad attitudes of health workers (Varga, 2008), and fear of their status being disclosed to other people, fear of being discriminated by health workers, family and community members (Kasenga, Hurtig, and Emmelin (2008); and Njunga (2008).

Midwifery Education

This study recommends that PMTCT of HIV should be incorporated in pre-service education curriculum and should also be part of topics taught during in-service education. This will ensure that all nurse/midwives are knowledgeable on PMTCT of HIV and able to offer the service at all levels.

Midwifery Research

There is need to conduct more studies in the area of PMTCT program such as adherent to PMTCT program and experiences of HIV + pregnant women who go through PMTCT program. All participants in this study were participating in PMTCT program but we don't know if they were able to adhere to the program protocols.

Conclusion

This study revealed that knowledge on MTCT and PMTCT of HIV is very high among HIV+ pregnant women at Thyolo District Hospital. However, the minority lacked

information though they were participating in the program. The reason being inadequate explanation due to inadequate time spent on individual counseling and education. The main source of information for MTCT and PMTCT are midwives. Other sources include doctors, clinical officers, medical assistants, HSAs, friends, family members and the radio. The significant factors noted to promote the utilization of PMTCT services were educational level, prior knowledge of ones' HIV+ status before starting antenatal care, a wish to protect their babies from HIV infection, adequate number of health workers, good attitudes of health workers. Factors noted to hinder participation include distance to the PMTCT clinic and stigma and discrimination on HIV in the community. Recommendations to improve participation of PMTCT by HIV+ pregnant women have been made.

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Appendix 1: Questionnaire - English Version

Research Title: Factors Influencing HIV + Pregnant Women's Participation in PMTCT of HIV Program at Thyolo District Hospital, Malawi

1. Questionnaire number……..……..
2. Name of data collector..…….....
3. Date of interview……..

Section A: Socio Demographic Data

Instructions: Circle the appropriate number

No	Question	Answer	CODE
A 1	How old are you?	…….years	
A 2	What is your marital status?	Married……	1
		Single……	2
		Divorced……	3
		Separated……	4
		Widowed….……...	5
A 3	How far did you go with your education?	Never attended school……	1
		Primary school……	2
		College/university……	3
A 4	Which religion do you belong to?	C. C. A. P……...	1
		Roman Catholic……..	2
		Assemblies of God...……..	3
		Living Waters…….	4
		Apostolic faith……	5

		Jehovah witness……	6
		Zion……	7
		Islam ……	8
		Other. Specify……	9
A 5	What is your occupation?	Housewife ……	1
		Businesswoman ……	2
		Teacher..……	3
		Nurse……	4
		Secretary..……	5
		Farmer……	6
		Skilled worker ……	7
		Other. Specify……	8
A 6	What is the occupation of your spouse?	Businessman ……	1
		Teacher..……	2
		Farmer……	3
		Skilled worker ……	4
		Other. Specify……	5
A 7	What means of transport do you use to get to this clinic?	Walking……	1
		Car/bus……	2
		Bicycle……	3
		Other. Specify……	4

A 8	How long does it take you to reach this clinic?	Less than an hour……	1
		One to four hours ……	2
		Five hours or more...……	3
A 9	Number of antenatal visits	One visit……....	1
		Two visits……	2
		Three visits…….....	3
		Four visits…...……	4
		Five or more ……...	5
A 10	How old is your pregnancy?	Up to 3 months……...	1
		4 to 6 months …….	2
		7 months or more ……..	3
A 11	Where did you deliver your last baby?	At the hospital.……	1
		At a traditional birth attendant (TBA)	2
		At home…….……	3
		On the way to hospital……	4
		Not applicable……	5
A 12	Why did you deliver there? (Circle all that apply)	To be assisted by health workers…	1
		To save my life……	2
		To save my baby's life……	3
		To get PMTCT services……	4
		Health workers friendly……	5
		Health workers not friendly……	6
		TBA very friendly and caring……	7

		Hospital too far from home……	8
		There was no transport……	9
		It was too late to get to the hospital	10

Section B: Pregnant Women's Knowledge on MTCT and PMTCT of HIV

Instructions: Circle the appropriate number reflecting the opinion of the respondent

No	Question	Answer	Code	Skip To
B 1	When were you tested for HIV?	Before becoming pregnant.	1	
		After becoming pregnant…	2	
B 2	Have you heard about MTCT of HIV?	Yes……	1	
		No…….	2 →	B 5
B 3	Where did you get this information on MTCT of HIV? (Circle all that apply)	Nurse/midwife……	1	
		Dr/CO/MA…….	2	
		HAS……	3	
		Spouse……	4	
		Friends……	5	
		Family members……	6	
		Church members……	7	
		Radio……..	8	
		Church……	9	
		News paper……	10	
		Other. Specify……	11	

B 4	When can mother to child transmission of HIV occur?	During pregnancy…...……	1	
		During delivery……	2	
		During breastfeeding..……	3	
B 5	Have you heard about PMTCT of HIV program?	Yes……	1	
		No……	2 →	B 7
B 6	Where did you get information on PMTCT of HIV program?	Nurse/midwife……	1	
	(Circle all that apply)	Dr/CO/MA……	2	
		HAS……	3	
		Spouse……	4	
		Friends……	5	
		Family members……	6	
		Church members……	7	
		Radio……	8	
		News paper……	9	
		Other. Specify……	10	
B 7	How can MTCT of HIV be prevented?	Safe delivery practices…...	1	
	(Circle all that apply)	Exclusive breast feeding…	2	
		No breast feeding……	3	
		Safe infant feeding practices	4	
		Use of ARV drugs……	5	

Section C: Perceived Benefits and Barriers of Action That Influence HIV+ Pregnant Women to Participate in PMTCT of HIV Program

Instructions: Circle the appropriate number reflecting the opinion of the respondent

No	Question	Answer	Code	Skip to
C 1	Why did you to participate in PMTCT of HIV program? **(**Circle all that apply)	To save my life……..... To save life of my baby…… To access to ARV drugs…… To access to food supplements To access PMTCT counseling	1 2 3 4 5	
C 2	Did you have to ask permission for you to participate in PMTCT of HIV program?	Yes…… No…….	1 2 →	C 5
C 3	From whom did you seek permission for you participate in PMTCT of HIV program? (Circle all that apply)	Spouse …… Brother…… Sister…….. Uncle……. Father……. Mother…… Friends…… Family members…… Church members…… Other. Specify……	1 2 3 4 5 6 7 8 9 10	

C4	Why did you have to ask permission? **(**Circle all that apply**)**	To get support…… Fear of being abandoned…… To show respect…… Cultural norm……	1 2 3 4	
C5	Did you tell your husband that you were coming to the antenatal today?	Yes…… No…….	1 2	
C6	Whom are you going to share your HIV+ results with? (If tested today) **(**Circle all that apply)	Spouse…… Brother ……. Sister……. Uncle……. …….. Mother…….. Father…… Family members……. Church members…… Friends……. No one…….. Other. Specify…… Not applicable……..	1 2 3 4 5 6 7 8 9 10 → 11 12	C 8
C 7	Why are you going to share your results with that one? (If tested today) (Circle all that apply)	To get support…… To show respect…… Cultural norm…… Not applicable……	1 2 3 4	

C 8	Why are you not going to share your HIV+ results with anyone? (If tested today) (Circle all that apply)	Fear of stigma…… Fear of discrimination…… Fear of being abandoned…… Not applicable……	1 2 3 4	
C 9	With whom did you share your HIV+ results with? (If tested in the previous visits)	Spouse…….. Brother ……. Sister……. Uncle……. …….. Mother…….. Father…… Family members……. Church members…… Friends……. No one…….. Other. Specify……	1 2 3 4 4 5 6 7 8 9 → 10	C11
C 10	Why did you share your HIV+ results with that one? (If tested in the previous visits)	To get support…… To show respect…… Cultural norm……	1 2 3	
C11	Why did you not share your HIV+ results with anyone? (If tested in the previous visits)	Fear of being accused…… Fear of being abandoned…… Fear of stigma& discrimination Not applicable……	1 2 3 4	

C 12	How did your spouse react to your HIV+ result? (If tested in the previous visits)	Accepted the results……. Abandoned me……. Did not tell him……	1 2 3	
C 13	How do you think your spouse will react to your HIV+ results? (If tested today)	Will accept the results…… Will abandon me…… Don't know…… Not applicable……	1 2 3 4	
C 14	Do you know the HIV status of your spouse?	Yes…… No……. .	1 2	

Section D: Situational and Interpersonal Factors That Influence Pregnant Women to Participate In PMTCT of HIV Program

Instructions: Circle the appropriate number reflecting the opinion of the respondent.

No	Statement	Answer	Code
D 1	Services at PMTCT of HIV clinic are provided on time?	Always……....…… Most of the times…… Some of the times……. Never…….……..	1 2 3 4
D 2	The PMTCT of HIV clinic has adequate number of staff	Always……....…… Most of the times…… Some of the times……. Never…….……..	1 2 3 4
D 3	Clients at the PMTCT of HIV clinic are treated with respect by the counselors	Always……....…… Most of the times……	1 2

		Some of the times…….	3
		Never…….……..	4
D 4	Counselors and staff at the PMTCT of HIV clinic are friendly	Always……....……	1
		Most of the times……	2
		Some of the times…….	3
		Never…….……..	4
D 5	PMTCT of HIV clinic environments provides privacy for clients?	Always……....……	1
		Most of the times……	2
		Some of the times…….	3
		Never…….……..	4
D 6	PMTCT of HIV services are provided in an attractive and comfortable environment.	Strongly agree..……	1
		Agree……	2
		Undecided…….	3
		Disagree……...	4
		Strongly disagree……	5
D 7	Staff at PMTCT of HIV clinic keeps secrets about HIV results for men and women.	Strongly agree..……	1
		Agree……	2
		Undecided…….	3
		Disagree……...	4
		Strongly disagree……	5
D 8	At PMTCT of HIV clinics, women should be attended by female health workers only.	Strongly agree..……	1
		Agree……	2
		Undecided…….	3
		Disagree……...	4
		Strongly disagree……	5

D 9	Health workers do not like to see men at the PMTCT of HIV clinic.	Strongly agree..…… Agree…… Undecided……. Disagree……... Strongly disagree……	1 2 3 4 5
D 10	PMTCT of HIV programs have done little to involve men.	Strongly agree..…… Agree…… Undecided……. Disagree……... Strongly disagree……	1 2 3 4 5
D11	PMTCT of HIV clinic should be opened during weekends so that men can access the services.	Strongly agree..…… Agree…… Undecided……. Disagree……... Strongly disagree……	1 2 3 4 5
D12	PMTCT of HIV clinics are very far from your home and it is difficult to reach to the clinic.	Strongly agree..…… Agree…… Undecided……. Disagree……... Strongly disagree……	1 2 3 4 5

D 13	Do you have any questions or comments?	…… …… …… …… ……	

Thank you for your time

Appendix 2: Questionnaire - Chichewa Version

Questionnaire - Chichewa Version

*Mutu Wa Kafukufuku:*Zifukwa zimene zimapangitsa amai apakati amane ali ndi kachilombo ka HIV kutenga nawo mbali kapena ayi mupologalamu yoteteza mai kupatsira mwana kachilombo ka HIV pa chipatala cha Thyolo, Malawi

1. Nambala ya funso……..

2 .Dzina la wolembera …….....

3. Tsiku la mafunso……

Gawo A: Kumudziwa mzimai

No	Funso	Yankho	Code
A 1	Muli ndi zaka zingati?	……	
A 2	Muli pa banja?	Wokwatiwa…….. Wosakwatiwa……	1 2

		Wolekedwa……	3
		Tinapatukana……...	4
		Amuna anamwalira……...	5
A 3	Sukulu munalekera kalasi yanji?	Sindinaphunzire...…….	1
		Pulaimale……...	2
		Sekondale…….....	3
		koleji/univesite….....	4
A 4	Mumapemphera mpingo wanji?	C. C. A. P……....	1
		Roman Catholic……	2
		Assemblies of God……	3
		Living Waters……	4
		Apostolic faith……...	5
		Jehovah witness…….	6
		Zion……...	7
		Islam …….	8
		Ina. Tchulani……...	9
A 5	Mumagwira ntchito yanji?	Mai wa pa nyumba……	1
		Bizinezi…….……	2
		Mphunzitsi....……	3
		Namwino……..	4
		Sekilitale……	5
		Mlimi….…….....	6

		Ntchito za manja…..……..	7
		Zina. Tchulani..…..……	8
A 6	Amuna anu amagwira ntchito yanji?	Bizinezi……..……	1
		Uphunzitsi..…….	2
		Ukalaliki……..	3
		Ulimi…..……..	4
		Tnchito za manja……..	5
		Zina. Tchulani…...……	6
A 7	Pobwera kuno ku sikelo munayenda pa chiyani?	Ndayenda pansi…….	1
		Ndakwera galimoto/basi……...	2
		Ndakwera njinga yakapalasa…….	3
		Zina. Tchulani..…..……	4
A 8	Mumatenga nthawi yayitali bwanji kuti mufike kuno ku sikelo?	Kuchepera ola limodzi…….....	1
		Ola limodzi mpaka maola anayi……	2
		Maola asanu kapena kuposera...……	3
A 9	Kusikelo kuno mwayenda maulendo angati?	Kamodzi……	1
		Kawiri…….....	2
		Katatu…….....	3
		Kanayi……...	4
		Kasanu kapena kuposera.....……..	5
A 10	Mimbayi ili ndi mwezi ingati?	Kuchepera mwezi itatu……..	1
		Mwezi itatu mpaka isanu ndi umodzi...	2
		mwezi isanu ndi iwiri kapena kuposera……...	3

A 11	Mwana womaliza munachilira kuti?	Kuchipatala……..……	1
		Pakhomo…..…….	2
		Kwa a zamba ……...…….	3
		Panjira yopita kuchipatala……...	4
		Not applicable……	5 go to section B
A 12	Chifukwa chiyani munachilira kumeneko?	Kuti andithandize achipatala…….	1
		Kusunga moyo wanga……..	2
		Kuti ndi teteze mwana ku kachilombo	3
		Achipatala ndi achikondi……..	4
		Achipatala ndi wopanda chikondi….....	5
		Kuchipatala ndi kutali……...	6
		Panalibe transipoti…..……	7
		Nthawi inali itatha……...…..	8
		Azamba amathandiza mwachikondi	9

Gawo B: zimene amai apakati amadziwa zokhuza mai amene ali ndi kachilombo ka HIV kupatsira mwana wake ndi kupewa kwake.

No	Funso	Yankho	Code	Skip to
B 1	Munayezetsa liti magazi kuti mudziwe ngati muli ndi kachilombo ka HIV kapena ayi?	Ndisanatenge mimba ino…..	1	
		Ndili kale ndi mimba ino.....	2	
B 2	Kodi munamvapo zakuti mai angathe kupatsira	Eya……	1	

→

	mwana wake kachilombo ka HIV?	Ayi…….	2	B5
B 3	Munamva kwa ndani nkhani imeneyi?	Anamwino……	1	
		Adokotala…….	2	
		Adokotala a za umoyo……..	3	
		Amuna anga……..	4	
		Anzanga..……	5	
		Abale anga…….	6	
		Aku tchalitchi……	7	
		Ena. Tchulani……	8	
B 4	Kodi mai angapatsire mwana wake kachilombo ka HIV nthawi iti?	Nthawi imene ali ndi pakati	1	
		Pobereka……	2	
		Poyamwitsa……...	3	
B 5	Kodi munamvapo za pologalamu yoteteza mai amene ali ndi HIV kupatsira mwana wake?	Eya.....	1	
		Ayi.....	2 →	**7**
B 6	Munamva kwa ndani?	Anamwino…….	1	
		Adokotala …….	2	
		Adokotala a za umoyo……..	3	
		Amunaanga……	4	
		Anzanga……	5	
		Abale anga……..	6	
		Pa wailesi……..	7	
		Ku tchalitchi…….	8	
		Ndinawerenga mu nyuzi	9	

		Kwina. Tchulani…….	10	
B 7	Kodi mai amene ali ndi kachilombo ka HIV angapewe bwanji kupatsira mwana ka chilombo ka HIV?	Pochilira ku chipatala……. Poyamwitsa mwakathithi kwa mwezi isanu ndi umodzi Posayamwitsa……..... Pakumwa mankhwala...……	1 2 3 4	

Gawo C: zifukwa zokhudza mayi wapakati zimene zimampangitsa kutenga nawo mbali kapena ayi1 mu pologalamu yoteteza mai amene ali ndi kachilombo ka HIV kupatsira mwana wake.

No	Funso	Yankho	Code	Skip to
C 1	Chifukwa chiyani munatenga nawo gawo mu pologalamu yoteteza mai amene ali ndi kachilombo ka HIV kupatsira mwana wake?	Nkhani ya edzi ndi HIV…….…. Nkhani ya mai kupatsira mwana wake HIV Nkhani yoteteza mai kupatsira mwana wake HIV…… Kupezeka kwa mankhwala…… woteteza. Mwai wolandira uphungu…….. Mwai wolandira zakudya……	1 2 3 4 5 6	
C 2	Kodi munapempha kwa aliyense musanatenge nao gawo mu pologalamu yoteteza mai amene ali ndi kachilombo ka HIV kupatsira mwana wake?	Eya……. Ayi……...	1 2 →	C 5
C 3	Munapempha kwa ndani?	Amunanga…..…… .	1	

		Achimwene…….……	2	
		Chemwali…..……..	3	
		Amalume……	4	
		Bambo anga…..…….	5	
		Mai anga……..……	6	
		Anzanga……...……	7	
		Abale anga……...	8	
		A ku tchalitchi…….	9	
		Sindinapemphe kwa ali yense….	10 →	C5
		Kwina. Tchulani……..……		
C 4	Chifukwa chiyani munapempha kwa amenewo?	Kuti athandize maganizo	1	
		Kuopa kusiidwa ukawti	2	
		Kusonyeza ulemu	3	
		Pachikhalidwe chathu	4	
C 5	Kodi munatsanzika kwa amuna anu kuti lero mukubwera ku sikelo?	Eya……...	1	
		Ayi……...……	2	
C 6	Mukauza ndani zotsatira zakuyezetsa kwa magazi anu (Kwa amene ayezetsa lero)	Amunaanga…..…… .	1	
		Achimwene…….……	2	
		Chemwali…..……..	3	
		Amalume……	4	
		Bambo anga…..…….	5	
		Mai anga……..……	7	
		Anzanga……...……	7	
		Abale anga……...	8	
		A ku tchalitchi…….	9	

		Sindikauza wina ali yense……..	10 →	C 8
		Kwina. Tchulani……..……	11	
		Not applicable……..	12	
C 7	Chifukwa chiyani mukawauze amenenewo? (Kwa amene ayezetsa lero) (Circle all that apply)	Ndikapeze chithandizo……..	1	
		Kusonyeza ulemu……	2	
		Pachikhalidwe chathu…….	3	
C 8	Chifukwa chiyani simukauza wina aliyense? (Kwa amene ayezetsa lero) (Circle all that apply)	Kuopa kundinena…….	1	
		Kuopa kundisiiya…….	2	
		Kuopa kundisala …….	3	
		Not applicable.....	4	

C 9	Munauza ndani zotsatira za keyezetsa magazi anu? (Ngati munayezetsa kale)	Amunanga…..…… . Achimwene…….…… Chemwali…..…….. Amalume…… Bambo anga…..……. Mai anga……..…… Anzanga……...…… Abale anga……... A ku tchalitchi……. Sindikauza wina ali yense……... Kwina. Tchulani……..…… Not applicable…….	1 2 3 4 5 6 7 8 9 10 → C 11 11 12	
C 10	Chifukwa chiyani munauza zotsatira zoyezetsa magazi anu amenewa? (Ngati munayezetsa kale)	Ndikapeze chithandizo…….. Kusonyeza ulemu…… Pachikhalidwe chathu……. Not applicable…….	1 2 3 4	
C 11	Chifukwa chiyani simunauze wina aliyense zotsatira zakuyeza magazi anu? (Ngati munayezetsa kale)	Kuopa kundinena……. Kuopa kundisiiya……. Kuopa kundisala ……. Not applicable…….	1 2 3 4	
C 12	Kodi zotsatira za magazi anu amuna anu anazilandira bwanji? (Ngati munayezetsa kale)	Anavomereza..... Anandisiya ukwati..... Sindinawauze..... Not applicable…….	1 2 3 4	

C 13	Kodi zotsatira za magazi anu amuna anu akazilandira bwanji? (Kwa amene ayezetsa lero)	Akazivomereza…… Akandisiya ukwati……... Sindikudziwa…….. Not applicable…….	1 2 3 4	
C 14	Kodi mukudziwa ngati amuna anu ali ndi kachilombo ka HIV kapena ayi?	Eya……. Ayi……...	1 2	

Gawo D: zifukwa zokhudzana ndi chipatala zimene zimapangitsa mai wa pakati amene ali ndi kachilombo ka HIV kutenga nawo mbali mu pologalamu yoteteza mai amene ali ndi kachilombo ka HIV kupatsira mwana wake.

No	Funso	Yankho	Code
D 1	Kuno ku sikelo, chithandizo chimaperekedwa munthawi yake.	Nthawi zonse....…… Nthawi zambiri….…… Nthawi zina…..……. Sizichitika..…… Sindikudziwa……	1 2 3 4 5
D 2	Ogwira ntchito ku sikelo kuno alipo okwanira.	Nthawi zonse....…… Nthawi zambiri….…… Nthawi zina…..……. Sizichitika..…… Sindikudziwa……	1 2 3 4 5
D 3	Kuno ku sikelo ogwira ntchito amalemekeza onse olandira thandizo	Nthawi zonse....…… Nthawi zambiri….…… Nthawi zina…..…….	1 2 3

		Sizichitika..……	4
		Sindikudziwa…….	5
D 4	Aphungu ndi onse ogwira ncthito kuno ku sikelo ndiansangala.	Nthawi zonse....……	1
		Nthawi zambiri…..……	2
		Nthiwi zina……..……	3
		Sizichitika..……	4
		Sindikudziwa……	5
D 5	Malo ogwirira ntchito kuno ku sikelo ndi woduka mphepo.	Ndikuvomereza kwambiri…	1
		Ndikuvomereza……	2
		Sindinaganizire……	3
		Sindikugwirizana nazo.....	4
		Sindikugwirizana nazo kwambiri	5
D 6	Malo a sikelo ndi wosangalatsa komanso abwino kukhalapo.	Ndikuvomereza kwambiri…	1
		Ndikuvomereza……	2
		Sindinaganizire……	3
		Sindikugwirizana nazo.....	4
		Sindikugwirizana nazo kwambiri	5
D 7	Ogwira nchito kuno ku sikelo amasunga chisinsi cha zotsatira za kuyezedwa magazi a wina ali yense.	Ndikuvomereza kwambiri…	1
		Ndikuvomereza……	2
		Sindinaganizire……\	3
		Sindikugwirizana nazo.....	4
		Sindikugwirizana nazo kwambiri.....	5
D 8	Kuno ku sikelo amai adzionedwa ndi madokotala achikazi okha.	Ndikuvomereza……	1

		Sindikugwirizana nazo …….	2
		Sindinaganizire……	3
D 9	Ogwira ntchito kuno ku sikelo sakonda kuona amuna	Ndikuvomereza……	1
		Sindikugwirizana nazo……	2
		Sindinaganizire……	3
D 10	PMTCT pologalamu yapanga zochepa kukopa amuna	Ndikuvomereza kwambiri…	1
		Ndikuvomereza……	2
		Sindinaganizire……	3
		Sindikugwirizana nazo.....	4
		Sindikugwirizana nazo kwambiri.....	5
D 11	Ku sikelo kuno adzitsegulanso kumapeto kwa sabata kuti amuna adzitha kubwera kudzalandila ndandizo.	Ndikuvomereza kwambiri…	1
		Ndikuvomereza……	2
		Sindinaganizire……	3
		Sindikugwirizana nazo.....	4
		Sindikugwirizana nazo kwambiri.....	5
D 12	Sikelo ili kutali ndi kwathu ndipo ndikovuta kufika.	Ndikuvomereza kwambiri…	1
		Ndikuvomereza……	2
		Sindinaganizire……	3
		Sindikugwirizana nazo.....	4
		Sindikugwirizana nazo kwambiri	5
D 13	Kodi muli ndi mafunso kapena	....	

	ndemanga?	....	

Zikomo kwambiri chifukwa cha nthawi yanu.

Appendix 3: Consent Form - English Version

Consent Form - English Version.

Research Title

Factors Associated with HIV+ Pregnant Women's Participation in PMTCT Program of HIV at Thyolo District Hospital, Malawi

Aim of the Study

The aim of the study is to identify factors that influence HIV positive pregnant women to participate in PMTCT of HIV program at Thyolo District Hospital.

Benefits of the Study

The study will identify factors that influence HIV positive pregnant women to participate in PMTCT of HIV Programs. Though you will not directly benefit from this study, knowing these will help to find strategies of increasing HIV positive pregnant women's participation in PMTCT of HIV program thereby preventing spread of HIV infection.

Conditions for Participation

You are requested to participate in this study. Please note that your participation is on voluntary basis. You will not be penalized in any way if you do not participate in this study and no risks are associated with the study. If you consent to the study, you will be asked few questions about yourself and PMTCT of HIV program and all information given by you will be kept as a secret. Only those involved in this study will access it. Feel free not to answer some questions or withdraw from the study anytime you wish. No names will be put on the questionnaire and privacy and confidentiality will be maintained.

Contact Persons

If you have any questions or queries concerning the study, please don't hesitate to call the Researcher, Mrs. Serra Chanachi who is a post graduate student at Kamuzu College of Nursing on 0888875679 or her Supervisors: Mrs. M. Mbeba on 0888895764 and Mr. M. Ngwale on 0888827625.

Statement of Participation

I have been given an explanation about the study and I agree to participate in this study. (Please sign in the space provided below to show that you have agreed to participate in the study).

Name of respondent……Signature……Date……...

Name of data collector…….Signature…….....Date…….

Appendix 4: Consent Form - Chichewa Version

Consent Form - Chichewa Version.

Mutu Wa Kafukufuku

Zifukwa Zimene Zimapangitsa Amai Apakati Amane Ali Ndi Kachilombo Ka Hiv Kutenga Nawo Mbali Kapena Ayi Mupologalamu Yoteteza Mai Kupatsira Mwana Wake Kachilombo Ka HIV Pa Chipatala Cha Thyolo

Cholinga cha Kafukufuku

Cholinga cha kafukufuku ameneyu ndikudziwa zifukwa zimene zimapangitsa amai apakati amene ali ndi kachilombo ka HIV kutenga nao mbali kapena ayi mu pologalamu yoteteza kupatsira mwana kachilombo ka HIV.

Phindu la Kafukufuku

Zotsatira za kafukufuku ameneyu zidzathandiza boma kupeza njira zoyenera kuthandiza amai amene ali ndi kachilombo ka HIV kutenga nawo mbali mu pologalamu yoteteza kupatsira mwana ka chilombo ka HIV. Ngakhale kuti inu simuona phindu lenileni, zimenezi zidzathandiza kupewa kufala kwa ka chilombo ka HIV.

Ndondomeko Ya Kafukufuku

Kafukufukuyu ndi wosakakamiza ndipo muli ndiufulu kulowa nao kapena ayi. Palibe choopsya chili chonse chomwe chingakuonekereni chifukwa chosalowa kafukufukuyu. Mukupemphedwa kutenga nawo mbali poyankha mafunso amene mufunsidwe. Mukavomereza ketenga nawo mbali mukafukufukuyu, zokambirana zathu zidzasungidwa mwa chisinsi. Muli ndiufulu kuyankha mafunso ena kapena ayi ndipo mukhoza kusintha maganizo otenga nao mbali nthawi ili yonse popanda chovuta china chiri chonse. Pa chikalata cha kafukufukuyu sichidzalembedwa dzina lanu ndipo zikalata zidzasungidwa malo obisika ndipo zidzaonongedwa pomaliza pakafukufukuyu.

Ngati Muli ndi Mafunso

Ngati muli ndi mafunso kapena mavuto ena okhudzana ndi kafukufukuyu mukhoza kuimba telefoni kwa Mai Serra Chanachi omwe ndi wophunzira ku sukulu ya ukachenjede ya Kamuzu College of Nursing ku Blantyre pa nambala iyi: 0888875679 kapena kwa aphunzitsi awo mai M. Mbeba pa nambala iyi: 0888895764 kapena bambo M. Ngwale pa nambala iyi: 0888827625.

Kuvomereza

Ndauzidwa mwatsatane-tsatane zokhudzana ndi kafukufuku ameneyu ndipo ine ndikuvomera kutenga nao mbali mukafukufuku ameneyu. (Sainani kapena dindani ndi chala cha manja chachikulu pamzere woyenerela kusonyeza kuti mwalola kutenga nawo mbali mukafukufukuyu).

Dzina lanu……..……..Signature.…….Tsiku…….

Dzina la wolembera……Signature……..Tsiku…….....

APPENDIX 5

Letter of Approval from College Of Medicine Research and Ethics Committee

UNIVERSITY OF MALAWI

Principal
Prof. R.L. Broadhead, MBBS, FRCP, FRCPCH, DCH

Our Ref.:
Your Ref.: P.11/09/841

College of Medicine
Private Bag 360
Chichiri
Blantyre 3
Malawi
Telephone: 01 877 346
01 877 291
Fax: 01 874 700
Telex: 43744

5th February 2010

Mrs Serra Chanachi
Kamuzu College of Nursing
Blantyre Campus
Blantyre 3

Dear Mrs Chanachi,

P.11/09/841 – Factors Influencing Participation of PMTCT Program by HIV Positive Pregnant Women at Kasungu District Hospital

I write to inform you that COMREC reviewed your proposal which you resubmitted for expedited review. I am pleased to inform you that your proposal was approved on 4th February 2010 after considering that you addressed all the queries which were raised during the previous review.

As you proceed with the implementation of your study I would like you to take note that all requirements by the college are followed as indicated on the attached page.

Yours sincerely,

Approved by
College of Medicine
05 FEB 2010
(COMREC)
Research and Ethics Committee

Dr. S. Kamiza
For: CHAIRMAN – COMREC.

SK/ck

APPENDIX 6

Letter of Approval from the Director, Queen Elizabeth Central Hospital

Telephone: (265) 01 874 333 / 677 333
Facsimile: (265) 01 876928
Email: queenshosp@globemw.net

All communications should be addressed to:
The Hospital Director

In reply please quote **No.**

QUEEN ELIZABETH CENTRAL HOSPITAL
P.O. BOX 95
BLANTYRE
MALAWI

16th November 2009

Serra Chanachi
Kamuzu College of Nursing
P.O. Box 415
BLANTYRE

Dear Sir,

PERMISSION TO USE QECH AS A PILOT SITE FOR STUDY

With reference to your letter dated 11th February 2010 in which you requested for permission to conduct a pilot study on " **factors influencing participation in PMTCT program by HIV positive pregnant women at the Antenatal clinic"** I would like to inform you that we have no objection for you to conduct the mentioned activity.

All the best in your studies.

Yours faithfully,

Dr A. Gonani
HOSPITAL DIRECTOR

APPENDIX 7

Letter of Approval from the District Health Officer, Thyolo District Hospital

Telephone: + 265 1 473 411
Facsimile: + 265 1 473 409

All Communications should be addressed to:
The District Health Officer

In reply please quote No. TDH/PF/
Ministry of Health,
Thyolo District Hospital,
P.O. Box 21,
Thyolo.

24th August, 2010

The Principal,
Kamuzu College of Nursing
P.O. B0x ,
Lilongwe 3

Copy : Mrs Serra Chanache

RE: REQUEST TO CONDUCT RESEARCH ON THE FACTORS INFLUENCING PARTICIPATION IN PMTCT PROGRAM BY HIV POSITIVE WOMEN

I write to inform you that your request to allow Mrs Serra Chanache to carry out a research on "factors influencing participation in PMTCT program by HIV positive women by District Health Managers in Thyolo Hospital" has been approved.

Please, take note that this office must be updated on the findings from the study once completed and a copy of the report be submitted for our action.

Regards.

Dr A. Likaka
DISTRICT HEALTH OFFICER