

# **MIDLANDS STATE UNIVERSITY**



## **FACULTY OF ARTS**

### **DEPARTMENT OF DEVELOPMENT STUDIES**

**An Evaluation of Zimbabwe`s Prevention of Mother-to-Child Transmission  
(PMTCT) Programme to Reduce the Infant Mortality Rate:**

**A Case Study of Chitungwiza**

**By**

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**DECLARATION**

I, Kudakwashe Elliot Chihota, declare that the dissertation hereby submitted for the Bachelor of Arts in Development Studies Honours Degree at the Midlands State University is my work and has not been previously submitted to another University.

Signature.....

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Place: Midlands State University

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## **DEDICATION**

This dissertation is dedicated to my mother Jane Chihota, my brothers Simbabrashe and Epmore and my sisters Mutsa and Eubettina. Thank you for your unwavering moral support.

## **ACRONYMS**

**AIDS** – Acquired Immune Deficiency Syndrome

**ANC** – Antenatal Clinic

**ART** – Anti Retroviral Treatment

**CCH** – Chitungwiza Central Hospital

**HIV** – Human Immunodeficiency Virus

**MOHCC** – Ministry of Health and Child Care

**MOHCW** – Ministry of Health and Child welfare

**MTCT** – Mother-to-Child Transmission

**OIC** – Opportunistic Infections Clinic

**PMTCT** – Prevention of Mother-to-Child Transmission

**TB** - Tuberculosis

**VCT** – Voluntary Counselling and Testing

**VMMC** – Voluntary Medical Male Circumcision

**WHO** – World Health Organisation

## **ABSTRACT**

*The focus of this research was on exploring the role of the PMTCT Programme in the reduction of the infant mortality rate with particular reference to Chitungwiza in Zimbabwe. HIV/AIDS is a global concern that calls for utmost attention from development practitioners. Mother-to-child transmission (MTCT) of HIV is the most common route of infection in paediatric HIV acquisition. It contributes more than 90% of paediatric HIV infections. Widespread ignorance of the PMTCT Programme has contributed to the spread of HIV affecting the health service delivery in Chitungwiza and other parts of the country. The descriptive research design was used in order to depict the situation in the selected area of study (Chitungwiza) in terms of the infant infection of HIV. An explanatory research design was also applied during the research in order to explain the PMTCT programme, as regards its contribution in promoting maternal health. The study population comprised participants who were pregnant women attending the Ante-Natal Clinic (ANC). Hospital staff as well as hospital reports and records were also important sources of information. The researcher employed interviews as a data collection instrument. On the basis of the interview responses, the researcher established that, indeed, low male participation, their attitude as well as lack of knowledge have been the main factors hampering the effectiveness of the PMTCT Programme. In light of this, the researcher took special note of the views from key respondents and proposed recommendations for a more successful PMTCT Programme to fully deliver the intended results.*

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## **INTRODUCTION**

The purpose of this study is to evaluate Zimbabwe's PMTCT programme to reduce Zimbabwe's infant mortality rate, particularly in Chitungwiza. The HIV and AIDS epidemic is not just a public health concern, but a major socio-economic problem in Zimbabwe as it is in other parts of the world, particularly in Africa South of the Sahara. In 2010, about 390 000 children were newly infected with HIV globally, 90% from sub-Saharan Africa (WHO 2011). Over 90% of HIV infections in children below 15 years are due to mother-to-child transmission (MTCT) (WHO 2010). MTCT refers to HIV infection transmitted from an HIV infected mother to her offspring during pregnancy, delivery or breastfeeding (WHO 2010). The risk of mother-to-child transmission of HIV without any intervention is estimated to be 5-10% during pregnancy, 10-20% during delivery, and 10-20% during breastfeeding (De Cock et al 2000). In response, a number of interventions have been initiated to reduce this transmission, often under the umbrella of "Prevention of Mother-to-Child Transmission of HIV (PMTCT)" programmes.

Since the adoption of the PMTCT programme by Zimbabwe, particularly in Chitungwiza, there has been considerable success; hence, the researcher seeks to examine the degree of effectiveness of the programme to reduce infant mortality in the area as well as proffer possible solutions and recommendations where there are limitations. This will be achieved through the assessment of the PMTCT programme at health institutions in Chitungwiza, and examination of the factors that militate against the achievement of the expected results of the programme. It is, therefore, important that knowledge and attitudes of women regarding mother-to-child transmission (MTCT) are explored to reduce the high infant mortality rate and to develop preventive programmes on HIV.

## **Background to the Study**

### ***HIV/AIDS***

AIDS is a collection of disease conditions which develop because of deficiencies in the body's immune system. AIDS is caused by a retrovirus, the Human Immunodeficiency Virus (HIV). The virus is transmitted mainly from human to human through sexual intercourse, use of contaminated needles and other sharp instruments, blood and blood transfusions as well as trans-placental or trans-vaginal routes, breast milk or other direct contact with infected human bodily fluids (Adler 2000). AIDS is a late-stage of HIV infection with severe immuno-suppression, in which the numbers and functions of T-lymphocytes are reduced. When HIV infection progresses to illness, the symptoms are usually due to failure of the immune system to resist other infectious diseases called opportunistic infections (OI's) (NACP 2004)

Incubation period for HIV infection is approximately one to three months, this being from the time of infection to the time that antibodies can be detected in the laboratory (Adler 2000). After transmission of HIV, a person does not immediately develop AIDS. Often there is a lengthy period from infection with HIV, to development of AIDS that may last about five to ten years or even longer. The average time from infection with HIV to development of AIDS without Antiretroviral (ARVs) is estimated to be about eight years. For most of this period, the person may not have any symptoms and, therefore may not be aware that he or she is infected. This contributes to the spread of HIV, since the person can transmit the infection to others without realizing it. A variety of opportunistic infections result in death unless the replication of the virus is slowed by drugs that can suppress it (antiretroviral therapy). Opportunistic infections include

tuberculosis (TB), recurrent bacterial pneumonia or sepsis, oropharyngeal candidiasis, chronic diarrhoea, chronic skin infections, and recurrent herpes zoster among others.

The Acquired Immune Deficiency Syndrome (AIDS) epidemic is the greatest challenge to humankind in the 21st century. AIDS was first recognized in 1981 and is caused by the human immunodeficiency virus (HIV) which was isolated in USA by the end of 1983. There are two types, namely HIV-1 and HIV-2. HIV-1 is more common, infects people worldwide and causes AIDS. HIV-2, though less aggressive and found mainly in West Africa causes similar illnesses. Human immunodeficiency virus (HIV) infections and acquired immunodeficiency syndrome (AIDS) have escalated to alarming proportions worldwide. HIV/AIDS has claimed millions of lives, inflicting pain and grief, causing fear and uncertainty and threatening the economies of severely affected nations. According to UNAIDS (2003), there were 40 million adults and children living with HIV/AIDS worldwide and 5 million people were newly infected with HIV worldwide. Approximately 70% of the world's population infected with HIV lives in sub-Saharan Africa (Department of Health, 2007). According to WHO (2000), since the start of the epidemic, over 12.2 million women worldwide have been infected with HIV and women account for 42% of the 30.6 million adults now living with the disease

The magnitude of the pandemic of human immunodeficiency virus (HIV) infection in developing countries is such that multiple approaches are required to show its spread and alleviate the burden on the health sector and society in general (Quinn 1996). Primary prevention of HIV transmission remains a key component of HIV/AIDS programmes, and should be led by Governments and development partners (e g UNAIDS, World Bank 1997). Women of child-bearing age constitute nearly half of the over 40million adults currently living with HIV/AIDS world-wide (UNAIDS 2000) Mother-to-child -transmission (MTCT), restricted here to vertical

transmission of HIV during pregnancy, delivery and the breast feeding period, is the major mode of acquisition of infection for young children, with an estimated 1600 of the 16,000 new infections each day, mostly in developing countries (UNAIDS 2000). The increasing number of infected women and children has implications for both organization of equitable and sustainable health care and the prevention of vertical transmission. In 2009, around 400,000 children below 15yrs became infected with HIV (UNAIDS 2010). Almost all of MTCT infections occurred in Sub Saharan Africa, and more than 90% are as a result of mother-to-child transmission (MTCT) during pregnancy, labour/delivery and breastfeeding. Transmission during pregnancy is about 5 – 10%, during labour and delivery is 10 – 20% and during breastfeeding is 10 – 15% (Dabis 1995). Without interventions, there is a 20-45% chance that a baby born to an HIV-infected mother will become infected (De Cock et al 2000). The Sub Saharan region is home to 60 per cent of all the children and 60 per cent of all pregnant women living with HIV in the world. The failure to protect women from HIV infections is mirrored in the high rate of infant infections in the region. For some countries in the region such as Botswana and South Africa HIV/AIDS is estimated to now account for more than 50% of child deaths (Walker 2002).

In 2015, around 600,000 children under 5 years of age became infected with HIV worldwide, mainly through MTCT (UNAIDS 2015). About 90% of these MTCT infections occurred in Africa where AIDS is beginning to reverse decades of steady progress in child survival (Kanabus & Noble 2008:1). By the end of 2015, an estimated 36 700 000 [34 000 000 - 39 800 000] people were living with HIV, of whom 1 800 000 [1 500 000 - 2 000 000] were children. An estimated 2 100 000 [1 800 000 - 2 400 000] people were newly infected in 2015, and 1 100 000 [940 000 - 1 300 000] died from AIDS<sup>1</sup> (UNAIDS 2015). Two thirds of all people with HIV live in sub-Saharan Africa. Globally, an estimated 150 000 [110 000 - 190 000] children were newly

infected with HIV in 2015, mainly through mother-to-child transmission (MTCT) during pregnancy, labour/delivery and breastfeeding. Without treatment, one out of two infected infants will die before age of two (UNAIDS 2003).

HIV/AIDS represents one of the major health and social challenges facing Zimbabwe today. One out of every eleven Zimbabwean children dies each year before their fifth birthday (approximately 35 500 children per year). With an under-5 mortality rate estimated at 86 per 1,000 live births (MIMS 2009), Zimbabwe ranks within the top 50 countries in the world for high early childhood mortality. Over 65% of these deaths occur within the first year of life, as inferred from an infant mortality of 60 per 1,000 live births (MIMS, 2009). Within the first month, 24 neonates out of 1,000 live births die each year. This represents about 40% of the infant mortality and 28% of the under-5 mortality

### **Statement of the Problem**

MTCT of HIV is an overwhelming source of HIV infections in young children and is also the cause of high infant mortality rates. It is estimated that 20% - 30% of women attending prenatal care in Zimbabwe are HIV-positive. In the absence of intense prevention of MTCT, probably 25% -35% of babies born to HIV-positive mothers will be infected. The proper management of pregnant mothers can save a third of the babies during prenatal care, labour and the puerperal care. Chitungwiza, like all the towns in Zimbabwe, needs to reduce the incidence of MTCT

According to the MOHCW (2008) in 2007, in Zimbabwe, a total of 166794 pregnant women delivered in health facilities around the country. Of the women who booked at the country's antenatal clinics 150,692 (92%) pregnant women were counselled before being tested for HIV and 108,176 (72%) of those counselled consented to an HIV test; of these, 19,578 (18%) were

HIV positive. Of the HIV positive, 11,803 pregnant women were supplied with single dose Nevirapine (which was 60% of those who were HIV infected). A total of 7,775 pregnant HIV-infected women did not go through the programme which leaves their infants exposed to HIV infection leading to high infant mortality. Continued HIV infection in these families will lead to high HIV prevalence and high maternal mortality due to high HIV infection. Only 11,780 (60%) of infants with HIV-positive mothers received nevirapine within 72 hours of delivery. Twenty three babies from HIV positive mothers did not receive the nevirapine for prophylaxis - thus exposing them to seroconversion leading to a real HIV infection (MOHCW 2008). Such babies do not grow to witness their 5<sup>th</sup> birthday raising the infant mortality rate. It is therefore important that knowledge and attitudes of women regarding MTCT of HIV infection should be changed to reduce the high infant mortality rate and the incidence of MTCT of HIV infections.

## **Theoretical Framework**

### **Infant mortality in theoretical perspective**

#### ***Economic modernization perspective***

From neo-classical economic contentions that scarce goods are most efficiently distributed through markets, economic modernization theory emphasizes internal or intra-national financial factors in its analysis of development processes (Rostow, 1990). Economic modernization theory views development as bridging the gap between developed nations and developing countries through an imitative process. From this perspective, economic growth is viewed as the driving force behind development within countries. Economic development fosters greater levels of industrialization and urbanization. Increases in industrialization and urbanization tend to generate a higher standard of living and greater access to advanced medical technology that

should decrease infant mortality (Rostow, 1990). Several prior cross-national studies have modelled and found support for the inverse relationship between economic modernization predictors such as the level of development and infant mortality (Shen & Williamson, 2001; Frey & Field, 2000; Firebaugh & Beck, 1994; Lena & London, 1993).

### ***Social modernization perspective***

Another strand of modernization theory stresses the role education plays as an intra-national factor in the development process within a country. Increasing education levels in a developing country results in higher earnings in the wage labour market, which generally translates into increases in economic growth (Bellew & Raney, 1992). Economic expansion, in turn, augments levels of industrialization, which often yields a higher standard of living and greater access to advanced medical technology. As noted previously, increases in standards of living and technological advancement may decrease infant mortality throughout the developing world (Rostow, 1990). The results of several prior studies support the hypothesis that education helps to reduce infant mortality in developing nations (Frey & Field, 2000; Lena & London, 1993). Decreases in infant mortality may also be connected to the education of women via fertility reductions (Caldwell 1982). In addition, better educated mothers will be more knowledgeable about health and safety risks as well as nutrition, all of which improve the health of children and reduce infant mortality.

### ***Political modernization perspective***

No examination of the modernization perspective is complete without consideration of certain non-economic dimensions such as political factors (McAdam, Tarrow, & Tilly, 2001; Ryan,



1991; Bollen, 1983). The level of political democracy influences the level of infant mortality in developing countries. In particular, some scholars suggest that democracies in the developing world are more likely to be responsive to public opinion, social movements and special interest groups concerned with health-related issues like infant mortality, while non-democracies tend to respond more to partisan interests not associated in such health outcomes, for example.

Another aspect of political modernization theory that deserves attention is the state's relationship with the economy (Crenshaw & Jenkins, 1996; Bradshaw & Tshandu, 1990; Moon & Dixon, 1985). While political modernization scholars disagree about the effect of government spending on infant mortality, neo-classical economic scholars hypothesize an inverse relationship between state spending and infant mortality. According to neo-classical economic theory, any increase in state size, as measured by either government spending or revenues, is undertaken at the expense of the private sector. State size impedes economic growth and lowers the standard of living in a developing country (Friedman & Friedman, 1980). Lower standards of living are often associated with higher infant mortality rates as there is limited access to health care and other basic social services. In this view, increased government spending should be associated with lower levels of infant mortality as money is invested in health, education, and other social services. A few studies support the hypothesis that government spending tends to lower infant mortality (Wimberley, 1990; Hill & Pebley, 1989).

### *Dependency perspective*

According to dependency theory, the capitalist world system perpetuates a global division of labour that distorts the domestic economies of many developing nations, reduces the rate of

economic growth, increases income inequality, and adversely affects the well-being of a substantial portion of the population (Gereffi, 1989; Wallerstein, 1974; Frank, 1967). Dependency theorists argue that trade dependency has widened the gap between core and peripheral countries because the exchange of raw materials for processed goods is inherently unequal and prices for primary goods have experienced long-term decline relative to prices for processed goods (Frank, 1967). As a result, the state's ability to raise revenues is weakened and the resulting lack of revenues affects the funding of health and other basic social service programs. Without the availability of such programs, infant mortality is likely to increase. Many past studies have found the hypothesized, harmful effects of trade dependence on infant mortality.

## **Conceptual Framework**

### ***Infant mortality rate***

Infant mortality rate is defined as the death of an infant before his or her first birthday. It is a useful indicator on the nation's health because it is often associated with other health factors such as maternal health, quality and accessibility of medical care, and socioeconomic conditions. The leading causes of infant mortality are HIV/AIDS and sepsis asphyxia pneumonia, among others. Other causes and factors that contribute to infant mortality are prenatal care. The infant mortality rate can also be defined as the number of new-borns dying under a year divided by the number of live births during a year. It is often referred to as the "infant death rate". The infant mortality rate has dropped significantly in the West due to –long-term healthcare and sanitary improvements as

well as high technology medical advances, but remains high in Sub-Saharan Africa. The infant mortality rate is commonly included as one of the standard of living indicators in economics.

### ***Prevention of Mother-to-Child Transmission of HIV (PMTCT)***

PMTCT refers to preventative interventions aimed at reducing the chances of transmission of HIV from an infected mother to her baby. In this study, PMTCT includes the following core interventions: voluntary counselling and testing (VCT) of pregnant women in an antenatal setting; the use of prophylactic antiretroviral drugs during pregnancy or in the immediate postnatal period; and counselling on adoption of appropriate infant feeding options (De Cock et al 2000). PMTCT is a key strategy to prevent HIV infection in children and has been discussed in many fora as a public health priority (MOHCW, 2006). HIV transmission in children through MTCT accounts for 7% of the HIV infection in children. The MOHCW has shown its commitment to contributing towards an HIV- and AIDS-free generation through the introduction of PMTCT interventions (MOHCW, 2006). Prevention of HIV infections in children remains a priority in Zimbabwe to target reduction of infant and child mortality rates. Many children die before their 5<sup>th</sup> birthday if they contract HIV at birth (Impact, 2007).

### **Research Objectives**

- To examine the concept of the PMTCT programme in Chitungwiza.
- To assess the impact of the PMTCT programme in effectively reducing the infant mortality rate in Chitungwiza.

- To proffer recommendations on enhancing the effectiveness of the PMTCT programme towards the reduction of infant mortality in Chitungwiza.

### **Research Questions**

- What are the concepts and components of an effective PMTCT programme?
- What are the impacts of the PMTCT programme on health service delivery in Chitungwiza?
- What are the strategies that can be adopted to reduce the infant mortality rate in Chitungwiza?

### **Significance of the Study**

The study covered the knowledge gap in Zimbabwe regarding its PMTCT programme enacted to reduce infant mortality among Zimbabweans. The research thus evaluated and examined the successes of the PMTCT programme towards the reduction of infant mortality in Chitungwiza. The study went further to examine the government's role in ensuring that the programme brings about the projected health benefits. More so, the research was built on the existing literature on the subject.

It is in hope that the study contributed in the development of programmes that increase knowledge and enhance behavioural changes among women with regard to MTCT of HIV infections in Chitungwiza. Professional nurses in hospitals and clinics also benefited from the

study as guidelines and recommendations pertaining to MTCT updated their knowledge and skills regarding this phenomenon.

In addition, the research also assisted other stakeholders and the government in their attempts to measure the reduction levels of infant mortality as a result of the implementation of the PMTCT programme. It also provided recommendations on the problems that had been identified which can assist the government of Zimbabwe in identifying impediments to successfully reducing infant mortality as a result of the PMTCT Programme.

## **Literature Review**

According to the MOHCW PMTCT Participant Manual (2007), globally, in 2007, an estimated 33.2 million people were living with HIV and 2.5 million were new HIV infections. HIV claimed 2.1 million lives the world over. In Sub Saharan Africa, 50% of the adults living with HIV are women, 370,000 children below the age of 15yrs were newly infected mainly through mother to child transmission, more than 90% of people living with HIV (PLWHs) are in the developing world (MOHCW, 2007). Of the 2.3 million children currently infected with HIV, most will die without treatment within the first 5 years of life, more than half before the age of two. Even children not infected by HIV are affected by the epidemic, where 15 million children have lost one or both parents to AIDS and these children are more likely to experience poverty, homelessness and early death. (Teasdale and Besser, 2008)

Without medical interventions, the risk of an HIV positive mother transmitting the virus to the infant in utero, during delivery or breastfeeding ranges from 25% to 48% (Teasdale and Besser,

2008). According to the Zimbabwe PMTCT and Paediatric HIV Prevention Treatment and Care National Plan (2006-2010) HIV /AIDS threatens the lives of children more than any other disease. Prevention of mother to child transmission is a key strategy to prevent HIV infection in children. (MOHCW, 2006). MOHCW has shown its commitment to contributing towards an HIV/AIDS free generation through the introduction of PMTCT intervention (MOHCW, 2006). Mother to child transmission accounts for 7% of the HIV infection (MOHCW, 2006).

One of the important breakthrough in the prevention of HIV/AIDS over the past decade has been the demonstration that use of antiretroviral drugs during pregnancy in HIV infected mothers can substantially lower the rate of mother to child transmission of HIV (MOHCW, 2007). Single dose nevirapine for prophylaxis was the recommended bare minimum (Teasdale and Besser, 2008).

PMTCT has been highlighted in the Zimbabwe HIV/AIDS Policy (1999) as one of the key strategies to fight the HIV epidemic. Government's commitment is further demonstrated in the integration of PMTCT intervention into the routine health delivery system. The core interventions for PMTCT now include routine offers of HIV testing and counselling to all pregnant women seeking attention at health institutions, family planning counselling and services to prevent unintended pregnancies among HIV positive women. ARV prophylaxis for HIV positive women in need of treatment as well as safe obstetrical practice and infant feeding education and counselling (MOHCW, 2007)

According to Zvitambo (2004) mother-to-child transmission is not only the primary cause of HIV and AIDS in children; it accounts for more than 10% of all new infections each year. The HIV prevalence in antenatal women is even higher than in everybody else (MOHCW 2007). Over the past five years, affordable and effective interventions for reducing MTCT and prolonging quality survival among infected infants and women in resource limited settings have become available (Zvitambo 2004). Zvitambo (2004) also noted that a critical requirement to success of these programmes will be increasing awareness of MTCT issues among men (husbands, partners, fathers) and gaining their involvement in and support of the process. Zvitambo also procures supplies and equipment needed for PMTCT services and provides ongoing monitoring and evaluation of PMTCT services delivered at each site in the supported districts.

An article published by Teasdale & Besser (2008) on enhancing PMTCT programmes through psychosocial support and empowerment of women: the mothers-2-mothers model of care stated that most peri-partum transmissions occur late in pregnancy and during labour roughly half in the days prior to delivery and 30% during active labour. Advanced maternal HIV disease (low CD4 cell count and high serum HIV viral load), HIV virus in genital fluid close to the time of birth, male sex of the infant and some types of genetically mediated immune responses in both mothers and children are all associated with increased risk of vertical transmission, says Teasdale & Besser (2008).

The introduction of the PMTCT strategy faces challenges such as limited human resources, low male participation in PMTCT, HIV testing and low disclosure of HIV status (WHO 2003). In Zimbabwe the challenges have been large numbers of people requiring prevention, treatment,

care and support services, critical human resources shortage at all levels of the health sector, a weakened health system to deliver services, including comprehensive PMTCT and paediatric care, treatment and support, due to economic challenges that the country is facing: weak laboratory back-up services for diagnosis and follow up of children, erratic drug supplies and logistic problems. Inadequate financial resources, including mothers failing to raise one United States dollar to purchase a tube for collecting the blood sample for testing (MOHCW, 2007).

In Botswana, where HIV prevalence is established at 22.2%, about 8 500 babies are infected each year without intervention (UNAIDS 2015). A study was conducted in two urban areas, Francistown and Gaborone involving pregnant women. The pregnant women were offered VCT as they booked or attended ANC. The results were that 4,197 women were counselled, 46 percent agreed to testing and AZT was administered to 56% of the HIV positive women and 92% of the new-borns. The pregnant women were counselled on infant feeding options and 67% chose not to breast-feed. (85% in Gaborone and 57% in Francistown) It was then concluded that acceptance of HIV testing was low. Possible reasons for low acceptance were fear of a positive result, stigmatisation, inadequate counselling and inadequate public information. (Rantona et al, 2000).

Efforts are really focused on increasing acceptance or raising uptake of PMTCT. The Botswana study revealed high prevalence of HIV infection, unlike the Rwanda study. In Rwanda, it is not clear whether the decision to participate in the PMTCT intervention was made by the health workers or it was a matter of clients understanding the risks and benefits of enrolling in the programme. One would expect the urban-based studies to yield higher acceptance rates because cultural influences are relatively less prevalent.



A more efficacious ARV prophylaxis for PMTCT has been introduced to strengthen the effectiveness of PMTCT. This comes in voluntary counselling and testing and the provider initiated testing and counselling (opt out) being offered to all pregnant women during antenatal care at booking or any other level of pregnancy (MOHCW,2007). Antiretroviral (ARV) medications for PMTCT can dramatically reduce the likelihood of an infant becoming infected with HIV during gestation and delivery (Teasdale & Besser, 2008). With the introduction of highly active antiretroviral (HAART) regimens during pregnancy and labour, vertical transmission of HIV has been largely eliminated in resource rich settings such as the United States of America and Western Europe (Teasdale & Besser, 2008). However, MTCT of HIV remains the predominant source of infection in children in resource-limited countries (Teasdale & Besser, 2008).

In South Africa, despite efforts to increase access to even the simplest ARV regimens, there are significant barriers in resource-limited settings, to implementation of effective public health PMTCT programmes. In low and middle-income countries less than 10% of women needing PMTCT services received them in 2006 while coverage is improving as national governments in many countries strive to implement PMTCT programmes. These continue to face obstacles from inadequate health care infrastructure including weak linkages between PMTCT services and HIV treatment programmes, overextended staff in health facilities and lack of stock of HIV test kits and ARVs. Along with health system challenges there are significant social barriers (including stigma) that prevent women from accepting HIV testing and treatment as well as the common practice of mixed infant feeding which contributes to poorer outcomes for babies. (Teasdale & Besser, 2008)

According to the PMTCT Annual Report (2006), the national PMTCT programme in Zimbabwe has, as its foundation, the WHO's four-pronged comprehensive approach to PMTCT. WHO's framework for a comprehensive approach to prevention of HIV infection in infants and young children includes: primary prevention of HIV infection in general, especially in young women and pregnant women; prevention of unintended pregnancy; reducing HIV transmission from infected women to their infants; and provision of care and support to HIV infected women, their infants and their families.

Assumptions are that clients would want to be involved in their care. This would significantly contribute to the reduction in maternal and child morbidity and mortality (Nikurawu, 1996). Nevirapine prophylaxis should not be an entry point to access treatment by expectant/lactating mothers. This would dispel the notion that women are simply viewed as receptacles to produce healthy children while ignoring the status of women as individuals in their own right with their own treatment needs that need to be respected.

An assessment of the PMTCT programme in Zimbabwe by MOHCW (2003) confirmed that the overwhelming majority of staff would themselves or would advise their daughters to test for HIV and join the programme if they were pregnant. The findings were that of the 27% of pregnant women who tested HIV positive, 50% collected their own results. This indicated that there is a problem because these results are meant to benefit both mother and the unborn baby. Individual pre-test counselling provides an opportunity to discuss the individual implications of knowing

one's HIV status. This includes discussion about the use of ARV drugs, for example nevirapine, infant feeding options, condom use during pregnancy and lactation and psychosocial support.

The PMTCT Programme's success was attributed to staff commitment and attitude, mostly community mobilisation and availability of test kits; well trained staff providing quality service; provincial support and prioritisation of the programme; and demand for PMTCT as a result of integration with other PHC services. Negative perceptions of the programme such as poor service quality, lack of access, bad attitude of health staff and lack of necessary resources can have a negative impact on the programme's success (Feldman et al, 2002). Feldman and colleagues also conducted a study and found that condoms were perceived as not for use in marriage but for prostitutes. This makes it difficult to protect the pregnant woman from reinfection in the home and might lead to programme failure (Feldman et al, 2002).

## **Research Methodology**

The section discusses the research design as well as methods that were used to obtain data. It outlines a detailed description of the research instruments, data sources and the sampling mechanisms that the researcher made use of. An explorative, descriptive, qualitative research design that is contextual was used. Non-probability purposive sampling was used to select the sample. Semi-structured in-depth interviews with a guide was also used. The research employed both qualitative methods of research. This therefore implies that data triangulation was embraced as appropriate. Qualitative research was used so as to deeply explore distinctions relating to the research. Data collection methods used in qualitative research include interviews and

observations. Qualitative research focused on quantifying the problem so as to understand its prevalence through the assessment of projectable results that can be extrapolated into the context of a greater portion of the population.

### ***Population***

Target population for the research was primarily determined by the research objectives of that particular study. The population consisted of all pregnant women between the ages 25 – 40 years of age who attended the Antenatal Clinic at Chitungwiza Central Hospital at the time of data collection.

### **Sampling technique**

The researcher used the non-probability sampling technique since it would provide adequate and reliable information in the study area. The targeted population was too large to be successfully examined, given the time frame and the budgetary constraints inherent in the research. Thus, the researcher used purposive sampling. According to Paul Oliver (2006;156) in the Sage Dictionary of Research Methods, purposive sampling is a form of non-probability sampling in which decisions concerning the individuals to be included in the sample are taken by the researcher, based upon a variety of criteria which may include specialist knowledge of the research issue, or capacity and willingness to participate in the research.

Purposive sampling was important for this study as it targeted the most knowledgeable people thus ensuring that quality data is gathered in each interview. Respondents were pregnant women

between the ages 25 – 40 years of age who attended the Antenatal Clinic at Chitungwiza Central Hospital at the time of data collection.

### **Research Instruments**

The researcher used the interviews, questionnaires, statistics, the case study approach and observations as instruments for collecting data.

#### ***Interviews***

Interviews were conducted on face-to-face bases. The researcher used structured questionnaires of open ended questions in order to extract adequate information from the research.

#### ***Statistics***

The researcher also used statistics on PMTCT programme participants at Chitungwiza Central Hospital to supplement the findings from interviews.

#### ***Observations***

The researcher did a physical survey of the Chitungwiza Central Hospital ANC to assess the level of participation in the PMTCT programme and tally these findings with the questionnaires and interviews.

#### ***Case study***

The researcher used results from case studies of other PMTCT programmes in Zimbabwe and outside the country to critically analyse the findings and compare the similarities and differences with the current study.

### ***Secondary Data***

Secondary data is relevant material that has already been collected for other uses besides the current research study. This is regarded as a cheaper and easier way of accessing information. The researcher used this secondary data to gain a deeper insight into arguments surrounding the research area. This was done through a thorough search of published journals, textbooks and internet sources carrying the relevant data.

### **Limitations of the Study**

The study was limited to Chitungwiza Central Hospital (in Chitungwiza) and the findings cannot be generalized to all clinics in the Mashonaland East Province. Shortage of human resources to carry out the study was also a challenge which had an impact on the results of the study. Therefore, the research relied on help from trusted officials, stakeholders and the people within the wards. The researcher confined himself to analysing the PMTCT programme's focus on reducing the infant mortality rate and measuring the progress attained since its inception.

### **Ethical Considerations**

The researcher did not use another person or scholar's views or words without giving due acknowledgement to the scholar, thereby ensuring the unique quality and integrity of the study while, at the same time, avoiding plagiarism. The interviewed people's identities was not revealed and assurance of confidentiality and a guarantee that the research was used purely for

academic purposes. Research subjects participated voluntarily and was not harmed in any manner. Hence this research was impartial and independent.

### **Structure of Dissertation**

Chapter 1 – A general overview of HIV/AIDS in Zimbabwe

Chapter 2 – The PMTCT and infant mortality in Chitungwiza.

Chapter 3 – Moving towards enhanced PMTCT programme in reduction of Infant mortality.

## **CHAPTER 1**

### **AN OVERVIEW OF HIV SITUATION IN ZIMBABWE**

#### **1.1 Chapter Overview**

The chapter will present a detailed overview of HIV/AIDS as an epidemic in Zimbabwe by discussing the direct and underlying causes of the aspect. It also goes on to discuss the various

interventions that have been put in place to reduce the spread and infection of the epidemic. The chapter will also give a brief account of how HIV/AIDS affects livelihoods on a national scale in terms of socio-economic development. The chapter will conclude by discussing the rise of PMTCT as a major intervention to reduce HIV-related infant mortality.

## **1.2 HIV/AIDS in Zimbabwe**

The HIV and AIDS epidemic is a health and development crisis throughout much of sub-Saharan Africa, including Zimbabwe. Human immunodeficiency virus (HIV) is the virus that causes acquired immune deficiency syndrome or AIDS. HIV attacks the immune system and destroys the biological ability of the human body to fight off opportunistic infections, such as tuberculosis. AIDS itself is defined in terms of how much deterioration of the immune system has taken place as seen by the presence of opportunistic infections and cancers. Infected people die as a result of the opportunistic infections and tumours that invade the body with the breakdown of the immune system. In the absence of widespread use of antiretroviral therapy (ART), nearly all infected people will eventually die from AIDS related causes. The majority will be dead within 10 years of infection and many will die even sooner. After development of AIDS, the infected person usually succumbs quickly to opportunistic infections and tumours. In the absence of antiretroviral therapy, the average time from development of full-blown AIDS to death is about one year. For children, the natural history of HIV is much shorter because their immune systems are not yet fully developed. Most infected infants develop AIDS within two years and die soon thereafter. Proper care, support, and nutrition can help infected infants live as long as possible.



### **1.3 Causes and Transmission**

An HIV-infected person can transmit the virus to others through sexual contact. Mothers can also transmit the virus to their infants during pregnancy or delivery or while breastfeeding. HIV can also be spread by transfusions of contaminated blood and by sharing needles used for injections and drug use. In Zimbabwe, two transmission mechanisms account for most new HIV infections in the country: sexual contact and mother-to-child transmission. In the absence of antiretroviral therapy, HIV follows a natural progression. For example, the virus is first transmitted to an uninfected adult, most often as a consequence of sexual contact with an infected partner. After transmission of HIV, a person does not develop AIDS immediately. There is often a lengthy incubation period from infection with HIV to development of the disease AIDS. Some people may survive a long time, while others will develop AIDS quickly and die soon thereafter. The average time from infection with HIV to development of AIDS is about nine years. That is, on average, a person does not develop AIDS until nine years after becoming infected. Adequate care and treatment can help prolong life. For most of this incubation period, the person may not have any symptoms and, therefore, may not even be aware that he or she is infected. This contributes to the spread of HIV, since the person can transmit the virus to others without knowing it. A person is able to transmit the virus soon after he or she becomes infected. People with AIDS, of course, remain infectious. Because of the long and variable incubation period.

### **1.4 HIV estimations in Zimbabwe**

According to UNAIDS 2015 people living with HIV are estimated at 1 400 000 [1 300 000 - 1 500 000] of whom 1 300 000 [1 200 000 - 1 500 000] are adults and 77 000 [68 000 - 86 000] accounts for the children. The national prevalence rate is at 15% with 14.7% [13.3% - 16.0%] being the adults and 0.3% being the children. An estimated 64 000 [52 000 - 76 000] people were newly infected in 2015, to which 4900 [3700 - 6300] are children. 29 000 [25 000 - 34 000] amounts to the total deaths from AIDS with 26 000 [22 000 - 30 000] being adults and 4900 [3700 - 6300] being children.

## **1.5 Impact of HIV/AIDS on Socio-Economic Development**

### **1.5.1 Health**

The health sector is hit particularly hard by the epidemic. The treatment of opportunistic infections resulting from AIDS is expensive and is straining the delivery of all health services in the country. HIV and AIDS patients command a disproportionate share of beds at health centres and hospitals. Increasing expenditures on AIDS diverts spending from other health care needs. Some become infected themselves and large numbers suffer from the intense physical and emotional strain of dealing with AIDS patients. The quality of health services is also greatly affected due to high AIDS related mortality and sickness among health workers. Many other diseases are also on the increase due to HIV and AIDS, such as different cancers, tuberculosis (TB) and meningitis.

### **1.5.2 Education**

HIV and AIDS are causing considerable turbulence in the education sector as the epidemic affects the supply of educational services, the demand for education, and the overall management of the system. The epidemic also affects the demand for educational services. Over time, high levels of mortality among reproductive age adults, and high levels of mother-to-child transmission result in a smaller school age population than would have been the case in the absence of the epidemic. The HIV and AIDS epidemic also affects management of the educational system. When key managers such as school heads, planning officers, and executive staff are absent, underperforming, or die, the functioning of the system is disrupted as well. HIV and AIDS cause considerable disruption and turbulence in the education sector. Large investments in education are lost forever and fewer children are able to break the cycle of poverty.

### **1.5.3 Economy**

Although the HIV and AIDS epidemic may affect overall economic growth, its economic consequences are more often considered in terms of its impact on household poverty, on the economic success of firms, and on government revenue and expenditures. An adult illness or death leads to a loss of household productivity and income. Expenditures for medical care may increase substantially, especially after the development of full blown AIDS. Funeral and mourning costs often consume a major portion of family savings, leaving the household ill-equipped for the future. AIDS is also having a significant impact on some firms both by increasing expenditures and reducing revenues. Expenditures increase for employee health care costs (including antiretroviral treatments in some cases), burial fees, and recruitment and training of replacement employees. Revenues decrease because of absenteeism due to illness and to

attendance at funerals and time spent on training. Labour turnover leads to a less experienced labour force with lower productivity. The HIV and AIDS epidemic also affects government revenues and expenditures. Revenues drop because of the declining productivity in the economy. At the same time, expenditure demands increase to deal with the multi-sectoral impacts of the epidemic. The economic impact of HIV and AIDS results not only from high mortality but also from the fact that AIDS-related deaths are concentrated among people in their most productive working ages, 15 to 49. AIDS kills those on whom society relies to work in its factories, mines, and farms, to run its schools and hospitals, and to serve many other economic functions.

## **1.6 HIV Interventions**

### **1.6.1 Voluntary Counselling and Testing (VCT)**

Voluntary counselling and testing (VCT) plays a pivotal role in the public health response to the HIV epidemic and is a vital point of entry to HIV/AIDS services including primary prevention, prevention of mother to-child transmission, antiretroviral therapy, management of HIV-related illnesses, tuberculosis control and psychosocial support. In developed countries with epidemics in core groups, high-quality VCT been shown to substantially reduce the incidence of STD transmission and increase condom use. In resource poor settings, including many sub Saharan countries with generalized epidemics, VCT is becoming increasingly available. Key components of VCT policy include access to counselling, consent, confidentiality, and overcoming discrimination against people who have undergone testing and are found HIV positive. Persons with a history of high-risk behaviour, couples planning marriage, and pregnant women are the main groups who should receive VCT services; the next most important group is the youth in

general. The last few years have seen many new developments in HIV interventions. For example, research has shown that VCT is a cost effective intervention in high-prevalence settings and that it motivates a positive behaviour change among both HIV-positive and HIV-negative persons. The burden of handling HIV infections has increased to levels beyond the current capacity of health systems to cope with it. Thus advocacy efforts have intensified to mobilize resources and to extend use of interventions that evidence has shown to be effective, with the result that NGOs and partners have expanded VCT services. Increasing donor support for VCT, more favourable government policies, and the potential for expanded access to antiretroviral (ARV) drug therapy because of significant price reductions and free donations to prevention of mother-to child transmission (PMTCT) programmes have all served to integrate VCT into public health services. VCT is increasingly recognized as importantly central to effective HIV/AIDS prevention and care efforts to combat the epidemic.

### **1.6.2 Voluntary Medical Male Circumcision (VMMC)**

Zimbabwe has mounted an effective response to the HIV epidemic; today, HIV prevalence is estimated at 15%, down from 27% in 1997. In addition to the arsenal of prevention and treatment interventions that have been deployed against HIV, voluntary medical male circumcision (VMMC) represents another high impact intervention that has the potential to drive further dramatic declines in the trajectory of HIV in Zimbabwe. The prevention and treatment interventions that have been deployed, voluntary medical male circumcision (VMMC) is a high impact intervention that has been adopted, which has the potential to drive further dramatic declines in the trajectory of HIV in Zimbabwe. Zimbabwe, which has a historically low prevalence of male circumcision stands to benefit significantly from adopting VMMC because

randomized control trials showed compelling evidence that VMMC reduces the risk of female to male transmission of HIV through sexual intercourse by up to 60%. In 2007, Voluntary Medical Male Circumcision (VMMC) was recommended by the World Health Organization (WHO) and the Joint United Nations Programme on HIV/AIDS (UNAIDS) as part of a comprehensive HIV prevention package in countries with a generalized HIV epidemic and low rates of male circumcision. Compelling scientific evidence had shown that circumcision reduces the risk of female-to-male sexual transmission of HIV by up to 60%. HIV remains a major public health challenge in Zimbabwe and, the Ministry of Health and Child Care (MOHCC) has adopted and prioritized VMMC as a national strategy to add to the suite of interventions designed to end HIV and AIDS by 2030 as part of the global commitment towards the HIV and AIDS response.

### **1.6.3 Prevention of Mother To Child Transmission (PMTCT)**

In Zimbabwe HIV and AIDS threaten the lives of children more than any other disease (MOHCC, 2015). Prevention of Mother To Child Transmission (PMTCT) is a key strategy to prevent HIV infection in children. PMTCT has been discussed in many fora and it has been seen as a public health priority (MOHCC, 2015). PMTCT is directed towards reducing HIV infection in children. HIV transmission in children is through MTCT and it accounts for 7% of the HIV infection in children. MOHCC has shown its commitment to contributing towards an HIV and AIDS free generation through the introduction of the PMTCT intervention (MOHCC, 2015). Prevention of HIV infections in children remains a priority in Zimbabwe targeting reduction of infant and child mortality rates. Many children die before their 5<sup>th</sup> birthday if they contract HIV at birth (Impact, 2007). One of the important breakthrough in the prevention of HIV/AIDS over the past decade has been the demonstration that use of antiretroviral drugs during pregnancy in

HIV infected mothers can substantially lower the rates of MTCT. Single dose nevirapine for prophylaxis was the bare minimum (MOHCW, 2006). More efficacious regimens, where other ARV combinations are used, for prophylaxis were recommended when feasible and affordable. The Millennium Summit 2000 agreed on eight (8) millennium development goals with one of them, goal 6, targeting at combating HIV (MOHCW, 2006). This includes combating HIV even in children. These strategies are all targeted at reduction of maternal and perinatal mortality.

### **1.7 Rise of PMTCT in Zimbabwe**

In Zimbabwe PMTCT started as a 3-site pilot project in 1999 and has since expanded to all the 10 provinces of the country (MOHCW, 2007). A total of 1422 sites offer PMTCT services where some are comprehensive sites, which provide HIV testing and ARV prophylaxis while minimum sites provide prophylaxis after women have been tested elsewhere. Roll out of the PMTCT programme started at the end of 2001 when the pilot project was completed and evaluated (MOHCW, 2007). In 2005 an estimated 26610 new HIV infections in children 0-14 years was noted and over 90% was as a result of mother to child transmission. The opening of more than 68 sites for comprehensive PMTCT and access to highly active antiretroviral therapy (HAART) is an achievement in implementation of this essential strategy. Chitungwiza Central Hospital, the study site, is a comprehensive site. The Zimbabwean government's commitment is further demonstrated in the integration of PMTCT intervention into the routine health delivery system. PMTCT has been highlighted in the 1999 Zimbabwe HIV/AIDS policy as one of the key strategies to fight the HIV pandemic and the introduction of the National Psychosocial Support Guidelines is also a milestone in the improvement of the PMTCT uptake in the country. The core interventions for PMTCT now include routine offer of HIV testing and counselling to all pregnant

women presenting at health institutions, family planning counselling and services to prevent unintended pregnancies among HIV positive women, ARV prophylaxis to HIV positive mothers, ART to those HIV positive women in need of treatment as well as safe obstetrical practices and infant feeding education and counselling.

In 2007, in Zimbabwe, a total of 166794 pregnant women delivered in health facilities around the country. Of the women who booked at the country's antenatal clinics 150692 (92%) pregnant women were pretest counselled for HIV and 108176 (72%) of those pretest counselled accepted an HIV test and 19578 (18%) were HIV positive. Of the HIV positive 11803 pregnant women were dispensed with single dose Nevirapine (which was 60% of those who were HIV infected). A total of 7775 pregnant HIV infected women did not go through the programme which leaves their infants exposed to HIV infection leading to high infant mortality. Continued HIV infection in these families will lead to high HIV prevalence and high maternal mortality due to high HIV infection. Only 11780 (60%) of infants with HIV positive mothers received nevirapine within 72 hours of delivery. Twenty three babies from HIV positive mothers did not receive the nevirapine for prophylaxis exposing them to seroconversion leading to a real HIV infection. Such babies do not grow to witness their 5<sup>th</sup> birthday raising the infant mortality rates.

## **1.8 Conclusion**

The chapter has highlighted on HIV/AIDS in Zimbabwe and how it has affected the livelihoods of people. The Chapter has also highlighted on the interventions that have been put in place to counter the epidemic to which includes the Voluntary Counselling and Testing (VCT) which



include the issue of condom use, Voluntary Medical Male Circumcision (VMMC) which is proved to reduce about 60% chances of risking HIV contraction. The chapter has emphasised on the Prevention of Mother To Child Transmission (PMTCT) as the main intervention to reduce HIV related infant deaths. It ended by looking at the rise of the PMTCT in Zimbabwe as a way to counter issues to do with the HIV infection of infants.

## **CHAPTER 2**

### **THE PMTCT AND INFANT MORTALITY IN CHITUNGWIZA**

## **2.1 Chapter Overview**

This Chapter seeks to discuss on the levels of PMTCT uptake in Chitungwiza focusing on the knowledge and attitudes of women in partaking the PMTCT programme. The chapter will also focus on evaluating the impact of the PMTCT programme particularly in Chitungwiza on health service delivery to reduce the infant mortality rate.

## **2.2 PMTCT Uptake in Chitungwiza**

According to Chitungwiza Central Hospital records department, in (2014), 791 mothers were booked but only 146(18.5%) went through the PMTCT programme and received single dose nevirapine for prophylaxis together with their infants. In 2015 1245 came for booking and 387 (31.1%) were positive and went through the PMTCT programme. From April to June (2016) pregnant mothers were booked and 64 (10.7%) went through the programme. This is only 5% less the national prevalence rate though there is a possibility of improving by increasing this percentage.

Chitungwiza Central Hospital is a referral center with a lot of activities pertaining to health care. Of concern during this study are its opportunistic infection clinic, antenatal clinic and maternity services which make the institution a comprehensive site for PMTCT programme. HIV testing and counseling including provision of prophylaxis is provided at the institution. The provision of NVP and ARV for more efficacious regimens is available. The antenatal clinic provides the goal-oriented protocol of care where the health care providers provide focused care for each pregnant mother who visits the institution for care and treatment. All ages and parity are attended to as long as they are referred. Antenatal bookings and subsequent examinations are done. After the results are known initiation of treatment is done at the antenatal clinic. The Zimbabwe

prevalence rate of HIV is 15% (UNAIDS 2015) and so there is reduction in positive HIV results in people reporting at Chitungwiza Central hospital for care and treatment. There are also significantly low figures on the mothers who are tested and accept the PMTCT programme. This leaves some women not receiving prophylaxis exposing their infants to HIV infection. . Despite the education the uptake of PMTCT is low. A total of 810 nurses were trained in rapid HIV testing including those at Chitungwiza but still the uptake of PMTCT is low. The training for dry blood spot HIV testing for babies under 18 months was done and this improved the care and treatment of these mothers and their infants but the figures continue to be low (ZDHS,2015).

### ***2.2.1 Knowledge and attitudes of women regarding to the PMTCT Uptake in Chitungwiza***

30 participants were interviewed about the knowledge and attitudes with regards to the PMTCT programme. The study revealed that although the participants included in the study had different opinions and knowledge of MTCT of HIV infection, they had also different attitudes with regard to the prevention of MTCT of HIV infection. The shared knowledge was related to a lack of understanding of the meaning of MTCT and its importance. On the one hand, existing knowledge about prevention of MTCT was reflected by one participant by outlining that it is when the mother is saving the baby from being infected with HIV, *“Mother can save the baby from being infected”*(personal interview June 2016). Other participants misunderstood the meaning of MTCT, for an example one participant responded, *“MTCT is when the mother does not care about the baby that is why she transmit the virus to the baby”* (personal interview June 2016). On the other hand, the majority of the interviewed participants shared an understanding of MTCT as the process when the mother is transmitting the HIV virus to the infant through

different modes of transmission, for an example *“Mother can transmit the virus to the baby during pregnancy, delivery and through breastfeeding”* (personal interview June 2016). The participants reflected positive attitudes towards preventing MTCT. The participants explained that it is important that women receive HIV counselling because it will assist them to know their own HIV status and, if women agree to test, this will enable them to take precautions not to infect their unborn babies. Additional guidance should also be provided to women to seek medical help if found to be HIV-positive by healthcare providers.

The study revealed that some participants at Chitungwiza Central Hospital (CCH) lacked understanding about MTCT of HIV infection, for an example as evidenced by the response: *“I understand mother to child transmission of HIV infection as prevention of a virus by the doctor from the mother to child while woman is still pregnant”*. While other Participants at CCH expressed their understanding of MTCT of HIV, for an example *“It is when the mother does not use condoms then the mother will have HIV” “During delivery period the blood can possibly spread to the child and the child contract HIV”* (personal interview June 2016). Sandgren et al (2007:5) in their study on HIV and AIDS awareness and risk behaviour among pregnant observed that women had difficulties in distinguishing HIV from AIDS. They also found that women’s knowledge in general as superficial with less understanding of the details and the nature of the disease.

### ***2.2.2 Potential advantages of PMTCT***

Expect panel report and recommendations to the US congress and US global AIDS coordinator (2010). When comprehensively implemented, PMTCT holds the potential to:

- Substantially reduce new Paediatric HIV infections, as has been accomplished in developed countries
- Dramatically improve adult, maternal, infant and child health, particularly when well integrated into maternal, new born and child health settings and in those countries where HIV contributes significantly to morbidity and mortality
- Increase awareness of infection status for women and their partners and facilitate access to comprehensive care, support and treatment services
- Identify children of HIV positive women who also need to be tested and, if necessary, access HIV care, support and treatment services
- Prevent new HIV infections in women and their male partners through prevention approaches targeted to the infection status of an individual woman and her partner.
- Prevent unintended pregnancies among HIV positive women.
- Promote appropriate reproductive health services including family planning for those HIV positive women who do not desire future pregnancies and HIV transmission prevention interventions for those who wish to become pregnant.
- Contribute to reductions in HIV related stigma and discrimination through partner, family and community education and awareness efforts.
- Help mitigate the disproportionate impact of HIV upon women and girls.
- Strengthen linkages between adult and paediatric treatment services available and PMTCT services.
- Build capacity for HIV, maternal, new born and child health and reproductive health systems through education and training of health workers, improved laboratory and data

systems, infrastructural improvements of antenatal clinics and labour and delivery wards, and strengthened system for monitoring and evaluation.

## **2.3 Impact of the PMTCT Programme**

### ***2.3.1 Decline in HIV infant mortality***

The decline in maternal mortality as well as infant mortality itself shows the positive impact of the PMTCT programme. The Zimbabwe HIV prevalence rate (reported at ANC sentinel points) was 18.5% in 2006 and is down to 15% (ZDHS, 2015). The infant mortality rate is also down to 27/1000 from 65/1000 live births and the maternal mortality rate has gone down from 960 deaths per 100 000 live births in 2010 to 614 deaths per 100 000 live births in 2014 (Zimstat 2015). The reduction of the perinatal mortality rates were attributed to effective PMTCT interventions. According to MOHCC (2016), the high maternal mortality was attributed to high HIV and AIDS defining conditions which were not managed well.

### ***2.3.2 Components Introduced into PMTCT Programs***

The impact of the PMTCT programme is attributed to the components of the components introduced into the programme. This section describes the four key components often called the core components which PMTCT programs introduce into antenatal care and maternal-child health services: HIV counseling and testing, short course antiretroviral provision, HIV and infant feeding counseling and support, and promotion of male involvement and support. These service delivery elements directly address the third prong of MTCT programs, reducing transmission from HIV-infected pregnant and lactating women to their children:

### ***2.3.3 Increase in VCT***

HIV counseling and testing are the entry point for PMTCT among HIV infected and lactating women because they provide women with information and support to make subsequent decisions about antiretroviral therapy and infant feeding. Of the 20 women who were interviewed at the ANC 17 of them were tested and this shows that there is a rise in VCT uptake in Chitungwiza and this is particularly as a result of community mobilization which has played a pivotal role in educating the community members about HIV, MTCT, and how to prevent and also the introduction of the notion that HIV testing is offered as a routine part of antenatal care. One respondent pointed out that, *“Due to community mobilization such as Mubatanidzwa wemadzimai eruwadzano we have learnt a lot about the importance of VCT and its positive contribution to the PMTCT programme.”* This however, explains the rise of the VCT and with the increase in the VCT uptake it has been noticed that condom use has also increased which reduces the rate of HIV contraction.

### ***2.3.4 Use of infant formulas***

Promotion of breastfeeding as the best possible nutrition for infants has been the cornerstone of child health and survival strategies for the past two decades, and has played a major part in lowering infant mortality in many parts of the world. With the emergence of MTCT exclusive breast feeding has been a challenge as it increases the risk of transmission hence the need for infant formula. The issue of replacement feeding is a complex one and with the PMTCT in place the provision of short course antiretroviral therapy and helping women practice either exclusive replacement feeding or exclusive breastfeeding directly reduce the probability of MTCT by

reducing the exposure of infants to the virus their mothers carry. Early initiation of ARVs as soon as 14 weeks of pregnancy reduces the spread of infection of HIV (Department of Health, 2010). In an interview with the CCH public relations officer Mrs A. Tasaranarwo she stated that, “CCH has been providing HIV positive mothers with infant formula and the provision of ART to the mothers has been enhanced in order to prevent HIV infection during pregnancy, labour and to the baby after birth under the initiative by the MOHCC in conjunction with the WHO” (personal interview June 2016). This explains the efforts to reduce the infant mortality rates.

### ***2.3.5 Increase in male participation***

In most settings, male involvement and support is critical to improving women’s uptake of core PMTCT services as well as for primary prevention of HIV and avoiding unintended pregnancy. The involvement of male partners of pregnant and lactating women in PMTCT programs support women’s uptake of services and information. Though male involvement is still low there is a considerable increase in male participation in Chitungwiza as evidenced by the responses from the male participants who were present at CCH. All 10 men who were interviewed responded with the same view as the said male participation in the programme is of paramount importance and with the increase in education and awareness campaigns the numbers are more likely to increase and with the PMTCT programme being changed to Prevention of Parent to Child Transmission (PPTCT) it has proved to involve all genders in the programme.

### ***2.3.6 Increase in the PMTCT uptake***



There has been an increase in PMTCT generally nationwide with Chitungwiza among the towns with a great improvement on the levels of the PMTCT uptake since its inception in 1999. This shows that the effectiveness of the programme which has led to more people partaking it. The benefits of PMTCT go beyond the ARVS provided. PMTCT programs have greatly increased the amount of health education on HIV/AIDS and PMTCT and specifically information on how to prevent transmission provided to women, and program evaluations of the responses given by the participants shows that knowledge is increasing. PMTCT services are providing information to clients, which is tailored to their concerns and context about their own risk, the health of their partner and children, and their relationship with their partner. Women are empowered when they learn they are not helpless to respond to HIV.

## **2.4 Conclusion**

The chapter has looked at the PMTCT programme in Chitungwiza. The chapter looked at the PMTCT uptake levels in Chitungwiza particularly at Chitungwiza Central Hospital, the site of study. The chapter looked also at the impact of the PMTCT programme in Chitungwiza on the health service delivery towards the reduction of mortality levels in Chitungwiza.

## **CHAPTER 3**

# MOVING TOWARDS ENHANCED PMTCT PROGRAMME IN THE REDUCTION OF INFANT MORTALITY

## **3.0 Chapter Overview**

This chapter discusses the extent to which the objectives of the study have been achieved, the challenges that were experienced throughout the study as well as the challenges that has been encountered in trying to implement the PMTCT programme. The chapter also focuses on recommendations on measures that can be taken to enhance the effectiveness of the PMTCT in reducing infant mortality.

## **3.1 Summary**

The purpose of the study was to evaluate the PMTCT programme in reducing the infant mortality in Chitungwiza, Zimbabwe.

The objectives of this study were to:

- To examine the concept of the PMTCT programme in Chitungwiza.
- To assess the impact of the PMTCT programme in effectively reducing the infant mortality rate in Chitungwiza.
- To proffer recommendations on enhancing the effectiveness of the PMTCT programme towards the reduction of infant mortality in Chitungwiza.

### ***3.1.1 Research design and method***

Both quantitative and qualitative, descriptive and contextual research design was used in this study to evaluate the PMTCT programme regarding MTCT of HIV infection. The researcher used quantitative data such as statistics obtained from the Chitungwiza Central hospital records department as well as ANC folders so as to determine the trends of infant mortality over the years with the intervention of the PMTCT programme. The researcher also focused on the qualitative approach in order to investigate the phenomena in natural settings as they occur (Leedy & Ormrod, 2005; Smith & Hunt, 1997:206; Burns & Grove, 2005:27). The participants were afforded an opportunity to give in-depth accounts of their lived experiences with regard to the phenomenon studied (Cormack 2001:213; Mouton & Marais 1990:43), i.e., the study sought to discover new facts about the knowledge and attitudes of women with regard to MTCT of HIV infection. The researcher gained insight and an understanding of the phenomenon studied by asking follow-up questions in the semi-structured interview sessions that allowed participants to clarify areas which were not well-defined during data collection (Mouton, 1996:103; de Vos et al, 1998:24; Welma et al, 2008:166). The target population for this study consisted of all pregnant women attending the ANC.

### ***3.1.2 Findings of the study***

This study revealed that participants shared different interpretations and knowledge of MTCT transmission of HIV infection. The knowledge shared by the participants was related to a lack of understanding of the meaning of PMTCT and its importance which has evidenced from the low turnout on the PMTCT uptake in previous years. The study also revealed that there has been an increase in the PMTCT uptake of late due to the positive results it has been yielding. Furthermore, the study revealed that the PMTCT programme has been a success nationwide, particularly in Chitungwiza, in terms of health service delivery as evidenced by the decline in the

infant mortality as well as maternal mortality. Overall, though the study is making progress there are still some gaps in the PMTCT which need to be addressed for the programme to reach its full potential.

### **3.2 Challenges**

Nationally, the introduction of PMTCT has encountered challenges such as limited human resource capacity, low male participation in PMTCT and HIV testing and low disclosure of HIV status. Chitungwiza was not spared, given that several reasons for the low coverage have been cited, including pregnant mothers not being able to pay the US\$1.00 for the tube to collect the blood; not sure of significant others' reaction; and not being able to cope with a positive result.

Effective provision of HIV Treatment services has been hampered by a number of challenges, which include the following:

- **Shortage of foreign currency** for the importation and production of ARVs and their consequent shortage
- **Testing and counselling:** Limited availability and accessibility of testing and counselling service centres.
- **Inadequate paediatric formulae:** Inadequate supply of paediatric formulations for ARVs
- **Limited CD4 and viral load counting machines** in the private sector. However most recent policy recommends use of the WHO staging system to determine enrolment on ART.
- **Human resource problems:** shortage of nurses, pharmacists for ART roll out

- **Stigma and discrimination** is still high in the rural areas thus compromising effective access to ART services.
- **Limited knowledge:** Limited capacity and knowledge by caregivers on access to treatment issues which hampers creation of a supportive and enabling environment for drug adherence and counseling
- **Lack of financial resources** for transportation to reach the nearest testing centre and to pay for the required tests.

### 3.3 Recommendations

#### *Knowledge and understanding about MTCT of HIV infection*

- Formal health education programmes with regard to MTCT should be provided to enhance knowledge and understanding of the subject to all clients and patients who visit the healthcare facilities, irrespective of gender, so that even males as partners should be able to acquire and act upon the information.
- The knowledge gap regarding the mode of transmission should be closed by providing an opportunity for health programmers to forge partnerships with faith-based organizations and community leaders to facilitate access to correct information regarding HIV and AIDS and the prevention thereof.
- Infant feeding, counselling and skills development should be integrated into pre-service and in-service training courses of healthcare workers.

### *Attitudes towards MTCT of HIV infection*

- Encourage the involvement of male sexual partners to reduce risky behaviour, increase familiarity with condoms and encourage males to support and participate in PMTCT programmes.
- Encourage healthcare providers to demonstrate positive attitudes towards the programme users as this will increase the utilization of PMTCT services.
- Encourage formation of HIV and AIDS committees in the community and regular meetings and discussions on issues related to the virus and the syndrome as this will assist community members to familiarize themselves with the subject and develop positive attitudes towards HIV and AIDS programmes.

### *The importance of counselling and testing*

- Strengthen ongoing counselling and mentoring programmes of community counsellors and supervision of community counsellors by facility personnel, sub-districts, HIV and AIDS coordinators and social workers.
- All antenatal women should be counselled about HIV and be informed about PMTCT programmes.
- Every woman who chooses to take part in the programme must receive individual pre-test counselling and be tested for HIV. Counselling of HIV infected women should address

not only perinatal transmission, but also the socio-cultural and behavioral contexts in which pregnancy decision-making takes place.

- Establish community outreach by doctors, nurses and community healthcare workers, and referral of HIV-infected mothers and exposed infants to wellness and treatment programmes.
- Strengthen mass media campaigns to encourage people to test for HIV and assure them that the test is free and confidential.

### ***PMTCT***

- All women should be encouraged to have early confirmation of pregnancy in order to allow sufficient time to implement ART to prevent MTCT of HIV.
- Breastfeeding should be recommended in order to improve the chances of a child to survive in unfavorable conditions because breast milk provides for the infant's fluidnutritional requirements, antibacterial and antiviral agents that protect the infant from infections or disease.
- Provide formula milk to children of HIV-positive women who choose such and who are eligible to practice replacement feeding.

### **3.4 Conclusion**

The PMTCT programme has become an area of interest in recent years and this research has added emphasis on the need to incorporate PMTCT as a key strategy to promote the reduction of HIV infections among infants. HIV/AIDS is a global concern that calls for attention from development practitioners. What makes it worrisome is that there have been generally high mortality levels among all age groups as a result of AIDS. With high levels of infant mortality rates over the years, many countries globally, including Zimbabwe, have adopted the PMTCT initiative as a strategy to deal with the spread of HIV among infants as well as HIV related infant deaths. Chitungwiza, the case that was used in this research, has had a period of high infant mortality due to low PMTCT uptake over the years. The continuous ignorance of the PMTCT programme has contributed to the spread of HIV affecting the health service delivery in Chitungwiza.

PMTCT has been identified by experts as a better intervention strategy in terms of curbing the spread of HIV to infants. The research has shown that the PMTCT programme is the response needed to address the effects of HIV to infants in Chitungwiza. In a country where there is an HIV prevalence rate of 15%, responding to the HIV epidemic should come as a necessity and as the way forward. One way that can reduce the spread of HIV is the PMTCT programme which has been playing a pivotal role nationwide.

Chapter 1 gave an overview of HIV/AIDS in Zimbabwe. It touched on the causes and transmission, estimates as well as its impact on socioeconomic development. The chapter also looked at various interventions that have been adopted to reduce the spread of HIV and among



these are the VCT, VMMC and the PMTCT which is the centre of the study. It looked at the rise of the PMTCT programme Zimbabwe.

Chapter 2 looked at the PMTCT in Chitungwiza looking at the uptake levels of the programme in Chitungwiza. The chapter also looked at the impact of the PMTCT on health service delivery towards reduction of mortality levels in Chitungwiza.

Chapter 3 emphasised the challenges and prospects of the PMTCT programme on the reduction of the HIV infection as well as deaths in Zimbabwe. As a concluding Chapter, the chapter highlighted the challenges that the PMTCT programme is likely to face in Zimbabwe. Despite efforts by Hospitals, NGOs and the government to promote the uptake of the programme responses by pregnant women in Zimbabwe to the programme has remained low. There are several challenges that will hinder the PMTCT programme which involve limited human resources capacity, low male participation in PMTCT and HIV testing and low disclosure of HIV status, processing issues, financial constraints to successfully participate in the programme. These, among other challenges, have contributed to limited effectiveness of the programme. Several challenges were raised which included lack of resources, limited knowledge on the programme, stigma and discrimination etc. However, despite these challenges the research showed how to effectively implement the PMTCT programme in Zimbabwe. The researcher noted the low uptake of the PMTCT programme and suggested strengthening of knowledge and attitudes of both males and females to equip them with knowledge and understanding of the programme and its importance.

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## **APPENDICES**

### **Appendix 1**

#### **Structured interview schedule.**

The following is a questionnaire on uptake of PMTCT. No answer is wrong. You can answer to your best ability. This is from how you feel about the support you received from the health workers, your family, your significant others, donors and community around you. It is important that you respond to these questions honestly. The information you will give will be kept in confidence.

#### **PMTCT uptake questionnaire**

1. When were you tested for the first time?

Before ANC or pregnancy

During ANC

2. Do you know your spouse's status?

Yes

No

3. How do you feel about your status? Explain.

.....

4. When did you first hear about PMTCT?

Before pregnancy

During ANC

5. Did you receive any information about PMTCT?

Yes

No

6. What was your first source of your information?

Nurse

Counsellor

Doctor

Media

Relatives and friends

Literature

7. How do you feel about the information you received about HIV?

Not adequate

Adequate

Very adequate

8. Which are the possible regimens used in PMTCT that you know?

Nevirapine

Nevirapine, Zidovudine & Combivir

ART for life

Cotrimoxazole.

Can't remember


9. Were you offered drugs to prevent transmission of HIV to your

baby?

Yes

No


10. If yes which drugs were you offered? Explain.

.....

11. When are you going to take the drugs?

Already taking

At 28 weeks

At delivery


12. Explain why you are taking these drug.

.....

13. Are there any problems that you are facing with the drugs you are taking? Explain.

.....

14. Why did you enroll in the PMTCT programme?

.....

15. What are the benefits of enrolling in the PMTCT programme? Explain.

.....



16. Do you regret joining the PMTCT programme?

Yes

No


17. Have you chosen a feeding option?

Yes

No


18. Do you feel all pregnant mothers should be tested routinely as they come for booking?

Yes

No


19. Do you use condoms at home?

Yes

Sometimes

No


20. Explain your answer.

.....

21. From your experience so far with the PMTCT programme what do you think should be done to improve it?

.....