FACTORS INFLUENCING THE UTILISATION OF PMTCT SERVICES IN THE FEDERAL CAPITAL TERRITORY OF NIGERIA

by

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submitted in accordance with the requirements for the degree of

MASTER IN PUBLIC HEALTH

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: DR E S SELOILWE

DECEMBER 2014
DECLARATION

I declare that FACTORS INFLUENCING THE UTILISATION OF PMTCT SERVICES IN THE FEDERAL CAPITAL TERRITORY OF NIGERIA is my work and that all the sources used or quoted have been indicated and duly acknowledged. Further, I proclaim this work has not been submitted before for any degree elsewhere.

CHUKWUKAODINAKA NWAKAEGO.E.                                             December 2014
Full names                                                                                             Date
ACKNOWLEDGEMENTS

No book or dissertation is the work of the author alone; therefore I wish to appreciate all those who contributed in different ways to the successful completion of this work.

To God Almighty without who’s GRACE I could not have had the strength and opportunity to complete this study.

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FACTORS INFLUENCING THE UTILISATION OF PMTCT SERVICES IN THE FEDERAL CAPITAL TERRITORY, ABUJA, NIGERIA

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ABSTRACT
This study investigated the factors influencing the utilisation of PMTCT of HIV services and proposed measures to promote service utilisation by HIV positive pregnant women in the FCT, Abuja, Nigeria. Effective interventions exist that can reduce the transmission of HIV infection to the baby.

The study is a quantitative descriptive one, with 190 HIV positive pregnant women from 20 health Centres in three area councils in Abuja, who were interviewed using structured questionnaire to get their opinion.

The findings revealed that the majority (90.4%) of the respondents were aware of PMTCT and how HIV can be transmitted from mother-to-child. The respondents (95.9%) were of the opinion that all pregnant women should be tested. Notably, PMTCT services will be hindered by the following: permission from spouse before being tested, couple counselling not done, group post test counselling, non-incorporation of family planning and low support group enrolment.

Recommendations made include emphasis on couple counselling, confidentiality and friendly environment.

Key concepts
Antenatal care; Pregnant women; Utilisation; PMTCT services; Andersen’s health service utilisation model; antiretroviral drugs; HCT; Abuja; Influencing; Hospital delivery.
Dedication

This study is dedicated to:

My late mother (Mrs Roseline Onuoha) whose belief was that I can make it in life and gave me good education which inspired me.

To my father Mr Cyriacus Onuoha, for continuing from where she stopped.

My husband, Martin and my children, David, Daniella and Divine, for their love, support and motivation, without which I would not have accomplished this.

Everybody who made this thesis a success.
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<th>Full Form</th>
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<tr>
<td>AIDS</td>
<td>Acquired immunodeficiency syndrome</td>
</tr>
<tr>
<td>ART</td>
<td>Antiretroviral Therapy</td>
</tr>
<tr>
<td>CD4</td>
<td>Cluster of Differentiation 4</td>
</tr>
<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
</tr>
<tr>
<td>FHI</td>
<td>Family Health International</td>
</tr>
<tr>
<td>FMOH</td>
<td>Federal Ministry of Health</td>
</tr>
<tr>
<td>GHAIN</td>
<td>Global HIV/AIDS Initiative</td>
</tr>
<tr>
<td>HAART</td>
<td>Highly Active Antiretroviral Therapy</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency virus</td>
</tr>
<tr>
<td>HCT</td>
<td>HIV counselling and testing</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, Education and Communication</td>
</tr>
<tr>
<td>KAP</td>
<td>Knowledge Attitude and Practice</td>
</tr>
<tr>
<td>MCH</td>
<td>Maternal and Child health</td>
</tr>
<tr>
<td>MTCT</td>
<td>Mother-to-child transmission</td>
</tr>
<tr>
<td>NACA</td>
<td>National Action Committee on AIDS</td>
</tr>
<tr>
<td>NDHS</td>
<td>National Demographic and Health Survey</td>
</tr>
<tr>
<td>NPC</td>
<td>National Population Commission</td>
</tr>
<tr>
<td>NVP</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>PATHS</td>
<td>Partnership for transforming health system</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>Presidential Emergency Plan for AIDS Relief</td>
</tr>
<tr>
<td>PHC</td>
<td>Primary Health Care</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother-To-Child Transmission</td>
</tr>
<tr>
<td>PSM</td>
<td>Procurement and Supply Chain Management</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
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</tr>
<tr>
<td>SPSS</td>
<td>Statistical Package for the Social Science</td>
</tr>
<tr>
<td>STD</td>
<td>Sexually transmitted diseases</td>
</tr>
<tr>
<td>TBAs</td>
<td>Traditional Birth Attendants</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary Counselling and Testing</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>UNAIDS</td>
<td>Joint United Nations Programme on AIDS</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>UNISA</td>
<td>University of South Africa</td>
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CHAPTER 1

ORIENTATION OF THE STUDY

1.1. INTRODUCTION

1.1.1. Geographical, Political and Administration

Nigeria is located in the Western region of African the continent. It occupies a landmass of approximately 923,768 square kilometre between longitude 2° 2’ and 14° 30’ east and latitude 4° 1’ and 13° 9’ north. It shares border with Niger Republic in the North, Republic of Chad in the north east; Republic of Cameroun in the east; Republic of Benin in the west and Atlantic Ocean in the south. It is the 15th largest country in Africa in the area of landmass (FMOH 2010a: 1).

Following the amalgamation of the Northern and Southern Protectorates by the British colonial administration in 1914, Nigeria became a political entity. It gained its independence in 1960 with three functional regions, namely North, East and West. It runs a three tier of Government; federal, state and local councils. The creation of states started in 1967 with the emergence of 12 states from the three regions.

Currently it is made up of 36 states and a Federal Capital Territory (FCT) (the focal area for this study). These 36+1 states are divided into six geopolitical zones. Which differ from each other in size, population, language, culture, settlement pattern, ecological characteristics and economic opportunities (FMOH 2010a:2).

Following Nigeria’s independence, democratic and military rulers come on board with the later ruling a greater part of the immediate post democratic era. The country has just completed its thirteenth year of democratic rule. Despite its growing economy, there are still challenges in the area of security, poverty and health.

1.1.2. Socio-demographic and Economic Situation

Nigeria is the most populous country in Africa with a population of over 140 million (National Population Commission 2006:1) and an estimated population of 162,265,000 as at mid-2011 with an annual growth rate estimate of 2.6% (UNGASS 2012:12). Gender distribution is 51% male and 49% female, while female of reproductive age group (15-45) accounts for 50.1% of the total female population.
Nigeria has about 400 ethnic groups with Christianity and Islam constituting the major religions. The national revenue comes largely from crude oil. Half of the country’s estimated population are rural dwellers and agriculture is their major occupation. The tropical climate with dry and wet season prevails (UNGASS 2012:12; FMOH 2010a: 1-2).

Table 1.1: 2010 Indicators’ Estimate as follows: Estimates

<table>
<thead>
<tr>
<th>Health Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Expectancy at birth(in years)</td>
<td>51</td>
</tr>
<tr>
<td>Fertility Rate (birth per woman)</td>
<td>5.7</td>
</tr>
<tr>
<td>Infant Mortality Rate (per 1000 live birth)</td>
<td>88</td>
</tr>
<tr>
<td>Under 5 mortality Rate(per 1000 Children)</td>
<td>213</td>
</tr>
<tr>
<td>Adult Literacy(15years &amp;above)</td>
<td>61</td>
</tr>
</tbody>
</table>

Source: UNGASS 2012:13

Figure 1.1: MAP OF NIGERIA

Source: NBS_MICS_2007
1.2. BACKGROUND TO THE STUDY

1.2.1. HIV/AIDS Situation

Nigeria recorded its first case of HIV/AIDS in 1986 and since then the number has continued to increase. Globally it was estimated that 33.3 million people are infected, of which 3.1 million residing in Nigeria as at the end of 2010 (10%); thus making Nigeria the second country with the highest burden of HIV/AIDS in the world second to South Africa (FMOH 2010a:2).

The spread of the epidemic has been rising persistently with the National HIV Sero-prevalence rate of 1.8% in 1991, 5.8% in 2001, 4.4% in 2005 and currently 4.1% in 2010 Antenatal survey (Figure 1.2). This prevalence rate varies from state to state and between urban and rural areas. The prevalence is more in the urban than rural area (FCT inclusive) except in eight states (FMOH 2010a:51)

![National HIV Prevalence Trend from 1991-2010](source)

It is worth noting that as at 2009, of the 33.3 million people living with HIV/AIDS globally, 15.7 million are women while 2.1 million are children under 15 years of age. Since nearly all HIV infection in children (90%) is acquired through vertical transmission, the global epidemiology of HIV infection in children also reflects the prevalence of HIV in mothers.

![PMTCT Intervention in Nigeria](source)
In 2009, it was estimated that there were 370,000 new paediatrics HIV infections with Sub-Saharan Africa accounting for about 90% (FMOH 2010d: 1). As more women get infected with HIV, so is the number of children.

At the end of 2011, Nigeria had about 470,000 HIV patients on ART with 36,716 children and 26,336 pregnant women (HIV/AIDS Division 2012a:1)

1.2.2. Response to HIV/AIDS and Coordinating Structure

With the rapid spread of the disease following the first case reported in a 13 year old girl in Nigeria, a national health sector-based response (National Experts Advisory Committee on AIDS) was established in 1986. In 1988, National AIDS and STDs Control Programme was established in Federal Ministry of Health (FMOH) with corresponding programs at state levels. In 1999 an expanded national multi-sectoral response was put in place which led to the establishment of National Agency for the Control of AIDS (NACA) to lead the multi-sectoral approach (FMOH 2011d: 11). States and local government areas formed similar bodies. The health Sector response contributes the largest proportion of the national multi-sectoral response to HIV/AIDS. In 2004, a situation analysis of the health sector response to HIV/AIDS in Nigeria identified poor coordination of partners as part of the problems inhibiting effectiveness in the sector (FMOH 2011d:11), a problem that extended to PMTCT coordination. Currently, an estimate from the 2010 antenatal (ANC) sero-prevalence survey puts the prevalence at 4.1% among pregnant women, a decrease from 4.8% recorded in 2008.

The national goal is to halt and reverse the spread of HIV by 2015 thereby contributing to the MDG 6 and the national developmental goals as well as the Nigerian President’s Seven Point Agenda and Vision 20: 2020.(FMOH 2010c:3).

Overtime, the health sector response to HIV/AIDS, prevention, treatment, care and support interventions have continued to expand guided by policies, strategic plans and guidelines. Free HIV counselling and testing as well as Anti retroviral therapy (ART) are also expanding with improved resource mobilisation and coordination. Despite interventions, there is still a huge gap towards attaining the universal access. The number of people infected yearly kept increasing. Only about 470,183 patients were on treatment compared to about 1.5million requiring treatment as at the end of 2011(HIV/AIDS Division 2011: 1).
1.2.3. PMTCT Situation

According to the Scale up plan for PMTCT (FMOH.2010b:2-3), the country shoulders the most of HIV disease among pregnant women and children worldwide; contributing about 30% of the global burden. In 2010, of over 1.6 million women tested for HIV, 907,387 were pregnant and 31,577 of them tested HIV positive. Those who received ARV prophylaxis were 26,134(11%) a decline from 31,688(13%) recorded in 2009. Also, a total of 14,573 exposed infants (11%) received ART prophylaxis in 2010, while the total number of HIV positive children on ART therapy was 20,401 (FMOH 2011b:13-15). Factors contributing to this high MTCT burden in Nigeria are high population size, and low attendance to ANC.

In 2002, the Federal Government of Nigeria (FGN) initiated programmes on prevention of mother to child transmission of HIV. The programme was in line with the global PMTCT strategy designed to promote “Four Pronged” approaches which are

1. Primary prevention of HIV infection among women of reproductive age group and their partners.
2. Prevention of unintended pregnancies among women infected with HIV.
3. Prevention of HIV transmission from women infected with HIV to their infants.
4. Provision of treatment, care and support to women infected with HIV, their infants and their families.

The government through the Federal Ministry of Health and implementing partners (IPs) has developed evidenced –based strategy to implement these approaches through advocacy, community mobilisation, electronic media interventions, distribution of information, education and communication (IEC) materials, setting up HIV counselling and testing (HCT) centres. Also offering of family planning services to prevent unintended pregnancies amongst women infected with HIV, integrating PMTCT services to MCH services and improving access to treatment, care and support to HIV infected pregnant women which when implemented in a holistic manner is expected to improve access to PMTCT services.(FMOH 2010d: 3)

According to the National Strategic plan projection (FMOH 2011d: 2), it was estimated that over 6 million pregnancies occurred in 2011 of which about 230,000 HIV positive pregnant women required treatment. One of the entry points to care for such women is
through PMTCT services. Of the 22,760 formal health sectors (tertiary, secondary and primary) in the country only 1081 of them are offering PMTCT and HCT services. Twenty one thousand, four hundred and thirty one (21,431) of this health sectors are Primary health care centres (PHCs) the grass-root caregivers with about 7,048 providing Maternal and Child Health services (FMOH 2008:20). Such sites can be targets for PMTCT Scale-up. According to the 2008 National Demographic Health Survey, 58% of pregnant women attended ANC at least once, while 45% did so at least 4 times during their pregnancy. 35% of births occurred in health facilities - 20% in public sector and 15% in private sector facilities. Also about 12% of HIV Positive Pregnant women had access to CD4 Test (Federal Government of Nigeria 2008: 15). This means that utilisation of our health centres are still low.

The HIV/AIDS Division of FMOH (formerly National AIDS and STD Control Program (NASCP), reported an increase in the national PMTCT coverage (percentage of pregnant women who were counselled, tested and received HIV test results) from 2% in 2004 to 13%, in July 2009, a far cry from the National target of 50% (FMOH 2010d: 3). The coverage has increased from 16% in 2011 to 32% in 2012, while the number of sites providing PMTCT services increased from 34 in 2005 to 1216 in June 2012 (HIV/AIDS Division 2012b:1). This shows an increase it is not sufficiently significant. Some organizations that have supported the country on the programme are Global Fund, Canadian International Development Agency (CIDA), Clinton Health Access Initiative (CHAI), UNICEF and USAID. This collaborative effort is to ensure increased PMTCT services overtime.

The CIDA grant between 2009 and 2010 for PMTCT targeted rural women patronizing the PHC in some states with high prevalence of HIV. The aim was to capture infection averted by increasing the number of women accessing ANC services, the gateway to accessing PMTCT. One of the approaches is to get a community resource person (notable women in the society) who will encourage pregnant women to register for ANC while she in turn gets a stipend for any of her clients that finally register for ANC.

The President of Nigeria at the 2011 United Nations general assembly (UNGASS) pledged his commitment to support more access to PMTCT by making maternal and child health care free. This has started in the FCT Abuja. Some governors have followed this example, indeed the Ondo state governor in the south-west zone of
Nigeria went a step further by providing global system of messaging (GSM) Phones to pregnant women who registered for ANC to enable them communicate with their caregiver. It is surprising that with all these structures on ground, PMTCT services utilizations is still low, making Nigeria far from attaining the fourth Objective of 2015 PMTCT target of having 90% of HIV pregnant women access PMTCT Services. (FMOH 2010b:6)

There is need to identify why PMTCT Utilization is still low despite Government effort to increase access, to identify factors responsible for the low utilization of PMTCT services and to identify measures that will improve utilization of this services. It will create an opportunity for further studies into the cause and create room for intensified intervention in such area. It will also create room for re-strategizing to ensure wider coverage of PMTCT services.

1.3. THE RESEARCH PROBLEM:

1.3.1 Statement of the problem:

Mother to child transmission route accounts for about 10% of the HIV burden globally (FMOH 2010d:1). Its potential impact on the achievement of the Millennium Development Goals 4 and 5 is becoming increasingly clearer. HIV has been recognised as a major contributor to the persistently high maternal mortality in Africa. It is responsible for 80% of maternal deaths in HIV+ pregnant women within two years of delivery. As at 2009, Nigeria has the highest number of children in the world with HIV through MTCT. Nigeria is therefore a priority country for intensified support in reaching the Universal Access goal.

Targets of the 2010 – 2015 National PMTCT scale up plan are to provide access to at least 90% of

- Pregnant women to quality HIV counselling and testing by 2015;
- HIV positive pregnant women to more efficacious ARV prophylaxis by 2015;
- HIV exposed infants to more efficacious ARV prophylaxis by 2015;
- HIV positive pregnant women to qualify for infant feeding counselling by 2015;
- HIV exposed infants to early infant diagnosis service by 2015;

(FMOH 2010d: 4).
Most children with HIV acquired it through vertical transmission (MTCT). The risk of MTCT can be reduced to less than 2% by interventions that include the use of antiretroviral (ARVs) as either prophylaxis or therapy given to women in pregnancy, labour and during breastfeeding (FMOH 2010d:3).

The recent presentation on PMTCT service delivery update by the HIV/AIDS unit of the FMOH on PMTCT shows that it’s Coverage has risen from 11% in 2010 to 32% 2012, making Nigeria the leading country with the highest burden of MTCT(HIV/AIDS Division 2012b:1; FMOH 2011b: 13). This is a far cry when compared to Ghana, with a population of about 24 million, having a coverage of 27% and South Africa with the highest burden having 88% coverage suggesting they may likely meet their country’s targets.(UNICEF 2010a: 1, UNICEF 2010b:1).

The 2008 NDHS showed that only 35% of births took place in a health facility. This aroused the researcher’s interest on why there is low utilization of ANC and PMTCT services in Nigeria.

Table 1.2 shows the targets which the country wants to achieve between 2010 and 2015. These targets, if they are to be achieved, require more effort to be actualised. But these cannot be achieved if the factors limiting access to PMTCT services are not identified and addressed comprehensively and appropriately.

### Table 1.2: PMTCT Targets as in National Strategic Plan (NSP) and Scale up plan

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>No. and proportion of pregnant women to be reached with HCT</th>
<th>No and proportion of pregnant women to be reached with ARV prophylaxis</th>
<th>No. and proportion of infants to be offered ARV prophylaxis and EID services</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010-2011</td>
<td>3,165,166 (50%)</td>
<td>55,575 (25%)</td>
<td>55,575 (25%)</td>
</tr>
<tr>
<td>2012-2013</td>
<td>5,102,535 (80%)</td>
<td>118,065 (50%)</td>
<td>118,065 (50%)</td>
</tr>
<tr>
<td>2014-2015</td>
<td>5,113,830 (80%)</td>
<td>197,900 (80%)</td>
<td>197,900 (80%)</td>
</tr>
</tbody>
</table>

Source: FMOH 2010c

*Is the country meeting the set targets? If not, why? What are the hindrances to attaining it?*
It is in the light of this that a study on factors influencing the utilization of PMTCT services will assist the country immensely. It has been noted that health services utilisation especially ANC is low despite free services being rendered by facilities. From the findings of this study there may be need to identify ways to improve service utilisation and move towards achieving the national targets.

PMTCT services are available free of charge to all HIV positive pregnant women in Nigeria at ANC clinics. In spite of this, only a limited number of pregnant women actually use these services. The researcher is curious to find out why there was low PMTCT Utilisation despite government's effort to increase access, factors influencing utilisation and possible interventions to increase access.

1.3. AIM OF THE STUDY

The purpose of this study was to identify and establish the factors responsible for low PMTCT Services utilisation in the federal capital territory (FCT) Abuja.

1.3.1. Research objectives were to:

- Determine the perceptions of HIV-positive pregnant women regarding the quality of PMTCT services in FCT, Nigeria.
- Identify factors that prevent HIV-positive pregnant women from returning to the health facility for follow-up and delivery in FCT Nigeria.
- Explore measures that would promote the utilisation of PMTCT services by HIV-positive pregnant women.

1.4. DEFINITIONS OF KEY CONCEPTS

For the purpose of this study, the following terms were used as defined below:

Human Immuno-deficiency Virus (HIV): It is a retrovirus that causes AIDS by infecting helper T cells of the immune system. The most common serotype, HIV-1, is distributed worldwide, while HIV-2 is primarily confined to West Africa. Also, called AIDS virus, human T-cell leukaemia virus type III, human T-cell lymphotrophic virus type III, lymphadenopathy-associated virus. Mother-to-child transmission (MTCT) of HIV-2 is rare.

This is a virus which an infected pregnant woman has and can be transmitted from mother to baby either during pregnancy, delivery or breastfeeding.
**Acquired Immune Deficiency Syndrome (AIDS):** The late symptomatic stage of the chronic disease caused by HIV infection which progressively impairs the body’s cell-mediated immune responses to infections and cancers system (Bailliere 2005:13). In this study, it is regarded as the final stage of HIV infection among HIV positive pregnant women who suffers gross wasting and diarrhoea.

**Prevention:**
To prevent something means to ensure that it does not happen (*Oxford Advanced Learner’s Dictionary* 2005:1149).

**Transmission:**
Transmission (transfer) is the act or process of passing something from one person, place or thing to another. It is also transmission of the disease or risk of transmission (*Oxford Advanced Learner’s Dictionary* 2005:1573).

**Prevention of Mother to Child Transmission (PMTCT):**
Prevention of mother-to-child transmission entailed interventions that are available and accessible, provided pregnant women to prevent/reduce the transmission of HIV to their child. Such interventions include counselling and testing, infant feeding options, use of ART, safe obstetrics practices and replacements feeding, aimed at reducing MTCT of HIV.

**Influencing:** To affect people’s judgement or way they do things.

**Utilise (Utilisation) –** The operational definition of service utilisation as it relates to PMTCT services entails point of entry into the services, where services were given and quality of services received in terms of HCT, Registering for ANC, accessing ARVs, infant feeding counsel as well as other follow-up services.

**Voluntary Counselling and Testing (VCT):**
In VCT the importance of HIV counselling and testing are explained to Clients, but the choice to accept the testing or not depends on the client.

**Exclusive breastfeeding** refers to when an infant receives only breast milk, and no other liquids or solids, not even water, with the exception of drops or syrups consisting of vitamins, mineral supplements or medicines.

**Urban Health Centres** – This is any health centre located at the local government headquarters or in area with basic amenities like bank, post offices, good access road, and modern houses (FMOH 2011a:2). It is any health centre with a modern house, at least four nurses, has access to electricity, good road and Pipe borne water
**Rural Health Centres** – Any health centre located outside the Local Government Headquarters or in an area lacking basic amenities (FMOH 2011a:2). It is any health centre with an old building, less than three nurses, lacks electricity and pipe borne water.

**Antenatal Care**– This is a form of care, given to a pregnant woman who registered in a health facility by a health official to help monitor her wellbeing during pregnancy.

**Minimum PMTCT Services** – This is defined as access to HIV testing and at least SD-NVP for mother at delivery and NVP for the child post-delivery, (Nguyen, Oosterhoff, Ngoc, Wright, Hardon 2008:2). In the study it is where a facility provides counselling, testing and ARV to a HIV positive pregnant woman.

**Comprehensive PMTCT Services**– Comprehensive PMTCT would include testing with counselling, access to HIV treatment initiation, ARV prophylaxis for mothers and exposed children, and infant formula. (Nguyen et al 2008:2). It involves any health facility that provides HCT, delivery, ART prophylaxis to mothers and infants, and other follow-up services including early infant diagnosis (EID), family planning and infant feeding options.

**PMTCT Coverage** - Percentage of pregnant women who were counselled and tested and received HIV test results (FMOH 2010d:3)

**HIV counselling** - is the confidential dialogue between individuals and their health care providers to help clients examine their risk of acquiring or transmitting HIV infection and to make informed decisions based on information available to them.

Any person talked to by a trained HCT counsellor before and after testing for HIV is said to have received HIV counselling and testing.

**Early Infant Diagnosis (EID)** - seeks to identify HIV-infected children during the first few months of life in order to begin treatment before a child becomes sick. Health and nutritional monitoring of children using RapidSMS improves EID. Early Infant Diagnosis test is carried out on an exposed baby (baby born by a HIV positive woman) after six weeks of delivery using PCR. In places where the machine is not available, samples are transported to another site using Dried Blood Spot.

**Skilled Birth Attendant** -The WHO (2004:3) defines a skilled birth attendant (SBA) "as an accredited health professional- such as a midwife, doctor or nurse- who has been educated and trained to proficiency in the skills needed to manage un-complicated pregnancies, childbirth and the immediate post natal period and in the identification, management and referral of complications in women or newborns"
1.5 FOUNDATION OF THE STUDY

1.5.1 Theoretical Framework

This is an applied research which stemmed from the troubling situation of low PMTCT service utilization in the country which is as low as 13% as at 2009. The need to know the factor influencing the use of these services in the health centres is necessary as well as where interventions should be focused on with respect to knowing the causes of the low utilisation and the effect it is having on the PMTCT Programme are in line with the positivist tradition (Babbie & Mouton 2001:20-21). Also the principle of determinism which believes that once the causative factor is identified and manipulated then future similar events will be eliminated. This is in line with the target of eliminating MTCT. With a reductionism perspective, the different causes of this low utilisation will be identified and solutions to getting them solved.

This study is a quantitative study and hence not based on any assumption but rather applied quantitative, empiricism and objectivity are applied in carrying out the research. Since the research is centred on utilisation of PMTCT services, the researcher provides a conceptual framework of how PMTCT services are accessed in Nigeria using FCT as case study. This is re-enforced using Anderson behavioural model (ABM) for health service utilisation. This model was developed to assist the understanding of why families use health services. It suggests that people’s use of health services is a function of their predisposition to use the services, factor which enables or impedes use and their need for care. This ABM is a multilevel model that incorporates both individual and contextual determinants of health services use (Andersen 1995: 1-3).

Determinants of health services utilisation are grouped into four namely:

Environment: Health care system (policy, resources and organisation) and external environment.

Population characteristics – Predisposing factors, enabling factors and needs factor.

Health behaviour – Personal health practices and use of health care services.

Outcomes – Perceived health status, evaluated health status and customer satisfaction (Andersen 1995: 8)
Once a woman is pregnant, various care and delivery options comes to her mind, such as:

- To go to a health facility and registers for ANC
• To visit a traditional birth attendant (TBA)
• To stay and deliver at home with no intervention.

For those that choose to register for ANC, they are expected to do a series of basic laboratory investigations which includes HIV testing. This service is usually not always available for those that opt for TBA and home delivery, but in some areas, trained counsellors in collaboration with the TBA conduct HIV counselling and testing and those positive are referred to health facility to access comprehensive PMTCT services. There is an opt-out option for those who do not want to do the HIV testing. For this group, further counselling options are explored e.g. couple counselling. Upon testing, those with a negative result continue to access the usual conventional ANC services. While those with a positive HIV result will be referred to PMTCT clinic. The target is to get 90% of pregnant women to attend ANC and get tested, get 90% of those that tested HIV positive receive prophylaxis respectively by 2015 as well as get the same percentage of exposed babies tested within 6 weeks by 2015.

At any point in the services listed above, a client may be lost to follow up. Literacy rate of the pregnant woman is very important. It will affect the woman’s perception of the seriousness of HIV infection and her attitude towards seeking medical attention. This corroborates the study by Katushade (2007:11) where as high as 64% of the pregnant women did not know about PMTCT in the hospital they attended for ANC. This was linked to the academic level attained by the women.

Poverty is another factor, where a woman is not empowered financially; she cannot take decision concerning her health even after undergoing counselling. In Andersen’s model, resources are one the key determinant of health service utilisation (Andersen 1995:8). Nnamdi-Okagbue (2009: 84) identifies it as a factor as a woman without financial backing cannot even transport herself to hospital even when she knows that the services are free.

So are stigma, inadequate counselling, Cultural barriers and preference to alternative medicine are identified as factors influencing the use of services. Studies on utilization of PMTCT done in Ethiopia and Kenya also indicated these factors (Kishoyia 2009:31-33; Worku 2007:25).
1.7. RESEARCH DESIGN AND METHOD

According to Burns & Grove (2005:211) research design is a blueprint for the conduct of a study that maximises control over factors that could interfere with the validity of the findings. Joubert & Ehrlich (2007:77) defines study design as a structured approach followed by the researcher to answer a particular research question.

The chosen research design is quantitative, cross-sectional and descriptive. The details of the research design and method are presented in the chapter 3 on Methodology.

1.7.1 Quantitative Research Design:

Burns & Grove (2005: 23) describe quantitative research as a formal, objective and systematic process in which numerical data are used to obtain information about the world. It requires the use of structured questionnaire, interviews, scales and physiological instruments that generate numerical data (Burns & Grove 2005:25).

In this study to maintain objectivity, a structure questionnaire was used to gather data on PMTCT service utilisation among pregnant women attending PMTCT Clinic in Abuja.

1.7.2 Cross-Sectional Research Design:

Burns & Grove (2005: 236,732) describes cross-sectional design as one used to examine groups of subjects in various stages of development simultaneously with the intent of inferring trend over time. Pregnant women attending PMTCT Clinic were interviewed simultaneously irrespective of when they registered at the clinic (old and new entrants).

1.7.3. Descriptive Research Design:

A descriptive study is an observational study that simply describes the distribution of characteristics (Fathalla & Fathalla.2004:44). This was further explained by Joubert & Ehrlich (2007:78) as a study set out to quantify the extent of a problem or burden of disease in a population.

1.8. METHODOLOGY

Burns & Grove (2005:211) describes research methodology as the entire strategy for a study, from identification of the problem to final plans for data collection.

1.8.1 Population:

Population refers to the materials of the study, whether it is human subject, animals or inanimate objects (Fathalla & Fathalla 2004; 50). This study’s population would be clearly defined in respect of persons, place and time as well as other relevant factors.
In this study, the population was the entire pregnant women attending PMTCT clinic in health facility in FCT at the time of study.

1.8.2 Sample:
A sample is a subset of population selected to participate in a study (Polit & Berks, 2008:765, Burns & Grove 2005: 40). According to Fathalla & Fathalla (2004:50), sample is a subset of the population from which conclusion or inferences are drawn as applying to the target population. It has to be a selected component, representative of the target population.

In this research, the 190 pregnant women attending PMTCT Clinic were the sampled respondents selected from health centres in the covered three area councils of Abuja.

Eligibility criteria
Health facilities offering free PMTCT services were selected.
Pregnant women attending PMTCT clinic for the first time and have received HIV counselling and testing were eligible to participate in the study.
Pregnant women already attending PMTCT clinic irrespective of the number of visit but must have received HIV counselling and testing were eligible.

Exclusion criteria:
Pregnant women not registered for PMTCT in the clinic.

1.8.3 Sampling Procedure:
According to Burns & Grove (2005:341) sampling involves selecting a group of people, events, behaviours, or other elements with which to conduct a study. In this study, a multi stage probability, proportional sampling method was used.
A random sampling was done to select three out the six area councils in Abuja. The listing of all the health facilities offering free PMTCT services in the three area councils was done. The health facilities were stratified based on urban and rural setting as well as private and public setting. 15% of the total number in each area council was randomly selected (5% rural, 10% urban). A total of 36 hospitals were selected but 20 were actually used. While a total of 190 pregnant women attending PMTCT clinic that met the eligibility criteria and willing to participate were recruited through random selection in the selected health centres. Details of the sample frame, size and sampling technique were discussed in chapter 3.

1.8.3.1 Data Collection:
This is the process of selecting and gathering data from these subjects of interest (Burns & Grove 2005:430). In this study, questionnaire was developed by the
researcher with technical input by the supervisor and statistician. It was piloted in a PMTCT centre by the researcher after which ambiguous questions were corrected, some follow-up questions were added and unnecessary ones removed. Data collectors were health facility staffs (mostly HIV counsellor/testers) that were knowledgeable on PMTCT were trained on how to use and administer the questionnaire. Participants were selected randomly using the list of pregnant women booked for PMTCT clinic on the day of visitation in the selected health centres. The researcher did the recruitment based on the eligibility criteria. Data collection was done using structured questionnaire administered by both the researcher and trained data collectors to the participants after getting informed consent from them. They were taken to a counselling room where the purpose of the study was explained to them, assured them that their names will not be needed and that they are free to go if they do not want to participate. Those that are willing to participate were given the informed consent form to sign and questionnaires were administered to them. This is to ensure that confidentiality was maintained. The questions lasted on the average between 10 and 15 minutes.

The Structure of the Questionnaire is as follows:

Section 0: General Information
Section 1: Socio-Demographic Characteristics and Background Information
Section 2: Knowledge, Perceptions and Attitude towards HIV/AIDS/PMTCT
Section 3: Barriers to utilisation of PMTCT Services

There were seven open ended questions included in the questionnaire.

1.8.3.2 Data analysis:

The data generated were analysed using the Statistical Package for Social Sciences (SPSS version 15.0) computer programme. The analysis included descriptive statistics, frequencies, cross-tabulation, percentages, graphs and tables. In chapter 4 the results were presented in details.

1.9. ORIENTATION OF THE RESEARCH SETTING

1.9.1. Overview of Abuja:

Abuja is the federal capital territory of Nigeria, created in 1976, built throughout the 1980s; it officially became Nigeria's capital on December 12, 1991.
It is centrally located with easy accessibility, pleasant climate, low population density, and the availability of land for future expansion. Abuja is surrounded by abundant hills, highlands, Savannah grassland, and tropical rainforests.

Bordering the FCT are the states of Kaduna to the northeast, Plateau to the east and south, Kogi to the southwest, and Niger to the west and northwest. It is slightly west of the centre of the country. Its area covers 2,824 square miles (7,315 square km). It has several parks, green areas and notable rocks around it. The population growth rate is so rapid reaching up to 20% in some areas. This led to a lot of squatter settlement in this area (Wales & Sanger 2001:1)

The FCT had a population of 1,406,239 in 2006 census figure.(Federal Government of Nigeria,2009:1) Administratively, FCT activities are overseen by the Minister of FCT. It has six area councils, namely Abaji, Abuja Municipal Area Council (AMAC), Bwari, Gwagwalada, Kuje, and Kwali.

This study was limited to selected health centres in three council areas of Bwari, Gwagwalada and AMAC. Their population structures of these councils are explained more detail in chapter 3.

1.10. VALIDITY AND RELIABILITY

1.10.1. Validity:
The validity of an instrument is the extent to which the instrument actually reflects the abstract concept being examined (Burns & Grove 2005:41). Joubert & Ehrlich (2007 117:119) further states that validity refers to the extent to which a measuring instrument actually measures what it is meant to measure. The supervisor and the statistician assisted the researcher in formulating the questionnaire. Face validity was measured by ensuring that literature review facilitated the questionnaire design and it is in line with the topic under investigation. Content validity was measured by doing a pilot study to ensure that all the important variables needed to be investigated were included in the questionnaire and inputs of the supervisor were sort for and incorporated. All these efforts are to ensure that conceptual and investigative bias were eliminated.

1.10.2 Reliability:
This is the degree of similarity of the results obtained when the measurement is repeated on the same subject or the same group (Joubert & Ehrlich 2007:117,120). The data collectors/interviews were selected among the staffs working in the health centres,
knowledgeable on PMTCT, and were trained on the data collection instrument. Pre-testing was done to identify possible inconsistencies. The questions were accurately and carefully phrased to avoid ambiguity. Constant supervision and periodic checks on the work of the Data collectors to ensure correct responses were gotten.

1.11. SIGNIFICANCE OF THE STUDY:
This study is important because factors affecting PMTCT service utilisation will be identified and possible interventions as highlighted in the recommendations will be applied where necessary. The result gotten from this study will help in making a more focus approach towards ensuring increased utilisation of PMTCT services. The need for integration of PMTCT into ANC services and more advocacies on the need for pregnant women to attend antenatal clinics where those who are HIV positive will be detected and offered PMTCT services will be communicated to policy makers. Finally it will create room for further research to be carried out based on the findings.

1.12. LIMITATIONS
Some limitations experienced in this study were that some of the pregnant women attended private hospital where services are offered for a fee concomitant with improved services that attracted them.
Some pregnant women did not attend ANC at all while some delivered at home especially in the rural setting, such women could not be covered in this study.
Women encountered during labour were not captured.
Also, Health workers that cared for them may have privileged information on some of the challenges faced by these pregnant women but questionnaire were not administered to them though invaluable. Limited fund and time were among the reasons for this omission.
Abuja is a model city and findings here will not necessarily be a reflection of what is happening in other parts of the country and hence the study may not be generalised.

1.13 THE ROLE OF THE RESEARCHER
The researcher is currently employed by the Federal Ministry of Health, Abuja, Nigeria as a Senior Medical Officer. She is also a student in the Department of Health Studies at the University of South Africa. The researcher is required to independently conduct research and submit a dissertation in fulfilment of the requirement for the degree of
Master of Arts. The study was not initiated by the Federal Ministry of Health, Abuja, Nigeria.

1.14 ETHICAL CONSIDERATIONS:
Chambers dictionary (1999:554) describes ethics as the science of morals. That branch of philosophy which is concerned with human character and conduct. Bioethics can be described as a field of study concerned with the ethics and philosophical implications of certain biological and medical procedures, study methodologies, technologies and treatments (Joubert & Ehrlich 2007:31).

To ensure that ethical considerations were achieved in this study the researcher observed the following:

The research proposal was approved by the Research and Ethics Committee at the Department of Health studies of the University of South Africa (annexure A).

Permission to conduct the study was requested and approved by the Ministry of Federal Capital Territory (FCT) Abuja, Department of Health (Research Unit) and the Chief Medical Directors of selected Health Centres within the area councils of interest in Abuja. A copy of the approval letter from Ministry of Federal Capital Territory served as an entrant into the hospital as they are all under their supervision (annexure B and C).

Informed consent was observed by explaining to the respondents the purpose and objectives of the study, data collection methods and the significance of the study while they could withdraw from participating in the study without victimisation by the researcher (annexure D).

To maintain anonymity, respondents were not linked to collected data as codes were used for individual respondents. Right to privacy was maintained by not sharing the information without the consent of the respondents.

The researcher informed the respondents that they would not be remunerated for participation. No physical, psychological and emotional harm was inflicted on the respondents. The details are presented in chapter 3.
1.15 THE SCOPE OF THE RESEARCH:
Scope is the "border" where the objective, knowledge, instruction or outcome of the activity is found. The scope of a study is a general outline of what the study (e.g. class or seminar) will cover (Wales & Sangers 2001).

The scope of this study is to identify factors influencing utilization of PMTCT services in FCT Abuja. A structured questionnaire was designed to get information from pregnant women attending PMTCT Clinic on the factors affecting utilization of the programme. The possible limitations as well as what could make other women not to access these services given that they are free.

1.16 STRUCTURE OF THE DISSERTATION:
Chapter 1: It focuses on the introduction, research problems, purpose of the study and an overview of the research design and methodology.
Chapter 2: Dwells on the Literature review which includes a general overview of HIV/AIDS and PMTCT, Approach to PMTCT services and factors responsible for low utilization of the services.
Chapter 3: Presents the Research design and Method, sampling techniques, data collection methods, ethical considerations, data analysis and validity of the study.
Chapter 4: Discusses data analysis and findings.
Chapter 5: Here, the conclusion and recommendations based on the findings are enumerated.

1.17 CONCLUSION
Data from a number of studies revealed that a huge gap exists in the area of accessing and utilisation of PMTCT services among HIV Positive pregnant women despite the fact that services were offered free in designated health facilities. This gap has led to a persistent low number of infections averted in infants born to HIV positive women, and reversing the MDGs 4, 5 and 6. This chapter focused on the background to the study on the factors that influenced utilisation of PMTCT services in selected health centres in FCT, Abuja. The chapter introduced the problem statement, the research objectives and the significance of the study. The research methodology and design were outlined, definitions of terms as applied to this study provided, as well as the scope, limitations and ethical considerations discussed. The literature review based on the theoretical framework will be discussed in chapter 2.
CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION:
Literature review is an insight into what other researchers have done that is related to current study being carried out. It is an organised written presentation of what has been published on a topic by scholars (Burns & Grove 2005:93).

2.1.1 Purpose of a Literature Review
According to Burns & Grove (2005: 93), the purpose of the literature review is to convey to the reader what is currently known on the topic of interest. Also, Polit & Beck (2008:756) explain literature review as “a critical summary of research on a topic of interest, often prepared to put a research problem in context”.
In the context of this study, the purpose is to clarify, summarise and identify factors influencing utilisation of PMTCT services from previous studies and relate it to the researcher’s findings.

2.1.2 Scope of the Literature Review:
The literature review focuses on the factors influencing utilisation of PMTCT services by HIV positive pregnant women using the theoretical framework (ABM) as a guide. Publications and reports related to the research topic were searched for from major international organizations such as WHO, UNICEF, MDG, USAID, International journals such as Pubmed, Bioline, Medline, American journal of Public health, publications from Ministry of Health and other related publications.
The review also seeks to identify poor attitude of women towards health-related issues. Between 2009 and 2010, Nigeria got a CIDA grant to scale up PMTCT services to measure new infections averted in children in high prevalence local government areas (LGAs) based on the result of 2008 ANC Sero-prevalence study using influential women to encourage women to attend ANC. According to the HIV/AID Division programme data (2010:6), “actual infection averted in 2009 is 1172, and in 2010, it is 1391”.
Some key interventions of PMTCT of HIV/AIDS aimed at reducing infant mortality and morbidity due to HIV/AIDS have been advocated. Some of these are: HIV counselling and testing; antiretroviral drugs that reduce MTCT; improved care during antenatal and
postnatal periods; family planning; and supportive/continued counselling. (Katushabe 2007:11).

2.2 THE FACTORS INFLUENCING UTILISATION OF PMTCT USING THE CONCEPTUAL FRAMEWORK

A brief overview of the conceptual framework was highlighted in chapter 1. This chapter will focus more on the exposition of the framework. Some of the identified barriers to effective implementation of PMTCT programmes can systematically be illustrated using Andersen’s behavioural model and access to medical care (Andersen 1995:8). The model entails the following components:

- **Environment**: Health care system (policy, resources and organization) and external environment (physical, political and economical environment);
- **Population characteristics** – predisposing factors, enabling factors and needs factor;
- **Health behaviour** – personal health practices (diet, exercise and self care) and use of health care services (type, site, purpose and time interval); and
- **Outcomes** – perceived health status, evaluated health status and customer satisfaction (Andersen, 1995: 8). It is also worth noting that these factors influence the outcome of one another in other groups.

2.2.1 Environment:

2.2.1.1 **Health care system: Availability of policy and legal framework:**

Following the Abuja declaration of 2001 and Ouagadougou declaration of 2008, Government has pledged to increase funding to the health sector to strengthen all the subsectors. One of the strategies is to build and strengthen the primary health care system through decentralisation. The primary health care system has become the bedrock of PMTCT services as a result of decentralization. “Despite technical means and political will, the percentage of pregnant women benefitting from PMTCT interventions is not increasing as fast as public health authorities, health professionals, and scientists would expect” (Msellati 2009:807).

A study by Kasenga, Byass, Emmelin, Anna (2009:1) showed how policy changes such as introducing PMTCT, integrating HCT in ANC clinic with opt-out options and free ANC services improved uptake of PMTCT services in a rural Malawi setting. “Before the integration of HIV testing within ANC in March 2005, 196 pregnant mothers accessed ANC, 103 (52.6%) of them underwent HIV testing and 17 (16.5%) tested positive.
In the same Malawi study, after March 2005, when HIV testing was integrated within ANC, attendance and the proportion accessing HIV testing generally increased. In this period, 1,063 pregnant mothers accessed ANC, 837 (78.7%) took HIV test and 148 (17.7%) tested positive. Then in January 2006, routine (opt-out) HIV testing was introduced within ANC, this again increased attendance and uptake of HIV testing. A total of 992 women attended ANC, of whom 879 (88.6%) took an HIV test and 137 (15.6%) tested positive. In October 2006, free maternity services were introduced. In this period, 2,277 pregnant mothers accessed ANC, 2,249 (98.8%) took HIV test and 333 (14.8%) tested positive.

This was further collaborated by a study in Rwanda where “Over 90% of women were offered HIV testing during their first ANC visit as per the Rwandan national guidelines, the women virtually universally reported very strong or strong recommendations from health workers to get tested” (Asiimwe, Delvaux, Elul, Ndagije, Roberfroid, Munyana, Nyiransabimana, Mugenzi, Vant Pad Bosch, Mugisha, Nizeyimana, Sahabo 2007:10).

As at the end of 2009, Nigeria was responsible for 30 per cent of the global burden of mother to child transmission of HIV. It was therefore a priority country for intensified support in reaching the Universal Access goal and one of the ten countries the Global Fund has issued a resolution to prioritise PMTCT by reprogramming existing grants to increase coverage of quality programmes.

One of the strategy employed by Nigeria is the integration of HCT and PMTCT services into all antenatal clinic and to ensure that all health care providers are trained on PMTCT (FMOH 2010a:4, UNGASS 2010: 86).

Provision must be made to allow for a robust supply chain system that will ensure that at all time there is sufficient stock, knowing the implications of break in the daily medication of these women. A study conducted in a well - resourced setting in Vietnam revealed that among the 35 women tested before the 36th week of gestation, who could have received ARV from that time, 17 did not have any ARV prophylaxis and 14 were only given the treatment at the time of labour reason being that in most ART sites, ARVs especially Nevirapine was stocked-out at the time the delivered, implying mother and baby did not receive medication (Nguyen et al 2008:4).

Policy of injection safety must be enforced to reduce further transmission of HIV. A study in Nigeria has revealed that HIV transmission through unsafe blood accounts for the second largest source of HIV infection in the country (Egesie & Egesie 2011:2)
2.2.1.2 Organisation:

The organisational structure of each country must be in line with the aims of elimination of MTCT as targeted by WHO. This includes:

Country perspective

- Technical and financial commitment at the global level from the multilateral and development partners, with clear indicators.
- Elimination anchored into the existing and new government strategic plans.
- Wider stakeholders’ involvement at all levels, including high-level government and community level.
- Clear targets – need to clarify what does 90% reduction mean? What does 5% MTCT mean?
- Clear and concise elimination framework for implementation (situational analysis, country-level targets and goals, defined role and responsibilities of stakeholders, outcomes and deliverables, progress monitoring, documentation).
- Need to address health systems and its strengthening. For this to go forward; start small, develop best practices then go to the national level, but there is the need to recognise that success of MTCT elimination in large part dependent on strong health systems (WHO 2010:19)

In Nigeria, the organisation structure is in three levels, the Federal Government oversees the activities of all federal health establishments, and this is replicated in the states and LGA’s councils. There are a lot of publications that guide and ensure strict compliance with health policies. Some of which include health sector framework, health sector strategic plan and all the guidelines on ART, PMTCT, HCT and Monitoring & Evaluation (M&E).

2.2.2 Population Characteristics

Population characteristics which involve socio-economic factors (social determinants of health), should form “the basic foundation of a society” because of the significant influence it has over health behaviours (Frieden 2010: 591) and should be given priority in preventing MTCT.
2.2.2.1 Predisposing factors to PMTCT utilisation

2.2.2.1.1 Educational and marital status:

The National HIV sero-prevalence sentinel survey of 2010 shows a prevalence rate of 4.1%, that majority of the women from the southern Nigeria (%) were more educated than their Northern counterparts (FMOH 2010a:14). The impact of education and marital status on utilisation of PMTCT cannot be overemphasized. In the northern part of Nigeria early marriage and polygamy thrive. This was supported by cultural and religious practices prevalence in that region unlike the southern part. The early marriage has its toll on the educational status of the girls that were given away in marriage at tender age.

2.2.2.1.2 Knowledge and Attitude of pregnant women to PMTCT utilisation:

Negative attitudes shown by some HIV positive pregnant women were due to ignorance and poor quality of counselling received. Since all pregnant women want to have a healthy baby, they are likely to take action to avoid the risk of transmitting HIV to their baby if the benefits are adequately explained to them (Nnamdi okagbue 2009:46). Katushabe (2007:46) on the knowledge and attitude pregnant women have on PMTCT show that knowledge is high among the educated (69.2%) than non educated (47.1%). Education attainment can give individuals the opportunity to participate in development issues that can further expose and keep them informed on different issues (Katushabe 2007:47).

Fjeld Falnes (2010: 3) study showed that of all the 426 mothers interviewed in Tanzania, 94.6% of them have knowledge about HIV from antenatal clinic while 65.5% received infant feeding counsel. 98% accepted testing.

2.2.2.1.3 Cultural belief:

Culture is the people’s way of life. In most Africa countries, cultural belief influences people’s attitude and behaviour on any issue. Sometimes, these cultures are embedded in religious believes. In some communities, women are not involved in decision-making and cannot therefore make decisions on their own, even when some decisions concern them as individuals.

This is the case in Nigeria where two major religions exist, namely Christianity and Islam. Both religions believe in the supremacy of male over their wives, this is more pronounced in the Muslim dominated Northern Nigeria. This is in line with a study in
Kenya by Karia (2008:18,26) where women are marginalised and regarded as inferior even without HIV infection, lacking autonomy to make decisions on health issues and for those infected on HIV prevention. This is fuelled by male dominated cultures. Some of the cultures affecting PMTCT service utilisation include:

Permission from the husband before accessing HIV testing: Katushabe (2007: 56) states that most women refuse testing because they need permission from their husband to undergo the test.

Patronising Traditional Birth Attendant (TBAs): It is estimated that nearly half of all pregnant women aged 15 to 49 in Nigeria neither access antenatal care nor deliver in health facilities. Majority of women in this group patronise TBAs and are not offered HCT in this setting (FGON 2012: 49). A workshop was organised for TBAs in six states with the highest prevalence in Nigeria to enumerate the importance of HCT and PMTCT as well as establish referral linkages for HIV positive mothers. Husband’s permission is needed to attend antenatal clinic or deliver in the hospital during labour. This is made worse by the fact that the choice of replacement feeding by those who can afford it does not arise, because it is culturally not accepted since it is seen as a thing of pride to breastfeed, but with the advent of Option B and B+, this has been reduced as mothers can now breastfeed their babies under ART cover (Karia 2008: 27).

2.2.2.2 Enabling Factor to utilisation of PMTCT services

2.2.2.2.1 Accessibility to PMTCT services:

Most women in Nigeria, in their reproductive age live in the rural area (Bankole et al, 2009: 5). Most of the developing countries have majority of their population residing in the rural areas but unfortunately the health care services in such countries are concentrated in the urban area. Sometimes the nearest health centre is far from their residence and they have a limited resource to transport them to the hospital.

In Nigeria, the NDHS 2008 report shows the maternal mortality rate of 545/100,000 live births, though this figure is high, there is a very wide disparity between the northern and southern parts of the country and this can be attributed to accessibility and utilisation of antenatal care (Ezeanochie, Olagbuji, Agholor, Okonofua,2010: 9-11).

According to Population, Reproductive Health and MDG (2005: 11) publication, if this disparity must be bridged, focus should be on policy implementation that hinges on gender equality and sexual rights of women. In addition, exposure through education, job security and elimination of some cultural barriers should be emphasised.
When access to ANC is in place, then access to HCT and PMTCT will not be a challenge as seen in a study by Rwanda Ministry of Health (2007: 59) which shows that the ANC visit was impressive, 90% of the women were strongly recommended to have HIV test on their first visit to antenatal. This was achieved because it is in line with the national policy. While in Ethiopia, ANC attendance was 27% one of the lowest in Africa (Worku 2007: 2). In South Africa, up to 92% of pregnant women attended ANC at least once and 91% delivered in hospital in 2003 (UNICEF 2010b: 1).

With the safe motherhood initiative operational in most counties, attendance to ANC has been on the increase but the number of visits has only improved minimally. According to World Health Statistics (2010: 30), African’s ANC attendance was 73% though this did not translate to maternal mortality indices reduction as nearly two third of the women give birth unattended to by a skilled birth attendant (Avert 2011d: 2). Where majority of the births took place unattended to by skilled staff then the third and fourth prong approaches to provision of PMTCT Services will both be a mirage, since minimal/comprehensive PMTCT package will neither be accessed nor family planning services provided.

Some area of improvement in our health care delivery will be to increase opening hour for example Saturday and integrating PMTCT programme into the routine ANC services to ensure that clients are regularly attended to and do not need to travel to attend PMTCT elsewhere/separately as some of them are poor and could not afford the cost of numerous travels. This possibility is being explored in Nigeria.

The utilisation of the services of TBA cannot be over – emphasised. A study in Ethiopia described TBAs as the trusted provider, first help to women and widely accepted in the community (Worku 2007: 37).

During a visit to one of the rural PMTCT site supported by CIDA Grant on averting HIV infected birth in Enugu state in Nigeria, a collaborative service by the TBA and the midwife in the site was noted. The midwife goes to give health talk and HCT to women attending ANC at the TBA’s place. The midwife admitted that since most of the mothers who are uneducated and live in the rural area prefer the TBA, the TBA was encouraged to have antenatal days so that the HCT and other relevant talks could be given to the women and those identified to be positive will be followed up to ensure compliance with PMTCT services.
**2.2.2.2 Availability/Affordability of PMTCT services:**

Availability refers to the physical access to or how reachable services that meet a minimum standard are (*WHO 2008:3*)

Affordability refers to the ability of the client to pay for the services (*WHO 2008: 3*).

The availability and affordability of the PMTCT package is key to achieving high PMTCT utilisation rate. For any country to succeed in reducing MTCT, there is need for all the key elements to be on ground, such as trained counsellors, enough infrastructure and staff, robust supply chain that will ensure commodity security and customer security, as well as affordability of commodities. Fortunately, most countries are benefiting from donor funding as such the services are either received at a subsidised rate or free of charge. Nigeria belongs to the later group where services are given at no cost to clients but the challenge of getting people is a serious cause of concern. Despite the presence of donor funding, their presence are not evenly distributed to all the states (*FMOH 2010b:12*) Thus, it is believed that integration of PMTCT to maternal and child health (MCH) care will be a form of scale-up needed to improve access.

Most developing countries can provide only limited MCH services, as they face managerial, financial and human resource constraints. Even where services are available, potential beneficiaries do not fully use them. Improving the availability, quality and use of MCH services is critical in reaching women who may benefit from PMTCT interventions (*FHI 2004: 5*).

**2.2.2.3. Health workers attitude:**

Health worker’s attitude has greatly influenced pregnant women access to care. Some of the women interview in a study done in Vietnam expressed the concern that they knew HIV infection is associated with stigma and poor unfriendly treatment from health workers, they will prefer to deliver at home, so they and their babies received no form of ARV prophylaxis (*Nguyen et al, 2008: 5*).

Lack of practical needs can become an excuse for health care workers to justify their fear of HIV infection and their reluctance to provide good services for HIV-infected people.

In a study of the Integration of Family Planning and VCT/PMTCT/ART programmes in Uganda, although health workers were willing to render services to clients, due to non -
availability of materials they were referred to another facility, making some clients think the health provider were not willing to attended to them or being pushed away (Asiimwe, Kibombo, Matsiko, Hardee 2005: 20).

This has led to many missed opportunities in PMTCT services as clients out of frustration and ignorance will not visit the referral centre, forestalling provision for follow up of clients.

Healthcare workers despite their ethical obligation, can have discriminatory and negative attitude towards their clients with HIV/AIDS due to lack of resources to cater for them, inadequate knowledge about HIV and fear of being contaminated (Mekonnen 2009: 23)

2.2.2.4. Stigma and fear of disclosure of HIV status:

Challenges of PMTCT programme include stigma surrounding HIV and AIDS as a disease, which has led to a number of people not willing to know their status (Katushabe, 2007:12). According to Talam, Gatongi, Rotich, Kimaiyo (2008: 75), stigma (28.9%) was identified as one of the factors affecting adherence to treatment with ARVs. This stigma is not restricted to the individuals’ immediate family as some of the pregnant women believe that it will not only disrupt their family but will also be socially stigmatised in the health setting and outside the clinic (Katushabe, 2007:55).

This viewpoint is corroborated by Adamu (2009: 23) on KAP of HIV services in Gombe State of Nigeria where he noted that even well educated people are likely to have a negative attitude towards people living with HIV than their counterparts with secondary, primary and islamic education.

This shows that stigma is still a restrictive factor to accessing the service as even some learned people resent people living with HIV.

2.2.2.3. Needs Factors for utilization of PMTCT services:

This entails how people perceive their health and whether they judge their problem to be sufficiently serious to seek professional help (perceived need) while the biological imperative that accounts for some people’s help seeking and consumption of health services is represented by evaluated needs (Birgit, Gohl, Von Lengerke 2012: 3). This will help us understand people’s need for medical care and adherence to medical regime.
2.2.2.3.1 Fear of Side Effects of drugs

The fear of side effects especially of the drugs is one of the factors affecting uptake of PMTCT. This is where adequate counselling comes to play. A study conducted in Ghana to follow up women initiated on ARVs in a PMTCT clinic showed that 26 out of 30 women being prospectively followed up after initiation of PMTCT suffered various Adverse Drug Reactions to ARV. Three patients had serious reactions necessitating cessation of therapy (Zigah, Dodoo, Appiah-Danquah, Ofori, Nee-Whang and Tetteh 2009:1). It is a documented fact that these drugs are not without side effects but with proper counselling on what to expect, Patients will cope and if possible opt for a change of regimen that will not be detrimental to their pregnancy.

2.2.2.3.2 Fear of Complications in Pregnancy

Initially it was believed that Caesarean section could reduce MTCT but recently it’s been found that with ARV commenced early in pregnancy, pregnant women can undergo normal delivery and still have a HIV negative baby if all the specific modification of obstetric care for HIV positive women is adhered to (FMOH.2010a: 26). The fear of undergoing a caesarean section was a big challenge as a lot of women have phobia for it and some believe that ARVs will affect their babies hence defer seeking health intervention. HIV infection does not result in a complicated pregnancy so also ARVs. Rather the pregnant woman should be interested in making sure the baby is not infected.

2.2.2.3.3 Fear of Infecting Baby with HIV

Some women living with HIV were scared of getting pregnant for fear of infecting their babies which will be an additional burden to them. According to a study in South Africa by Carole Leach-Lemens (2011: 1) exclusive breastfeeding and triple-drug antiretroviral treatment (ART) were found to be protective factors, while unplanned pregnancies and mixed feeding were risk factors associated with MTCT. Close to two-thirds of the pregnancies among HIV-infected women were unplanned. Also MTCT can be reduced to 2% by ARV given during pregnancy, labour and breastfeeding (FMOH 2010a: 3)

2.2.2.3.4 Fear of Knowing Ones HIV Status

Some women refused HIV testing because they were afraid of learning that they have a life-threatening disease - afraid that the resulting worry and stress will quicken death: Others refuse because they perceived few benefits of testing, either to their unborn
babies (due to poor counselling, distrust or misunderstandings) or to themselves (if they are unlikely to receive long-term treatment). Many women were concerned that, if found to be HIV positive, their diagnosis will not remain secret. Fear of the stigma, discrimination and prejudice will make most women not to be interested in knowing their HIV status (Avert 2011d: 1). A study in Vietnam shows that poor or inadequate counselling was done and the importance of PMTCT was not appreciated by the mothers (Nguyen et al, 2008:2-4).

2.2.3 Health Behaviour Factor
2.2.3.1 Health Care System
The level of care offered at the facilities mostly serves as incentives for the pregnant HIV positive women to access PMTCT services.
As of December 2009, over two-thirds of countries in sub-Saharan Africa and Latin America and the Caribbean had introduced policies supporting provider-initiated testing and counselling (UNGASS, 2010: 5).
It has been noticed that most PMTCT sites were nurse driven and the major reason being the lack of doctor to initiate therapy or referral to a comprehensive site which may not be accessible due to physical or financial reasons to the women leading to late initiation of therapy (Stinson, Boulle, Coetzee, Abrams, Myer 2010: 2). Time for initiation of HAART was important following the European Collaborative Study Group (2007) in which data from the cohort study suggests that at least eight weeks of highly active ART (HAART) are required to achieve viral suppression in women with advanced HIV disease.
Global HIV/AIDS Initiative (GHAIN) project in Nigeria reveals that training of site staffs after assessment of the site is mandatory and where there is shortage of staff, volunteer workers are recruited to fill-in the gap. This improved care of the pregnant women and strengthened the referral system (GHAIN.2011: 3).
A study done in well funded and equipped urban PMTCT setting in Vietnam, shows that women have to find their way through a maze of fragmented services, with the result that many women who should be getting PMTCT were not and it was recognised that stigmatisation was still high. All these affect the quality of care offered to these women (Nguyen.et al.2008: 4). Nguyen et al (2008: 7) also noted that most of the time family planning and abortion were not offered to the women even in countries like Vietnam where abortion is
legalized; same study showed that 9 out of 31 women that wanted caesarean section actually had it because health staffs were afraid of getting infected.

2.2.3.2 Client Choice and self-care

This involves personal cares and choices as it interacts with the use of formal health services to influence health outcomes.

These include:

To accept HCT: This stage was regarded as the gateway or entrance to the HIV programme. According to UNAID (2002) report, “globally, HIV testing and counselling was recognized as a priority in national HIV programmes because it forms the gateway to HIV/AIDS prevention, care, treatment and support interventions but this has not become entrenched in peripheral health facilities in developing countries”. Nigeria is yet to incorporate HCT in all the primary health care centres nationwide. According to Nigerian health sector assessment report (FMOH 2008:20), of the 21,431 PHCs in the country only 1081 offers HCT. It was noted that knowledge of HCT is high (Oruonye 2011: 107)

Nigeria’s universal access report shows that 2,287,805 tests were carried out in 2010 (FMOH 2011b: 3). 1,631,099 were conducted on women of whom 893,332 were attributed to pregnant women. It is believed that a total test of above 2 million in a country with a population of over 160 million is a far cry from attaining the universal access of getting 80% of the people tested by 2010. Also in a study done in Tanzania, nearly all mothers (98%) were offered HIV testing, and all who were offered accepted but the counselling was hurriedly done due to time and resource constrain (Fjeld Falnes 2010: 4).

Accepting HIV test offered in health centres will influence health outcome as those who are HIV positive will access services beneficial to them.

2.2.3.3. To Accept Result of HIV Test:

In the case of PMTCT, most of the pregnant women get tested because they were encouraged to and in some countries it is one of the routine tests in which some mothers were given the option to opt out. This method has helped in increasing the uptake of test (Rwandan MOH, 2007:10; Worku 2007: 34). This was in keeping with a study by Olarewaju, Fatusi, Akintunde, Ibrahim, Fakunde (2007: 1) where 587 (80.6%) pregnant women underwent the test after pre-test counselling. Sixty-nine women (9.5%) tested positive in the result. The women were counselled on the need for PMTCT of HIV infection. Only thirteen (18.8%) women accepted to utilise PMTCT facilities. Also, group
pre-test and individual post test counselling have greatly improved uptake coupled with the use of rapid test kits which has reduced the turnaround time making results available same day. Pregnant women do not need to travel to the clinic another day to receive their result. The disadvantage of this method is that most pregnant women with positive result are not psychologically ready to receive result and the outcome could be disastrous.

2.2.3.4. To Commence ARV for Self and Baby

As at December 2009, the national PMTCT coverage is 13%, only about 42% and 3% respectively of secondary and PHC facilities with maternities offer PMTCT services. Only 12% of HIV positive pregnant mothers have access to cluster of differentiation (CD4) count services, and the same proportion (12%) have access to ARV prophylaxis. However, adult ART coverage (not disaggregated by sex) is about 40% (FMOH 2010b: 14). ARVs improve the outcome of the pregnancy some of the babies are testing negative for HIV.

Initially, WHO issued a rapid advice on the use of options A and B to help in reducing MTCT, this worked because monotherapy of option A encourages resistance to Nevirapine, option B seems to be a better option but requires monitoring, which is not available in most PMTCT sites as some of them are in Primary Health Care centres. Even in Nigeria, most of our facilities (51%) are using option B since most physicians managing them claimed that side effects are at the barest minimum (HIV/AIDS Division 2012a: 6).

The cost of ARV drugs was a major determinant in countries’ choice of a PMTCT option. In 2009 the average ARV drug cost of Option B was three to five times higher than the cost of Option A (depending on regimen and assuming the provision is for both ART and prophylaxis). However, by the end of 2011, this differential had diminished to two times higher (WHO 2012: 3).

Important advantages of option B+ include: further simplification of regimen and service delivery and harmonisation with ART programmes, protection against MTCT in future pregnancies, a continuing prevention benefit against sexual transmission to sero-discordant partners, and avoiding stopping and starting of ARV drugs. While these benefits need to be evaluated in programme settings, and systems support requirements need careful consideration, this is an appropriate time for countries to start assessing their situation and experience to make optimal programmatic choices (WHO 2012: 1).
2.2.3.5. To Accept Breastfeeding Options:
The breastfeeding options used in PMTCT has been very effective. With the introduction of option B and B+ exclusive breastfeeding and ARV cover are advocated. This will enhance uptake as infant formula feeding generates suspicion from relatives, as some of them know that some mothers with HIV do not breastfeed their babies. This supports the view of Nnamdi-Okagbue (2009: 45) that “Many women fear that people will talk badly about them if they are seen obtaining baby formula and this discourages women who have not enrolled in the programme”.

A study by the Rwanda Ministry of Health (2007: 11) shows that nearly all HIV-infected women (>95%) were advised to exclusively breastfeed their infant during/after their pregnancy and many (>65%) were also counselled about solely using artificial milk. Only 8% of all women, however, were advised specifically to avoid mixed feeding. Countries should work towards reviewing their PMTCT guideline to reflect either option B or B+ according to their financial capability.

2.2.3.6. To Attend Postnatal Care and do EID for Baby
This is a landmark success in allaying the fear of some mothers who will anxiously be waiting to get the result of their baby’s HIV status especially for mothers that accepted PMTCT services because of the benefits to themselves and their babies. Nothing could be heart-warming as getting a result of a HIV negative baby by a positive mother.

As at December 2009, only 40% of exposed infants accessed EID services and 5% tested positive. Only 2% of HIV exposed infants are on cotrimoxazole prophylaxis. The number of HIV-exposed infants receiving ARV prophylaxis has increased from 516 in 2004 to 2,230 babies in 2009. Early infant diagnosis of HIV using Dried Blood Spots (DBS) samples for DNA-PCR was adopted in Nigeria in 2007 and over 15,000 DBS samples have been tested at the eight reference laboratories using about 340 collection sites. About 5% tested positive (FMOH 2010b: 14).

2.2.4. Outcome
2.2.4.1. Perceived benefits of PMTCT
Perceived benefits are the patient’s beliefs that a given treatment will cure the illness or help prevent it, and the perceived costs are the complexity, duration and accessibility of treatment (Polit & Beck 2008: 150). For pregnant women to perceive the benefits of interventions, they need information about what actions are required to prevent MTCT
of HIV, how to take the action, as well as where and when to take the advised action (Nnamdi Okagbue 2009: 44). This is very necessary as it will aid disclosure especially to the spouse, reduce stigma and help in making informed decision on delivery, breastfeeding options and possibly plan the next pregnancy or go for family planning option of their choice and above all, have a healthy baby. Women that do not know the benefit of PMTCT will not adhere to the various interventions offered in PMTCT

Also a study by Nguyen et al (2008: 4) in Hanoi, Vietnam also underscores the importance of proper counselling that will affect the attitude of the pregnant positive mothers, it revealed that “Among the 52 women, there were 15 who either lacked knowledge about the infection and testing or had never thought about their own risk of infection. Most of the women were not aware that medication could prevent MTCT”.

2.2.4.2. Quality Of Services Rendered:

According to Joubert & Ehrlich (2007: 308-309) quality of healthcare services can be evaluated using four key concepts, namely effectiveness, efficiency, equity and humanity.

Effectiveness: Does the service do what it is intended to do? Does it improve health? And how well does it do so?

Efficiency: This refers to maximising outcomes for a given amount of resources.

Equity: This connotes equal care for equal need. Need means capacity to benefit.

Humanity: The emotional and social wellbeing of users and providers of care is an important health outcome. Are people treated with respect?

For the PMTCT services to have a meaningful impact on the populace the quality of services rendered must be acceptable and meet consumers’ satisfaction.

From 2004 to 2007, Partnership for transforming health system (PATH) led a collaborative effort to improve the quality of PMTCT services in Ukraine. Interventions focused on training providers to improve skills in communication and referral to community-based support; they also addressed the underlying issue of stigma. Observational data demonstrated that providers who participated in the training intervention delivered PMTCT counselling of a consistently higher quality than did providers who did not undergo training. Exit interviews with clients confirmed these findings (Gamazina, Mogilevkina, Parkhomenko, Bishop, Coffey, Brazg 2009: 2).

One of the ways to improve quality is for HIV-infected mothers to work towards supporting newly diagnosed mothers through peer support groups and can initiate open dialogue about HIV and challenge stigma and discrimination in their communities.
2.3 CONCLUSION:
There are still gaps and challenges in integrating PMTCT services into existing reproductive health programmes thereby limiting the implementation of a comprehensive PMTCT package at various services delivery points. In addition, effective systems for monitoring and evaluation of the impact and relevance of PMTCT interventions are weak and poorly implemented. Therefore, valid data is lacking to conduct cost-effectiveness analysis of various intervention models that will form the basis for policy decisions on PMTCT.

The national coverage of PMTCT was 13% at the end of 2008. This is an insignificant proportion to what prevailed in South Africa, whose 2010 coverage was estimated to be greater than 95%. In Zambia, as at end of 2009 PMTCT coverage was 69% (Avert: 2011b:1, Avert 2011c:1, UNGASS 2010: 90).

The Nigerian national PMTCT program gap analysis showed that accelerated scale up towards elimination of MTCT of HIV is achievable through integration and decentralisation of services from tertiary and secondary facilities to primary care facilities, increasing access to early infant diagnosis (EID) and ensuring the operationalisation of all four components of the PMTCT programme (FMOH, 2010b:16)
CHAPTER 3

Research methodology

3.1 INTRODUCTION
The research methodology refers to the steps, strategies and procedures used for data gathering and analysis in research (Polit & Beck 2008: 758). Burns & Grove (2005: 211) add that the research methodology is the blueprint for conducting the study that maximises control over factors that could interfere with the validity of the findings. It guides the researcher in planning and implementing the study in a way most likely to achieve the intended goal. This chapter presents the research methodology used in this study, including the population and sampling frame, data collection procedures, data analysis, validity and reliability and the ethical considerations.

The research design and method facilitated the attainment of the following research objectives:

- Investigation of the perceptions of HIV-positive pregnant women regarding the quality of PMTCT services in Abuja FCT, Nigeria.
- Identification of factors that prevent HIV-positive pregnant women from returning to the health facility for follow up and delivery in Abuja FCT Nigeria.
- Exploration of measures that would promote the utilisation of PMTCT services by HIV-positive pregnant women.

Based on the identified factors, recommendations were made to improve uptake of PMTCT services.

3.2 RESEARCH SETTING
Research setting can be stated to mean places and conditions in which data collection occurred (Polit & Beck 2008: 766). This definition is consistent with the definition provided by Burns & Grove (2005: 325), who state that a setting is a location for conducting research.

In this study, data was collected from the respondents at selected 20 PMTCT clinics within three area councils in Abuja, at the venue and the time agreed upon by the researcher and the selected groups (HIV positive pregnant women) who participated in
this study. Owing to the distances of the selected health centres, three weeks was set aside for data collection, done from 26th August – 14th September, 2012.

3.3 RESEARCH DESIGN

The following section contains the definition of a research design, the rationale for the choice of the selected design and the conceptualisation of the terms used in the design.

3.3.1 Definition of research design

Polit & Beck (2008: 765) define research design as an “overall plan for addressing a research problem”. It is conceptualised by Joubert & Ehrlich (2007: 77) as the structured approach followed by researchers to answer a particular research question. The type of design directs the selection of a population, sampling procedure, methods of measurement, and a plan for data collection and analysis (Burns & Grove 2005: 40). Babbie & Mouton (2001: 272) state that two steps should be followed in research design; the researcher must identify what he or she wants to establish and then determine “the best way to do it”.

In this study, the researcher used a quantitative, descriptive and cross-sectional research design to systemically gather information from HIV positive antenatal attendees in the selected health facilities to identify factors that influence HIV-positive mother’s utilisation of PMTCT services. The data obtained from the participants was analysed using statistical procedures (SPSS).

3.3.2 Rationale for the choice of the research design

Literature on factors influencing PMTCT utilisation has been widely studied during the last decade, but data on factors influencing PMTCT utilisation in the federal capital territory, Abuja, were limited. Therefore a quantitative, descriptive and cross-sectional design was deemed most appropriate, because the study sought to obtain more information on this area of interest.

This is also in keeping with the philosophy of positivism which adheres to the view that only “factual” knowledge gained through observation (the senses), including measurement, is trustworthy. In positivism studies the role of the researcher is limited to data collection and interpretation through objective approach and the research findings are usually observable and quantifiable through statistical analysis.

This makes the researcher completely independent of the study, with the use of structured questionnaire there is minimal interaction with participants.
Quantitative research design was used because the researcher does not want to interfere with research process. Descriptive design was utilised to gain more information about characteristics within a particular field of study (Burns & Grove 2005:232). This design was used to get information from HIV pregnant women on factors affecting PMTCT utilisation.

3.3.3 Description of Related Concepts

The following concepts were discussed briefly in chapter 1. The various concepts related to the research design are further explained in what follows:

3.3.3.1 Quantitative, Non-experimental design

Quantitative research design according to Burns & Grove (2005:747) is a “formal, objective, systematic process in which numerical data are utilised to obtain information and describe variables and their relationships” The advantage of using measurement is that numbers have the advantage of being exact and can be analysed using descriptive and inferential statistics. Quantitative research was appropriate for this study because it explored and discussed numerical data on the factors that affect utilisation of PMTCT services without the researcher interfering or influencing it.

This statement is consistent with the view of Polit & Beck (2004:15), who state that quantitative research is a set of orderly and disciplined procedures used to gain knowledge. According to these authors, quantitative research designs are traditional, positivistic and scientific methods used to conduct research by using a series of steps according to a plan of action.

Non-experimental designs are often used in nursing studies because some human characteristics are not subject to experimental manipulation because of ethical implications (Polit & Beck 2004:188).

In this study, a non-experimental research design was used to observe, describe and document factors affecting the utilisation of PMTCT services by HIV-positive pregnant women.

3.3.3.2 Descriptive design

Descriptive studies involve the collection, analysis and interpretation of data. A descriptive study can also be described as an observational study that simply describes the distribution of characteristics (Fathalla & Fathalla 2005: 44). This was further explained by Joubert & Ehrlich (2007: 78) as a study set out to quantify the extent of a problem or burden of disease in a population. LoBiondo-Wood &
Haber (2006: 240) explain descriptive designs in the health care area as a collection of detailed descriptions of existing variables and the use of data to justify and assess current situations and practices to make plans for improving health care practices.

Descriptive designs are utilised to gain more information about characteristics within a particular field of study (Burns & Grove 2005: 232). Which will provides valuable baseline Information.

This study describes and documents factors that affect utilisation of PMTCT service by HIV - positive pregnant women at selected health centres in three area councils in Abuja Nigeria.

**3.3.3. Cross-sectional design**

Burns & Grove (2005: 236,732) describes it as a design used to examine groups of subjects in various stages of development simultaneously with the intent of inferring trend over time. This is in line with a study by Somekh & Lewin (2005: 216) in which a cross-sectional study was described as involving the collection of quantitative data on at least two variables at one point in time and from a number of cases. In a cross-sectional study, the researcher usually selects the samples without reference to length of exposure or disease; often the sample is drawn at random from a defined population (Joubert & Ehrlich.2007: 85).

The advantage of using cross-sectional studies is that they are less costly in terms of time and money than longitudinal studies. The data are readily available and the results will be readily available as well. They are often the first step in assessing the possibility of a relationship between cause and effect. Its disadvantage is that it lessens the ability of the researcher to establish an in-depth developmental assessment of the interrelationship of the phenomenon being studied (Joubert & Ehrlich 2007: 87, LoBiondo-Wood & Haber 2006: 244).

In this study, a structured questionnaire was administered to HIV Positive pregnant women attending PMTCT clinic simultaneously irrespective of when they registered at the clinic (old and new entrants) as schedule by the researcher.

The research method addresses the development, validation and evaluation of research tools and methods to be used to gather and analyse the data obtained during the study (Polit & Beck 2008: 328). Burns & Grove (2005: 223) defines research method as being the entire plan of a study which includes the steps of the research process from problem identification to the actual data collection.
3.4 RESEARCH METHODS:
The research method includes the population, sample frame, data collection and data analysis.

3.4.1 Population
The population is all the elements (individuals, objects or substances) that meet certain criteria for inclusion in a given universe (Burns & Grove 2005: 40). It is the population from which the study sample is drawn or selected (Babbie, 2007: 190; Babbie & Mouton 2001: 174). It can also be described as the entire set of individuals having common characteristics (Polit & Beck 2008: 761). In this study, target population includes pregnant women attending PMTCT Clinic in the selected health centres in FCT at the time of data collection.

The inclusion criteria for participants in this study included the following;
- The woman must be a HIV positive pregnant woman.
- She must have undergone counselling and testing for PMTCT
- She must be attending PMTCT clinic in one of the selected health centres.
- She must be willing to participate in the study by signing the consent form.

3.4.1.1 Sampling Frame
The sampling frame is a comprehensive list of elements in the target population from which the sample is drawn (Brink, Van der Walt, Van Rensburg 2006:124).

For the samples in a target population to have a chance of being selected, they have to be identified and listed. The listing of members of the population is referred to as the sampling frame (Burns & Grove, 2005: 346).

In this study, the sample frame was obtained through the recent mapping of health centres recently conducted by HIV/AIDS Division, Public Health Department of the Federal Ministry of Health Abuja and compared with the list from Department of Health, Ministry of the Federal Capital Territory, Abuja.

3.4.1.2 Sample and sampling:
A sample is a subset of population selected to participate in a study, the members of the sample are subjects (Brink et al 2006: 214; Polit & Berks, 2008: 765, Burns & Grove.2005: 40). According to Fathalla & Fathalla (2004: 50) Sample is a subset of the population from which conclusion or inference are drawn as applying to the target
population, Sample is to be appropriately selected to be representative of the target population.
Sample size refers to the number of elements included in the sample (Brink et al, 2006: 135).
Sampling refers to the process for selecting a group of people, events, behaviours, or other elements with which to conduct a study to obtain information on the phenomenon of interest (Brink et al, 2006: 124; Burns & Grove, 2005: 341; Polit & Beck, 2008: 339).
In this study, a multistage stratified, probability, proportional sampling method was used. A multistage sampling was used after compiling the sample frame. This approach was appropriate for this study because each person has equal chance of being selected for the sample.
Council selection: Of the six councils in FCT a random sampling was done to select three of them namely, AMAC, Gwagwalada and Bwari. Health centre selection: listing of all the health facilities in FCT (public and private) offering PMTCT was obtained from the recent mapping of health centres conducted by FMOH, they were stratified between centres offering PMTCT services free of charge and those offering PMTCT for a fee. Next, those offering services free of charge were further stratified between urban and rural health centre locations using the operational definition of urban and rural health centres. Then 15% of the centres were selected randomly based on the ratio of urban to rural (10:5) but due to the low number of HIV-Positive women that attend ANC in rural facilities and the time constrain for collection of data, this percentage was not strictly adhered to and only rural sites with large patients load were used.
The total number of health facilities in AMAC was 125; Bwari was 38 and Gwagwalada 27. Fifteen per cent of the total health facilities in the area councils were selected (10% urban and 5% rural) = 36, but only 20 were accessed.

**Table.3.1: Health centre distribution in the three area councils**

<table>
<thead>
<tr>
<th>Area councils</th>
<th>No of health centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMAC</td>
<td>125</td>
</tr>
<tr>
<td>Bwari</td>
<td>38</td>
</tr>
<tr>
<td>Gwagwalada</td>
<td>27</td>
</tr>
<tr>
<td>15% of the health centres per area council</td>
<td></td>
</tr>
<tr>
<td>AMAC</td>
<td>12</td>
</tr>
</tbody>
</table>
3.4.1.3 Sample size

Sample size refers to the number of elements included in the sample (Brink et al, 2006:135). A large sample size though will reduce sampling error and enhance representativeness of the population understudy but it may involve huge resources in terms of time, staff and funding (Joubert & Ehrlich, 2007:103; Saks & Allsop, 2007:158). In this study, the sample was calculated bearing in mind the population of women within the childbearing age range of 15 to 49 in FCT, growth rate in FCT, fertility rate and percentage of PMTCT utilisation in Nigeria.

Table 3.2: FCT Indices and Estimates

<table>
<thead>
<tr>
<th>Indices</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV prevalence in FCT, Abuja 2010</td>
<td>8.6</td>
</tr>
<tr>
<td>PMTCT utilization</td>
<td>13</td>
</tr>
<tr>
<td>Annual growth rate</td>
<td>9.3</td>
</tr>
<tr>
<td>Females of childbearing age</td>
<td>46.6</td>
</tr>
<tr>
<td>% estimate of pregnant women in FCT</td>
<td>7.2</td>
</tr>
</tbody>
</table>

According to the National HIV sero - prevalence survey conducted in 2010 among pregnant women attending ANC clinics to determine the country’s HIV prevalence, Abuja recorded 8.6% (FMOH 2010a: 19).

The country’s PMTCT utilization rate is 13%. Based on the latest 2006 census figures, the total population of female in Abuja is 673,067 and the annual growth rate for FCT is 9.3% (FGON 2009:42). If we apply this figure to 2006 census exponentially we get the figure for 2012, estimated to be 1,210,318 females. 46.6% of these females are within the childbearing age range of 15 to 49.

46.6% of 1,210,318 = 564,008 women for 2012. The % of women estimated to be pregnant in FCT based on NDHS 2008 report is 7.2%

7.2% of 564,008 = 40,609.

8.6% of pregnant women in FCT are HIV positive (FMOH 2010a:19).

8.6% of 40,609 = 3492.374
N ≈ 3,492. (target population size).

Sample size calculation when population is less than 10,000

\[ nf = \frac{n}{1+n/N} \]

\[ n = \frac{Z_{\alpha/2}^2 \times p(1-p)}{d^2} \]

\[ = \frac{(1.96)^2 \times 13\% \times (1-13\%)}{(0.05)^2} \]

\[ = 3.84 \times 0.13 \times 0.87 = 172 \]

\[ n = 172 \]

\[ nf = \frac{n}{1+n/N} = \frac{172}{1+172/3,492} \]

\[ = \frac{172}{1.049255441} \]

\[ = 163.93 \]

\[ = 164 \times 10\% \text{ attrition} = 180 \]

**Sample size = 190**

Sample size were allocated to each selected health centre based on the estimated number of ANC attendees for the previous six months, since the researcher could not get the estimate of PMTCT clinic attendee’s due to uncoordinated referral services. Participants were randomly selected from the list of those attending PMTCT clinic on the day of visitation. They were administered questionnaire to fill from selected centres in the ratio of 75:25 for urban and rural dwellers, respectively. This ratio was arrived at based on the last National Demographic Health survey conducted in 2008 (FGON 2008: 15), where ANC is received more by urban women (84%) than rural women (45%). 60% of urban women delivered in a health facility as against 24% of rural women (FGON 2008: 15). This shows that majority of ANC attendees occur more in urban centre.

At the end, 20 health centres and 190 pregnant women attending PMTCT clinic in the selected health centres within the selected three area councils of Abuja were selected. Questionnaire was administered to those that met the inclusion criteria and signed the consent form presented by the researcher and trained data collectors (PMTCT coordinators). They encouraged respondents to answer the entire question therein but it was noticed that some respondents left some questions unanswered and there was no means of getting back to them. Data collectors explained the questions to the few that cannot read or write and helped them with writing their responses. This sample was selected because it is feasible.
3.4.2 Development and structure of the research instrument

According to Polit & Beck (2008:414), when structured questionnaires are used the respondents are asked to respond to similar questions, in the same order and with the same set of response opinions. Joubert & Ehrlich (2007:107) further state that questionnaire is a list of questions answered by the respondents which gives indirect measures of the variables under investigation. In this study, the researcher, with the assistance of the supervisor for this study and a professional statistician, prepared the questionnaires for data collection.

The following guided the researcher in the development of the instrument:

- The research problem, aims and objectives of the study
- Andersen’s health service utilisation model
- The literature review on the possible factors influencing utilisation of PMTCT services in FCT Abuja.

The structure of the questionnaire comprised the following sections:

- Section 0: General information such as place of interview,
• Section 1: Socio-demographic characteristics & background information, knowledge of HIV and PMTCT of HIV. This comprises close ended questions from 011 – 018, having bio data and husband occupation.

• Section 2: Knowledge, perceptions and attitudes towards HIV/AIDS/PMTCT this comprises of close ended questions ranging from 021 – 029 which focus on what the respondents know about PMTCT.

• Section 3: Barriers to the utilisation of PMTCT services: Comprises of 031 – 0421. All the questions are close ended except for 0413, 0416, 0418, and 0419 that are open ended. It contains factors that can affect utilisation of PMTCT services as identified by Andersen’s Health Service Utilisation. The last open ended question is for possible suggestions on how to improve PMTCT services.

3.4.2.1 Advantages of questionnaires

• They minimise researcher bias and enable a more objective comparison of results.

• Questionnaires are a quick way of obtaining data from a large group of people

• They are less expensive in terms of time and money.

• Self-administered questionnaires ensure a feeling of anonymity and respondents are likely to provide honest answers. (Joubert & Ehrlich 2007:108)

• The format is standard for all subjects and not dependent on the mood of the interviewer (Brink et al 2006: 147, Joubert & Ehrlich 2007: 108).

• They enable a researcher to ensure that all items of the questionnaire are considered without any omissions (Brink et al 2006: 147).

3.4.2.2 Disadvantages of questionnaires

• The development of a structured instrument needs much effort in terms of content, form and wording of questions.

• The respondents are unable to elaborate on responses or ask for clarity.

• The researcher cannot use probing strategies (Burns & Grove 2005: 397; Polit & Beck 2008: 414).
• The respondents may provide socially acceptable answers rather than true answers. (Brink et al 2006: 147),
• The response rate may be low.
• Non-verbal behaviours and mannerisms cannot be observed.
• An illiterate may not be able to fill a questionnaire (Joubert & Ehrlich 2007:108, Burns & Grove 2005: 397)

3.4.3 Pre-testing of the instrument
A pre-test study is a test-run of aspects of the main study. (Joubert & Ehrlich 2007: 116). Pre-testing of the instrument is commonly defined as the study of a smaller version of a proposed study conducted to refine the research methodology (Burns & Grove 2005:42). The main aim is to identify the problems with the questionnaire such as clarity and time required to complete the questions, as well as to test the validity and reliability of the research instruments. After the permission was secured, one of the health centres was visited for pre-testing the questionnaires; it was administered to ten HIV positive mothers in one of the Hospitals who met the inclusion criteria. None of those who participated in the pre-testing of the instrument were included in the final data collection. It was noticed that some of the questions needed follow-up questions, some that needed clarity were reframed and other suggestions noted. Once the suggestions and limitations were reviewed, the final instrument was constructed under the supervision of the researcher and with the support from a professional statistician.

3.4.4 Administration of the questionnaires/ data collection procedures
Data refer to pieces of facts collected during a study (Burns & Grove, 2005: 733). Data collection is the precise, systematic gathering of information relevant to the research purpose or specific objectives, questions or hypotheses of a study. Quantitative research involves the generation of numerical data to address the research purpose or specific objectives and questions (Burns & Grove, 2005: 42).

The researcher engaged the services of data collectors who were ANC/PMTCT nurses trained in data collection from the health centres selected. The data collection took place from 26th August to 14th September, 2012. Recruitment of participants:
The researcher designed a schedule of visit which coincided with the ANC/PMTCT clinic days of health centres covered as they have different antenatal days. With the ethical clearance from FCT, permission to carry out the study was easily gotten from health centres visited. The ethical clearance served as passage to the health centres as all of them were under the FCT health management board. Some of the acceptance letters from them were attached (annex B). The researcher met directly with the HIV-positive pregnant women and explained the study to them. The aims and objectives of the study and the benefits of the research were highlighted to selected women, as well as explained to them that their names will not be needed to ensure privacy and confidentiality. Those who agreed to participate were given informed consent forms to sign while those that refused were replaced. The data collectors were provided questionnaires for distribution and handing over of the completed ones to the researcher.

The questionnaires were administered inside the counselling rooms of health centres visited. Those that could not read or write were assisted with the filling of the questionnaire. Repeated visits were made to some health centres where enough data were not collected or permission was not granted due to absence of the person in-charge of the health centre.

The number of returned completed questionnaires was 190. A sample of 190 was considered adequate due to time constraints since a larger sample would take a much longer time to complete. This was also discussed with the statistician who agreed on this number of respondents.

**NB:** Of the 36 health centres selected, only 20 were accessed due to some limitations listed below.

A total of 190 participants were obtained from 20 health centres in the three area councils as against 15% of the total health facilities in the three area councils (10% urban and 5% rural) making a total of 36 health centres.

(The problem on ground during sample collection was that some of the health centres have low patients turnout during the data collection and hence were substituted by making use of the high patient turnout sites, especially in the rural sites. Access to some of the sites was also an issue, as some burocratic bottlenecks were experienced leading to repeated advocacy visits to such centres especially those in...
urban location. Not all the 36 health centres had respondents; some kept postponing access to their ANC until the duration of data collection was exceeded. Only 20 sites were accessed.

3.5. VALIDITY AND RELIABILITY

3.5.1 Validity

Validity means that the measurement should actually represent what it is intended to measure (Fathalla & Fathalla, 2004:54). Validity of a research instrument is determined by its ability to accurately measure what it is supposed to measure (LoBiondo-Wood & Haber 2006:338, Burns & Grove 2005:376). This was further described by Joubert & Ehrlich (2007:117) as the extent to which a measurement instrument actually measures what it is meant to measure. The research instrument is invalid if it measures a concept repeatedly higher or lower than the real value. The different concepts of validity in use are content, face, predictive, criterion-related and construct.

3.5.1.1 Content validity

Content validity represents the extent to which the method of measurement includes all the major elements relevant to the construct being measured (Burns & Grove, 2005:377) or that the measurement accounts for all the elements of the variable or concept being measured (Joubert & Ehrlich.2007:120). Further, it is the extent to which the universe of content which provides the framework and basis for formulating the items that will be adequate to represent the content (LoBiondo-Wood & Haber 2006:338).

In this study the data collection instrument was critically reviewed by the research supervisor as well as a PMTCT consultant (expert) to ensure that it captures the variables in the objectives and conceptual framework on which the study is based. It was also piloted to remove ambiguity and to ensure that it measures what it was purported to measure.

3.5.1.2 Face Validity

Face validity is concerned with how the research instrument appears to be measuring content (Burns& Grove, 2005:377). Further, face validity can be referred to a subjective judgment about whether the research instrument appears to measure what it is supposed to measure or not (Burns & Grove, 2005:737). The instrument has to appear
to be a relevant measure of the attributes of interest to the study and to the respondents (Nnamdi-Okagbue, 2009:71). According to LoBiondo-Wood & Haber (2006:338), face validity in tool development determines the readability and clarity of the content. As further explained by Joubert & Ehrlich (2007:120) as the extent to which the measure makes sense to those knowledgeable about the subject.

In this study, the literature review facilitated the questionnaire design. In addition, the instrument was pre-tested and the researcher’s supervisor provided guidance to ensure face validity.

3.5.1.3 Construct validity

Construct validity relates to the ability of the research instrument to measure the theoretical constructs it purports to measure (Burns & Grove 2005:377). Construct validity measures the relationship between the instrument and the related theory (Brink et al 2006:162). Construct validity was adhered to by conducting the literature review on the researcher’s area of study to ensure that all the different aspects were covered in the questionnaire. The researcher related the operational concepts with the questions in the instrument.

The supervisor of this study with research experience as well as PMTCT professional assisted the researcher in formulating the questionnaire, check for conceptual appropriateness and investigative bias.

3.5.2 Reliability

Reliability of the data collection instrument refers to the degree of similarity of the results obtained when the measurement is repeated on the same subject or the same group, it is an indication of the extent of random error in the measurement method (Burns & Grove 2005:374; Polit & Beck 2008:452, Joubert et al 2007:117). De Vos (2005:162) adds that reliability is stability or consistency of the measurement. If the same variable is measured under the same conditions, if two or more values are more than two standard deviations from the mean, then the method is unreliable in that laboratory (Burns & Grove 2005:383).

Types of reliability includes: inter-rater, test-retest, parallel forms (external), split half and internal reliability.

3.5.2.1. Inter-rater reliability (Different people, same test): This is when there are multiple researchers, who all measure the same construct. They may all be given the same training and at the end they compare the scores, with the average score being
used as the final result. This is often used if there are large groups of people with an easy ratings scale, or if many things are happening at once so something would not be missed. In this study the data collectors were trained on the purpose of the study and the filling of the tools to ensure uniformity and accuracy in classifications found in the tools. Also, the same questionnaires were administered to different respondents and at the end data was analysed to reach a conclusion.

3.5.2.2. Test re-test reliability (Same people, different times): is where the same group of participants will undertake the same test on multiple occasions with the aim of receiving the same results over and over again from the same participant. This is not very commonly used as factors such as becoming accustomed to the test can influence results.

3.5.2.3. Parallel forms reliability or external reliability (Different people, same time, different test): is when the test that you are running, on IQ, correlates its results strongly with another measure of IQ. For example if your IQ test measured someone’s IQ as 130 and three others measured it at 130 then it is very high in external reliability.

3.5.2.4. Internal reliability (Different questions, same construct): is to measure whether different questions on the same test measure the same thing, back to the IQ test example you would use this measure to investigate whether all 30 questions are testing the same construct (Statssam 2012:1). In this study, the questions are divided into sections to capture a particular construct per section.

3.5.2.5. Split-half: is a method which divides items that measure the same construct into two tests and applies them to the same group of people.

Reliability of the questionnaire was ensured by accurate and careful phrasing of each question to avoid ambiguity. Pre-testing of the instrument ensured accuracy and dependability of the instrument.

3.6 DATA ANALYSIS

According to Polit & Beck (2008: 751), data analysis is the “systematic organisation and synthesis of research data, and in quantitative studies, the testing of the hypothesis using those data. The purpose of data analysis is to reduce, organise and give meaning to data (Burns & Grove 2005: 461). In this study, a statistician analysed the data using the SPSS Version 15.0 computer programme. The analysis included descriptive statistics and cross-tabulation, the former allows the researcher to organise the data in ways that give meaning, facilitate insight and to examine a phenomenon from variety of
angles. Descriptive statistics include frequency distributions, measurements of central tendency, dispersion and standardised scores (Burns & Grove, 2005: 461). Cross-tabulation is a calculation of frequencies for two or more variables considered simultaneously (Polit & Beck 2008: 751).

In this study, descriptive statistics was used to describe and summarise data obtained from the structured questionnaires in order to answer the research questions. SPSS was used. The results were presented in frequencies, percentages, graphs and tables. Cross tabulation was also used (see details in chapter 4).

3.7 ETHICAL CONSIDERATIONS

Ethics is a system of moral values concerned with the degree to which research procedures adhere to professional, legal and social obligations of respondents (Polit & Beck 2008: 753). In order for a researcher to maintain high standards of research, expertise and diligence are not enough; integrity and honesty are of the utmost importance (Burns & Grove 2005: 176). Ethical considerations in research are also essential to generate sound knowledge for practice. To ensure that ethical considerations were maintained in this research, the proposal was submitted for approval to the Research and Ethics Committee at the Department of Health Studies at the University of South Africa, prior to the commencement of the study, as well as to the FCT Research & Ethics Committee in the Health Department of the Ministry of Federal Capital Territory. Permission was also gotten from the various health centres.

In research, there are moral principles governing the manner in which the research takes place. According to the Belmond report, as stated in Polit & Beck (2008:170), there are three primary ethical principles upon which standards of ethical conduct are based. These are beneficence, respect for human dignity and justice. The human rights of all respondents were protected in accordance with the primary ethical principles. The principles are consistent with the guidelines outlined in Burns & Grove (2005: 181), the individual's right to self-determination, privacy, anonymity and confidentiality. These ethical measures are also consistent with those set out by Joubert & Ehrlich (2007: 32) where the “Belmont Report” was maintained.

The scope of this principle and its application in this study were as follows:

3.7.1 Principle of beneficence

The ethical principle of beneficence is the most fundamental ethical principle, it refers to treating persons in an ethical manner, not only by respecting their decisions and
protecting them from harm, but making efforts to secure their wellbeing (Joubert & Ehrlich.2007: 32). This is summarized in two rules namely

a) do not harm; and
b) Maximise possible benefits and minimise possible harm.

3.7.1.1 The right to protection from exploitation
The researcher concluded that in this study exploitation appeared to be a very minute risk because respondents were assured that the information obtained would not be used against them. The risk/benefit ratio of the study was considered, and the conclusion was reached that the benefits outweighed the risks. The HIV positive mothers, the community and the country as a whole will benefit from the findings and recommendations of this study as the finding should help in identifying ways to improve access to PMTCT services and reduce the number of HIV babies born in the country and improve the country's health indices (see 1.11: significance of this study).

The researcher ensured that the respondents were debriefed prior to commencement of the study to allow them have time for clarity-seeking questions, and were further informed that their participation was voluntary, given that they were free to withdraw at any time if they so wished without fear of losing any benefit with or without completing the questions. The questions were also phrased in such a way that respondents could not be identified and that the questions could not impose harm. The study is a non experimental one which further reduced the risk of harm to respondents.

3.7.1.2 Right to freedom from harm and discomfort
Discomfort and harm may be physical, spiritual, economic, social or legal (Polit & Beck 2006: 87). This right was protected by conducting the study in the counselling rooms of selected health centres considered a safe environment.

The questions in the questionnaires were carefully selected to eliminate every form of harm likely to be experienced while using it.

Subjects were allowed to withdraw from the study if they so wish.

3.7.2 Respect for human dignity
The researcher held the belief that respondents were human beings who had the right to make their decisions and express their personal opinions (Polit & Beck 2006:88). This principle was maintained by concealing the identities of all respondents rather codes were used instead of names. No coercion or inducement was used which might influence their decisions. This principle involves the right to self determination (autonomy) and the right to self-disclosure.
3.7.2.1 The right to self determination
The respondents were informed that their participation was voluntary. They were provided the opportunity to consent to take part in the study and assured that they could cease participating at any time without stating reasons and without incurring any negative consequences (Polit & Beck 2006: 88-89). Anonymity was maintained by making sure that names were not used by the respondents, and the researcher would not disclose any information that could identify any of the respondents, because code numbers were used instead of names.

3.7.2.2 The right to full disclosure
Burns and Grove (2005:193) indicate that to conduct ethical research, it is essential to obtain informed consent from human subjects. Part of the requirements for the conduct of this research is to develop an informed consent letter by the researcher which contained information on the title, purpose and objectives of the study and the rights of respondents. The letter was given to each respondent, they were requested to read and sign the letter of consent once they had agreed to participate. Meanwhile, there would be no discrimination towards those who chose not to participate. This was stated to ensure that respondents participated voluntarily; and the full nature of the research, responsibilities of the respondents, the possible risks and benefits were disclosed.

3.7.2.3 The right to privacy
In this respect, the research subject has the right to anonymity and to assume that the data collected will be kept confidential. With complete anonymity, the subjects’ identity cannot be linked even by the researcher (ANA, 2001; Sasson & Nelson 1971; cited in Burns & Grove, 2005: 188).

With regard to the ethical responsibility of the researcher towards the respondents in this study, each respondent was treated with respect and dignity. In the light of the confidential nature of the information of this study, and the possible legal consequences of any breach of confidentiality, the researcher maintained a high professional standard regarding issues of confidentiality. Data collected was within the scope of this research and the respondents name was not mentioned or any link noted. The collected data was kept with the researcher and not shared with outsiders except people who were involved in this research. The respondents were informed that the research findings would be published without linking the findings to individual respondents.
3.7.3: Principle of justice
The principle of justice refers to the right to privacy, fairness and equal treatment to all respondents of the research (Polit & Beck 2008: 753).

3.7.3. The right to fair and equitable treatment
The respondents' right to fair and equitable treatment was ensured by:
Selecting only HIV-positive women attending PMTCT clinic in selected health centres in FCT Abuja and were willing to participate as this is related to the problem being studied and not because of their compromised status. The questionnaire was distributed randomly to eliminate bias. All the agreements reached with respondents such as timing of interview, not interfering with their appointment with doctors was strictly adhered to.

3.8 CONCLUSION
This chapter discussed the research design and methodology that guided this study. It also stated how the ethical consideration of the study was gotten. The next chapter presents data analysis and the research findings.
4. INTRODUCTION

Chapter 3 discussed the research methodology. This chapter dwells on the data analysis, findings and interpretation. The data were analysed and interpreted using tables, percentages and graphs. The findings are discussed with reference to relevant literature.

4.1 DATA COLLECTION

The data were collected using a structured quantitative survey questionnaire that consisted of five sections:

- Section 0: General Information
- Section 1: Socio demographic Characteristics & Background Information Knowledge of HIV and PMTCT of HIV
- Section 2: Knowledge, Perceptions and Attitudes towards HIV/AIDS/PMTCT
- Section 3: Barriers to the Utilisation of PMTCT Services

The respondents were drawn from pregnant women attending antenatal services in selected health facilities spread over the urban and rural areas in the FCT Abuja, Nigeria where the study was conducted. A sample of 190 respondents that met the selection criteria was interviewed. The data were kept safely by the researcher and forwarded to the statistician for data cleaning, entry and analysis.

4.2 DATA ANALYSIS AND INTERPRETATION

The data was analysed using the SPSS version 15 programme to generate the required tables, frequencies and cross-tabulations, establish the presence or absence of relationships, and determine statistical differences in line with the objectives of the study.

4.2.1 Respondents Demographic Data

The demographic data covered include the respondents’ age, marital status, educational level, employment status and number of children.
Some 190 questionnaires were administered. All were usable after editing. 80% of the respondents were resident in the urban areas while 20% were resident in the rural areas. Majority of the respondents were below 30 years (25-29).

Table 4.1: Respondents Demographic Characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Response</th>
<th>Frequency (190)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location of facility</td>
<td>Urban</td>
<td>152</td>
<td>80.00</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
<td>38</td>
<td>20.00</td>
</tr>
<tr>
<td>Age of the respondent</td>
<td>20 – 24</td>
<td>34</td>
<td>17.89</td>
</tr>
<tr>
<td></td>
<td>25 – 29</td>
<td>83</td>
<td>43.68</td>
</tr>
<tr>
<td></td>
<td>30 – 34</td>
<td>57</td>
<td>30.00</td>
</tr>
<tr>
<td></td>
<td>35 – 39</td>
<td>13</td>
<td>6.84</td>
</tr>
<tr>
<td></td>
<td>40 and above</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Marital Status</td>
<td>Single</td>
<td>8</td>
<td>4.21</td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>176</td>
<td>92.63</td>
</tr>
<tr>
<td></td>
<td>Divorced</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td></td>
<td>Widowed</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Religion</td>
<td>Islam</td>
<td>18</td>
<td>9.47</td>
</tr>
<tr>
<td></td>
<td>Catholic</td>
<td>94</td>
<td>49.47</td>
</tr>
<tr>
<td></td>
<td>Protestant</td>
<td>76</td>
<td>40.00</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>2</td>
<td>1.05</td>
</tr>
<tr>
<td>Educational Status</td>
<td>Did not attend any formal school</td>
<td>7</td>
<td>3.68</td>
</tr>
<tr>
<td></td>
<td>Elementary school</td>
<td>20</td>
<td>10.53</td>
</tr>
<tr>
<td></td>
<td>Secondary school</td>
<td>111</td>
<td>58.42</td>
</tr>
<tr>
<td></td>
<td>University</td>
<td>52</td>
<td>27.37</td>
</tr>
<tr>
<td>Occupational status</td>
<td>House wife</td>
<td>70</td>
<td>36.84</td>
</tr>
<tr>
<td></td>
<td>Government employee</td>
<td>17</td>
<td>8.95</td>
</tr>
<tr>
<td></td>
<td>Farmer</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td></td>
<td>Self employed</td>
<td>56</td>
<td>29.47</td>
</tr>
<tr>
<td></td>
<td>Petty trader</td>
<td>34</td>
<td>17.89</td>
</tr>
<tr>
<td></td>
<td>Unemployed</td>
<td>8</td>
<td>4.21</td>
</tr>
<tr>
<td></td>
<td>Others</td>
<td>2</td>
<td>1.05</td>
</tr>
<tr>
<td>Number of children alive</td>
<td>None</td>
<td>70</td>
<td>36.84</td>
</tr>
<tr>
<td></td>
<td>1-5</td>
<td>101</td>
<td>53.16</td>
</tr>
<tr>
<td></td>
<td>Above 5</td>
<td>5</td>
<td>2.63</td>
</tr>
<tr>
<td></td>
<td>No response</td>
<td>14</td>
<td>7.37</td>
</tr>
<tr>
<td>Husband’s Occupation</td>
<td>Civil government employee</td>
<td>60</td>
<td>31.58</td>
</tr>
<tr>
<td></td>
<td>Farmer</td>
<td>10</td>
<td>5.26</td>
</tr>
<tr>
<td></td>
<td>Daily labourer</td>
<td>11</td>
<td>5.79</td>
</tr>
<tr>
<td>Military Personnel</td>
<td>2</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>---</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Self employed</td>
<td>86</td>
<td>45.26</td>
<td></td>
</tr>
<tr>
<td>Private sector employee</td>
<td>7</td>
<td>3.68</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>1.58</td>
<td></td>
</tr>
<tr>
<td>No response</td>
<td>11</td>
<td>5.79</td>
<td></td>
</tr>
</tbody>
</table>

### 4.2.1.1 Age

All the respondents (100%; N= 190) answered this item. Of the respondents, 17.8% (n=34) were 20-24 years old; 43.68% (n=83) were 25-29 years old; 30% (n=57) were 30-34 years old, while 6.84% (n=13) were aged 35 - 39 years old and 1.58% (n=3) were 40 years old and above. (see Figure 4.1). The findings indicate that majority of the respondents (61.57%; n=117) were under 30 years old. Women aged between 20 and 49 years old were in the childbearing age. All the respondents were between this age range.

### 4.2.1.2 Marital Status

The majority (92.63%) of the respondents expectedly were in marital unions given that most child-bearing in Nigeria take place within marriage. Those remaining who are less than 9% were Divorced (1.58%), single (4.21%) and widowed (1.58%) (See figure 4.2).

### 4.2.1.3 Educational Level

Most of the respondents had some form of formal education with only 3.68% never attended school. Of all the respondents, those with secondary education were 58.42%; followed by tertiary education with 27.37% and 10.53% with primary level education.
The educational distribution as observed for the sample population is reflective of the population sampled and accessing PMTCT services and not necessarily of the general population, particularly women. Education can empower pregnant women to understand issues related to HIV/AIDS and enable them make informed decisions regarding knowing their HIV status, as well as utilising services that will help prevent MTCT of HIV.

4.2.1.4: Employment status

All the respondents (100%; N= 190) answered this item. Of the respondents, 8.95% (n = 17) were government employees, 17.89% (n= 34) were petty traders, 36.84% (n= 70) were housewives, while 29.47% (n= 56) were self employed, 1.05% (n = 2) were engaged on other forms of employment and 1.58 % (n = 3) were into farming.

Once the women are empowered financially they will be able to take care of themselves and seek preventive measures against HIV. Most government hospitals offers ANC/PMTCT services free of charge, which also could account for the large turnout of unemployed mothers as seen in this study.

Being employed provides resources which help a woman to be financially independent and thus able to meet some of her obligations in terms of transportation to attend antenatal clinic.

4.2.1.5; Number of living children

More than half of the respondents (53.16%) have between one and five children, while 36.84% had none. Only 2.63% had more than five children and 7.37% did not respond to
the question. The need to have children is a legitimate desire of men and women in Africa, irrespective of their religious beliefs, to give meaning to life; it is the social norm and this desire cannot be suppressed by HIV infection (Chama, Morrupa, Gashau 2007: 814). In Nigeria, married couples are expected to bear children as family members usually express concern if babies do not come after a period of time in a marriage. As the life expectancy for HIV-infected persons improves with the availability of antiretroviral drugs and positive living, a considerable proportion of HIV-positive women and men desire to have children (Mantell, Smit, Stein 2009:367). The attitude to PMTCT service may also be influenced by previous birth experience. The information sought from respondents was on surviving children; hence some persons in the sample population with no child may have had previous birth experience but no surviving child.

4.2.1.6: Husband’s Occupation:
The majority of the respondents are married to men who are self-employed (31.58%) followed by husbands that work for the government (45.58%). Other husbands’ occupation includes farming (5.26%), daily labourer (5.79%), military personnel (1.05%), and private sector employee (3.68%). The no response category accounted for 5.79%. Although the PMTCT service is free, husband’s occupation reflects on availability of fund which would influence choice of feeding option; to use infant formulae or breast feed; and ability to buy other antenatal, delivery and post-natal requirements.

4.2.2 Knowledge of HIV AND PMTCT
Respondents’ knowledge of HIV transmission and MTCT was examined. The assessment includes source and accuracy of knowledge. This can be linked to respondents’ perception since what they think about HIV was further strengthened by what they heard from other sources. The findings are discussed in

<table>
<thead>
<tr>
<th>Source of PMTCT Knowledge</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magazines</td>
<td>6.32</td>
</tr>
<tr>
<td>Television</td>
<td>15.79</td>
</tr>
<tr>
<td>Radio</td>
<td>12.11</td>
</tr>
<tr>
<td>Health institutions</td>
<td>71.05</td>
</tr>
<tr>
<td>Teachers</td>
<td>3.68</td>
</tr>
<tr>
<td>Relatives</td>
<td>3.16</td>
</tr>
<tr>
<td>Friends</td>
<td>3.16</td>
</tr>
</tbody>
</table>
Almost all the respondents (92.11%) had knowledge of PMTCT prior to the current pregnancy. The main source of information identified is health institutions by 71%, followed by the electronic media - television (15.8%) radio (12.1%) and magazines (6.3%). All other sources that include relatives, friends and teachers had less than four per cent (Figure 4.5). This finding may not be surprising given previous birth and child care experiences.

It is important that women, especially those accessing PMTCT service have a good understanding of the service as they are a good source of sharing information particularly among other positive women and the general population. Some of which will answer objective 1. Questions asked to assess accuracy of PMTCT knowledge among the respondents include:

- Can HIV be transmitted from mother to baby during pregnancy?
- Can HIV be transmitted from mother to baby during delivery?
- Can HIV be transmitted from mother to baby during breastfeeding?
- Can a HIV pregnant woman still look health?
- Do you think that every pregnant woman should be screened for HIV?
- Are you aware of interventions that can prevent MTCT of HIV?
- Identify interventions that can prevent MTCT of HIV

Figure 4.6 presents the summary of the findings on the first five bullets above that show that a good percentage of the women surveyed have a good understanding of the PMTCT intervention; an occurrence that cannot be disassociated from the pre and post counselling sessions at the health facilities.

A reflection of the understanding and appreciation of the PMTCT service is indicated by the support of over 95% of the respondents for the screening for HIV of every pregnant woman. Also, a little over 96% also indicate that a pregnant woman who is HIV positive may still look healthy. At least eight in ten women indicate that HIV can be transmitted from mother to baby during breast feeding; while almost 80% indicate that HIV can be transmitted from mother to baby during delivery and approximately 82% HIV can be transmitted from mother to baby during pregnancy.
The assessment of respondents’ awareness of interventions to prevent MTCT of HIV reveal that approximately six in ten persons could indicate a PMTCT intervention as indicated in Table 4.2. The most common intervention identified was the use of ARV Prophylaxis (for mother and baby) and exclusive breast feeding with 57.4%. All other interventions had below 15%, an indication of room for improvement in understanding.

Table 4.2: Respondents Knowledge of PMTCT Intervention

<table>
<thead>
<tr>
<th>Interventions</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use of ARV Prophylaxis (for mother baby) and exclusive breast feeding (Option 1)</td>
<td>109</td>
<td>57.37</td>
</tr>
<tr>
<td>Use of ARV Prophylaxis (for mother/ baby) and breast milk substitute. (Option 2)</td>
<td>28</td>
<td>14.74</td>
</tr>
<tr>
<td>Use of ARV Prophylaxis (for mother/ baby) and mixed feeding options. (Option 3)</td>
<td>6</td>
<td>3.16</td>
</tr>
<tr>
<td>Options 1,2 and 3</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Options 2 and 3 only</td>
<td>2</td>
<td>1.05</td>
</tr>
<tr>
<td>ARV only</td>
<td>6</td>
<td>3.16</td>
</tr>
</tbody>
</table>

But when asked which breastfeeding option they intend to use. Majority (62.63%) opted for exclusive breastfeeding, 17.89% opted for breast milk substitute, and the rest opted for either mixed feeding or no response. The reason for options chosen was found in table 4.3 below:
Table 4.3 Breastfeeding option chosen by respondents

<table>
<thead>
<tr>
<th>REASONS FOR OPTION CHOSEN</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>For health of baby</td>
<td>68</td>
<td>35.79</td>
</tr>
<tr>
<td>Cost associated with use of baby formula</td>
<td>14</td>
<td>7.37</td>
</tr>
<tr>
<td>makes a woman feel like a mother</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>breast milk inadequate for the baby</td>
<td>2</td>
<td>1.05</td>
</tr>
<tr>
<td>Health workers advice</td>
<td>11</td>
<td>5.79</td>
</tr>
<tr>
<td>others</td>
<td>9</td>
<td>4.74</td>
</tr>
<tr>
<td>Don’t know</td>
<td>2</td>
<td>1.05</td>
</tr>
<tr>
<td>No response</td>
<td>81</td>
<td>42.63</td>
</tr>
</tbody>
</table>

Though majority of the women (57.37%) opted for exclusive breastfeeding but have various reasons for choosing that option. 35.7% believes that health for their babies. 7.37% (n = 14) feels that baby formula is expensive for them. 5.79% (n = 11) were advised by health workers to breastfeed their babies. 1.58% believes it makes them feel like a mother. Only 1.05% (n = 2) feels that breast milk is inadequate for the baby. A good number 42.63% (n = 81) did not respond to the question.

Even though HIV can be transmitted through breast milk, with ARV prophylaxis (option B) mothers can comfortably breastfeed their babies. Generally breastfeeding is the safest and best for the baby and should be encouraged.

4.2.3 Utilisation of PMTCT Services Experiences

The PMTCT experience of respondents was also assessed given that this experience would impact on their ability to utilise the available PMTCT services. This is a hospital based study and most of the respondents were already registered with PMTCT but at various stages, some are just registering at the day of data collection while others have registered months before. These experiences include: type of HCT received, disclosure of result to spouse and relatives, follow-up counselling received and willingness to continue with the services. Which are some of the factors objective 2 sought to identify.

The respondents were asked whether they will continue to utilise PMTCT services. 93.68% (n = 178) responded Yes, 0.0 % (n = 0) answered No, while 2.63% (n = 5) answered they do not know. Few of them 3.68% (n = 7) gave no response. The 3.68%
that did not respond may be the new entrants that have not yet assimilated what PMTCT package entails.

![Fig 4.7 responses on continual utilization of PMTCT services](image)

Notably HIV counselling and testing are the gateway to accessing any HIV treatment services which included PMTCT.

According to the response gotten as to whether every pregnant woman should be screened for HIV, over 95% of the respondent felt it should be done.

When asked whether they need permission from their spouse/partner to do HCT. Majority of the respondents 53.16% (n = 101) responded No while 41.05% (n = 78) responded Yes and 5.79 (n=11) did not respond.

Following HCT, respondents were asked if they disclosed their result to their spouse. A large number 76.84% (n=146) of the respondents disclosed their result, 18.42% (n=35) of them did not while 4.74% (n=9) did not respond to the question. Majority of the respondents disclosed the result to their spouses personally.

![FIG.4.8:HIV Positive Result Disclosure with Spouse](image)
When compared to the number of couple counselling done. Only 44.21% (n=84) were covered while more respondents 47.37% (n=90) did not receive any couple counselling. 8.42% (n=16) did not respond.

Reasons why couple counselling was not done were listed in table 4.4 with majority 16.84% (n=32) responding they were not encouraged to do so.

Table 4.4: Respondent’s reasons why couple counselling was not done

<table>
<thead>
<tr>
<th>Responses</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scared of disclosing to partner</td>
<td>20</td>
<td>10.53</td>
</tr>
<tr>
<td>Partner refused to come.</td>
<td>28</td>
<td>14.74</td>
</tr>
<tr>
<td>We were not encouraged to do it</td>
<td>32</td>
<td>16.84</td>
</tr>
<tr>
<td>It was not necessary</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Not married/Not applicable</td>
<td>11</td>
<td>5.79</td>
</tr>
</tbody>
</table>

Among the 18.42% (n=35) who did not disclose their results to their spouses. The following reasons were given.

Table 4.5: Respondent’s reason for non disclosure of results to spouse/partner

<table>
<thead>
<tr>
<th>Reasons</th>
<th>No of respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Afraid of being abandoned/ divorced by husband and family</td>
<td>18</td>
<td>9.47</td>
</tr>
<tr>
<td>Physically abused by husband</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Separated from the children</td>
<td>11</td>
<td>5.79</td>
</tr>
<tr>
<td>Hospital to inform him</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Husband will tell everybody</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Others</td>
<td>4</td>
<td>2.11</td>
</tr>
</tbody>
</table>

Qualitative studies that interview people who have been tested indicate that test results have meanings that are tied to relationships, faithfulness, and trust, and that they may be interpreted in relation to the love or loyalty of a partner. The possibility of allowing health workers to disclose patients’ status to their partners has been discussed in African countries, where it is referred to as “beneficial disclosure (Obermeyer & Osborn 2007: 1763).
The response as to the reaction of relatives to respondents HIV status shows that 46.6% (n = 89) will be accepted and cared for by the family, 11% (n = 21) responded they will be thrown out of home, 5.5% (n = 11) indicated they will be physically abused. 27.4% (n = 52) actually kept their result a secret while 17 gave no response.

![FIG 4.9: Reactions of relatives to HIV result](image)

Figure 4.9: Relative reactions towards respondent if the know her HIV status

### 4.2.4. Quality of HCT/PMTCT Counselling

When asked about the type of pre-test counselling received. More than half of the respondents 58.95% (n= 112) received group counselling, 35.26% (n = 67) received one – on – one counselling and 2.63% (n = 5) received none. 3.16% (n= 6) had no response. Majority of the respondents 58.95% had group counselling, a common practise in large Clinics. One on one counselling was done in less busy PMTCT clinics.

This is in conformity with Katushabe (2007:69) where 57% of the respondents reported that they were comfortable with the form of counselling offered, while 43% were not comfortable. Though the number of pregnant mothers who were comfortable with the form of counselling was big, this does not necessarily mean they are willing to go for HIV testing. Those who were not comfortable with counselling responded so based on the arguments that counselling was done for groups and not to individuals; this makes them uncomfortable to ask personal questions.
The FMOH has adopted the “opt-out approach” to be used in the provision of PMTCT services, where HCT is offered routinely as part of basic care for ANC. (FMOH.2011c:18)

With the recent provider initiated testing with opt-out option it has helped in increasing the uptake of test (Rwandan MOH 2007:10, Worku 2007:34).

![FIG 4.10: Pretest counselling received](image)

**Figure 4.10:** Type of pre-test counselling received by respondent.

When asked for the type of post test counselling received.

Majority of the respondents 58.42 % (n = 111) received individual counselling, 27.37% (n = 52) received group counselling, 6.32 % (n = 12) received none. 7.89% (n=15) questionnaires had no entries on them. It shows that a little above half of the respondents had individualised counselling since at this stage they have been tested and is found to be HIV positive. But the 7.89% (15) that were not counselled is a big challenge as they may not utilize the comprehensive PMTCT services.

A study was carried out on how to improve the quality of PMTCT services in Ukraine. Interventions focused on training providers to improve skills in communication and referral to community-based support; they also addressed the underlying issue of stigma. Observational data demonstrated that providers who participated in the training intervention delivered PMTCT counselling of a consistently higher quality than did providers who did not undergo training. Exit interviews with clients confirmed these findings (Gamazina et al: 2009: 2).
When asked how they will rate the counselling received. Some 91.58% (n= 174) answered good, 4.21% (n = 8) poor while 2.63% (n = 5) unacceptable. 1.58% (n=3) gave no answer. Majority of respondents agreed that the counselling is good.

Follow – up counselling is an important aspect of counselling that helps consolidate all the previous counselling received in the course of hospital visits. Some 82.11 % (n = 156) of the respondents received follow-up counselling, 14.74 % (n = 28) did not receive any while 3.16% (n = 6) had no entries. This is a necessity as some naive mothers might change their mind after such post-test counselling; hence follow up counselling helps to internalize the importance of PMTCT services to them. According to Kasenga, Byass, Emmelin, Anna (2009:2) Pregnant women should also receive counselling on safe infant feeding choices and appropriately referred for continued care for themselves and their children after delivery.

4.2.5. Possible barriers to accessing PMTCT
According to Obermeyer & Osborn (2007:1762) Testing for HIV is the gateway to treatment, care, and prevention. To scale up treatment and prevention, rapid increases in the volume of testing and the ability to counsel those who are tested are needed.

When asked where they received the HCT. Majority of the respondents 77.37% (n = 147) received their HCT in this hospital, 18.42% (n = 35) in another hospital while 2.63 % (n = 5) responded in a VCT centre and three had no entry. Majority of the
respondents did the HCT test in the hospital where they registered for ANC. It shows that a lot of respondents accepted the opt-in option. For the few that did HCT in another place, many of them 81.4% (n = 37) were referred to the present PMTCT centre. This is in collaborates Kasenga et al (2009:6) study in Malawi which suggested that integrating HIV testing within ANC increased HIV test acceptance from 52.6% to 78.7%. Hence to increase access to PMTCT services, ANC should be targets for scale-up programmes.

When asked whether transportation cost will be an issue. Only 22.11 % (n = 42) indicated transportation cost as an issue, while majority 75.26 % (n = 143) did not think transportation cost is an issue and 2.63% (5) gave no response. This is in keeping with the responses from the respondents on whether the hospital is easily accessible to them. 88.95% (n = 169) considered it is accessible, 2.63% (n = 5) responded it is not accessible while 8.42% (n = 16) did not give any response. Most clinics in Abuja offer PMTCT services so respondents have the choice of accessing services in any PMTCT centre of their choice at no cost or minimal cost. Also majority of the respondents were literate enough to know where to access health services.

Attitude of health workers did not really discourage respondents from continuing access to PMTCT services as attested to by 71.58% (n=136) of the respondents. Only 16.32% (n=31) of the respondents responded that health workers attitude will affect their continued access of the services based on the reasons listed in table 4.6

<table>
<thead>
<tr>
<th>REASONS</th>
<th>FREQ</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Workers are sometimes careless – e.g. misplace files</td>
<td>6</td>
<td>3.16</td>
</tr>
<tr>
<td>Long waiting time for ANC</td>
<td>5</td>
<td>2.63</td>
</tr>
<tr>
<td>Health Workers are sometimes aggressive</td>
<td>5</td>
<td>2.63</td>
</tr>
<tr>
<td>No response/Not applicable</td>
<td>174</td>
<td>91.58</td>
</tr>
</tbody>
</table>
Belonging to a support group is one of the ways people living with HIV help each other by gathering together to encourage each other, share experiences and offer solutions under the supervision of health personnel. They also share supplementary food items to help boost their nutritional values. Meanwhile the awareness of the existence of this group is still low as shown in this study. Where only 16.84% (n = 32) of the respondents belong to support group, close to 80% did not belong to any group.

When asked what in their opinions prevent other HIV Pregnant women from accessing service. There suggestions are presented in table 4.7.

Table: 4. 7: Suggested Reason for Non utilization of PMTCT Services.

<table>
<thead>
<tr>
<th>Personal Opinions</th>
<th>frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stigma - shame and abuse from people</td>
<td>40</td>
<td>21.05</td>
</tr>
<tr>
<td>Don’t want to be recognized/Fear</td>
<td>25</td>
<td>13.16</td>
</tr>
<tr>
<td>Ignorance</td>
<td>9</td>
<td>4.74</td>
</tr>
<tr>
<td>Lack of concern behavior</td>
<td>5</td>
<td>2.63</td>
</tr>
<tr>
<td>Denial</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Burden of drug - all one’s life</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>Don’t know</td>
<td>4</td>
<td>2.11</td>
</tr>
<tr>
<td>No response</td>
<td>101</td>
<td>53.16</td>
</tr>
</tbody>
</table>

4.2.6. Quality of PMTCT services received
A comprehensive PMTCT service includes HCT, provision of drug for mother and baby, infant feeding options, family planning and other follow-up services after delivery in the hospital.

When asked whether they were satisfied with the quality of services received in the various health centres. 79.43% (n = 151) of the respondents were satisfied by the quality of PMTCT services received in their various health facilities. 1.58% (n = 3)
responded not satisfied. 14.74% (n = 28) did not give any answer. The remaining 4.81 (n = 8) responded they do not know.

For PMTCT utilisation to be effective, time of ANC registration is important. Late registration may not afford enough time for the pregnant woman to access some of the services before delivery.

All respondents were asked when they registered for antenatal. Some 29.47% (n = 56) responded first trimester, 55.79% (n = 106) answered during the second trimester and 13.16% (n = 25) replied during the third trimester and 1.58% (n=3) did not respond. Majority of the respondents registered during the 2nd trimester.

Family planning is one of the key components of PMTCT. It has helped the women regulate their families so when asked if family planning services were offered to them only one third (31.05%) responded that it was offered to them. Close to half of the respondents (47.89%) were not offered family planning services. A little above one fifth of the respondents (21.05%) did not respond to the question.

When asked for any additional information they would like to mention with respect to underutilization of PMTCT service by pregnant women. Their responses were presented in table 4.8

Table 4.8: Additional information

<table>
<thead>
<tr>
<th>Additional Information</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drugs should be made available at a central place to reduce the pains of accessing drugs</td>
<td>15</td>
<td>7.89</td>
</tr>
<tr>
<td>Health Worker need to be more discreet with status of clients</td>
<td>3</td>
<td>1.58</td>
</tr>
<tr>
<td>HW should be friendly</td>
<td>6</td>
<td>3.16</td>
</tr>
<tr>
<td>Create more awareness for PMTCT/in-depth information</td>
<td>14</td>
<td>7.37</td>
</tr>
<tr>
<td>Reach out to men/partners</td>
<td>3</td>
<td>1.58</td>
</tr>
</tbody>
</table>
4.3 Background characteristics and need for permission from spouse to do HCT and disclosure of the result to spouse

Knowledge of PMTCT will make respondents to be better informed about what they will gain from utilising the various services imbedded in this intervention. Permission from spouse to undergo HCT and disclosure of the result may affect the spouses support to utilise the PMTCT services. The respondents were asked if they know about PMTCT and the sources of their information about it, they were also asked if the needed permission to do HCT from their spouses and disclosure of the result to them.

There is a statistical significant association between place of residence, age of respondent, and the need to take permission from spouse to do HCT. More respondents living in rural area (63.16%) needed permission from spouse when compared to those living in urban area (38.3%) (p= 0.006). Also those within the age range of 20 – 24years (61.29%) needed permission more when compared to those within the age range of 35-39years (5.25%) (p= 0.003).

No significant association was seen when compared to marital status. 42.86% of the married compared to 54.55% of the unmarried/separated needed permission to do HCT. Also educational status has no statistical significant association as the range is from 40% among those with no formal education to 52.94% among those with primary education. No of children alive did not significantly affect need for permission to do HCT as 42.19% of women with no child alive and 39.6% with children needed permission. Also among those that practice Islamic religion (60%) to their Christian counterpart (41.51%).

There is statistical significant association on disclosure of result to spouse with age, religion and level of education. All respondents (100%) within the age range of 35-39 years disclosed their result to spouse while only 64.71% of those within the age range
of 30-34 years did same (p = 0.003). 100% of respondents that practise Islamic religion disclosed their result when compared to 78.26% of the Christian counterpart that disclosed their own results to spouse (p = 0.020). Majority of respondents with tertiary education (96.48%) compared to those without this level of education (57.14%) disclosed their result to spouse (p = 0.036).
While no significant statistical association was seen with place of residence, marital status and number of children alive.

Tables 4.9 present information on those that need permission from spouse to do HCT and those that disclosed result to spouse, by background characteristics respectively.

**Table 4.9:** Cross tabulations between demographic characteristics and need for permission to HCT and disclosure of results to spouse

<table>
<thead>
<tr>
<th>Demographic Factors</th>
<th>Information on respondents that needs permission from spouse to do HCT</th>
<th>Total</th>
<th>P Value</th>
<th>Information on respondents that disclosed result to spouse</th>
<th>Total</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence of Respondent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>38.3</td>
<td>54</td>
<td>0.006</td>
<td>79.72</td>
<td>114</td>
<td>0.533</td>
</tr>
<tr>
<td>Rural</td>
<td>63.16</td>
<td>24</td>
<td></td>
<td>84.21</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Age As At Last Birthday (years)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 24</td>
<td>61.29</td>
<td>19</td>
<td>0.003</td>
<td>83.87</td>
<td>26</td>
<td>0.003</td>
</tr>
<tr>
<td>25 - 29</td>
<td>41.03</td>
<td>32</td>
<td></td>
<td>85.84</td>
<td>71</td>
<td></td>
</tr>
<tr>
<td>30 - 34</td>
<td>48.15</td>
<td>26</td>
<td></td>
<td>64.71</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>5.25</td>
<td>1</td>
<td></td>
<td>100.00</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or living together</td>
<td>42.86</td>
<td>72</td>
<td>0.449</td>
<td>80.92</td>
<td>140</td>
<td>0.678</td>
</tr>
<tr>
<td>Divorced/ separated/not married</td>
<td>54.55</td>
<td>6</td>
<td></td>
<td>75.00</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islam</td>
<td>60.0</td>
<td>12</td>
<td>0.116</td>
<td>100.00</td>
<td>20</td>
<td>0.020</td>
</tr>
<tr>
<td>Christianity</td>
<td>41.51</td>
<td>66</td>
<td></td>
<td>78.26</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>non</td>
<td>40.00</td>
<td>2</td>
<td>0.852</td>
<td>57.14</td>
<td>4</td>
<td>0.036</td>
</tr>
<tr>
<td>Primary</td>
<td>52.94</td>
<td>9</td>
<td></td>
<td>82.35</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>43.52</td>
<td>47</td>
<td></td>
<td>76.58</td>
<td>85</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>40.82</td>
<td>20</td>
<td></td>
<td>93.48</td>
<td>43</td>
<td></td>
</tr>
</tbody>
</table>
4.4. Knowledge of PMTCT, period of registration for ANC and Background characteristics.

Knowledge of PMTCT will make respondents better informed about what they will gain from utilising the various services imbedded in this intervention.

Generally most of the respondents knew and have heard about PMTCT probably because the study was a hospital based one and respondents were already accessing one form of PMTCT services or another. Statistical significant association was noticed in the level of education. 100% of the respondents with tertiary education have a good knowledge of PMTCT when compared to 57.14% of respondents with no education at all (p= 0.001). Knowledge of PMTCT was equal for urban (92.11%) and rural dwellers (92.11%).

No statistical significant difference was seen in the age of respondents as the range is from 100% of those between 35-39 years to 89.41% of those between 30-34 years who knew about PMTCT. Some 100% of the unmarried/separated knew about PMTCT compared 91.48% of the married pregnant women. Also 100% Islamic women knew about PMTCT compared to 91.18% of their Christian counterpart. While the range for those without any child alive and those with 1-4 children alive are 95.71%: 91.51%.

Respondents were asked at what trimester the registered for antenatal. Statistical significant difference was noticed as 36.24% of urban dwellers in contrast to 5.26% that dwelled in the rural area registered for ANC during their 1st trimester. A little above half of urban dwellers (50.34%) registered in their 2nd trimester as compared to 80.58% of rural dweller that registered same time. In the 3rd trimester, the percentage that registered were almost the same urban (13.42%) and rural (13.16%) (p = 0.001). Majority of rural dwellers registered during the 2nd trimester.

A statistical significant difference was noted when the age range was compared, respondents within the age range of 20-24 registered, 48.39% during the 2nd trimester while 29.03% and 22.58% registered during the 1st and 3rd trimesters respectively. For those between the age range of 25-29, 75.90% registered during 2nd trimester while

<table>
<thead>
<tr>
<th>No of children alive</th>
<th>None</th>
<th>1-4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>42.19</td>
<td>39.60</td>
</tr>
<tr>
<td></td>
<td>0.742</td>
<td>0.742</td>
</tr>
<tr>
<td></td>
<td>78.13</td>
<td>82.52</td>
</tr>
<tr>
<td></td>
<td>50.00</td>
<td>85.00</td>
</tr>
<tr>
<td></td>
<td>0.483</td>
<td>0.742</td>
</tr>
</tbody>
</table>
16.87% and 7.23% registered during 1st and 3rd trimesters respectively. And those within the age range of 30-34, 42.11% registered during 2nd trimester while 38.60% registered during (1st trimester) and 19.30% registered during the (3rd trimester). A slight deviation was noticed among those within the age range of 35-39 where majority registered during the 1st trimester (68.75%) while others registered during 2nd trimester (25%) and 3rd trimester (6.25%) (p=0.000).

When compared to educational levels significant difference was seen as those with no education registered mainly during their 3rd trimester (71.43%), none of them registered in 1st trimester and only 28.57% registered during 2nd trimester. For others majority registered during 2nd trimester. Those with primary education, 64.71% registered during 2nd trimester while 17.65% registered during 1st and 3rd trimester. Those with secondary education, majority of them 57.66% registered during 2nd trimester while over 1/3 (34.23%) registered during 1st trimester. 55.77% of those with tertiary education registered during 2nd trimester. 28.85% and 15.38% registered during 1st and 3rd trimesters respectively.

No significant difference was noted between the married and unmarried/separated with respect to the period of registration for ANC. When compared with religious affiliation, no significant difference was noticed. The same pattern was noticed among women with no child alive and those with 1-4 children alive.

Table 4.10 shows respondents knowledge of PMTCT and various periods of registration for ANC by demographic factors.

**Table 4.10: Demographic characteristics and respondents’ knowledge of PMTCT and Registration period for ANC**

<table>
<thead>
<tr>
<th>Demographic Factors</th>
<th>Knowledge of PMTCT</th>
<th>Total</th>
<th>P Value</th>
<th>Timing of ANC registration</th>
<th>Total</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1-3 months</td>
<td>4-6 months</td>
<td>7-9 months</td>
</tr>
<tr>
<td>Residence of Respondent</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>92.11</td>
<td>140</td>
<td>1.000</td>
<td>36.24</td>
<td>50.34</td>
<td>13.42</td>
</tr>
<tr>
<td>Rural</td>
<td>92.11</td>
<td>35</td>
<td></td>
<td>5.26</td>
<td>81.58</td>
<td>13.16</td>
</tr>
</tbody>
</table>
### Age As At Last Birthday (years)

<table>
<thead>
<tr>
<th>Age As At Last Birthday (years)</th>
<th>Mean (SD)</th>
<th>N</th>
<th>95% CI</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 - 24</td>
<td>91.18</td>
<td>31</td>
<td>0.571</td>
<td>29.03</td>
<td>48.39</td>
<td>22.58</td>
<td>0.000</td>
</tr>
<tr>
<td>25 - 29</td>
<td>92.77</td>
<td>77</td>
<td></td>
<td>16.87</td>
<td>75.90</td>
<td>7.23</td>
<td>83</td>
</tr>
<tr>
<td>30 - 34</td>
<td>89.47</td>
<td>51</td>
<td></td>
<td>38.60</td>
<td>42.11</td>
<td>19.30</td>
<td>57</td>
</tr>
<tr>
<td>35 - 39</td>
<td>100.00</td>
<td>16</td>
<td></td>
<td>68.75</td>
<td>25.00</td>
<td>6.25</td>
<td>16</td>
</tr>
</tbody>
</table>

### Marital Status

<table>
<thead>
<tr>
<th>Marital Status</th>
<th>Mean (SD)</th>
<th>N</th>
<th>95% CI</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married or living together</td>
<td>91.48</td>
<td>161</td>
<td>0.255</td>
<td>30.64</td>
<td>56.65</td>
<td>12.72</td>
<td>173</td>
</tr>
<tr>
<td>Divorced/ separated/single</td>
<td>100.00</td>
<td>14</td>
<td></td>
<td>21.43</td>
<td>57.14</td>
<td>21.43</td>
<td>14</td>
</tr>
</tbody>
</table>

### Religion

<table>
<thead>
<tr>
<th>Religion</th>
<th>Mean (SD)</th>
<th>N</th>
<th>95% CI</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Islam</td>
<td>100.00</td>
<td>20</td>
<td>0.166</td>
<td>25.00</td>
<td>65.00</td>
<td>10.00</td>
<td>20</td>
</tr>
<tr>
<td>Christianity</td>
<td>91.18</td>
<td>155</td>
<td></td>
<td>30.54</td>
<td>55.69</td>
<td>13.77</td>
<td>167</td>
</tr>
</tbody>
</table>

### Highest Level of Education

<table>
<thead>
<tr>
<th>Highest Level of Education</th>
<th>Mean (SD)</th>
<th>N</th>
<th>95% CI</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>57.14</td>
<td>4</td>
<td>0.001</td>
<td>0.00</td>
<td>28.57</td>
<td>71.43</td>
<td>7</td>
</tr>
<tr>
<td>Primary</td>
<td>85.00</td>
<td>17</td>
<td></td>
<td>17.65</td>
<td>64.71</td>
<td>17.65</td>
<td>17</td>
</tr>
<tr>
<td>Secondary</td>
<td>91.89</td>
<td>102</td>
<td></td>
<td>34.23</td>
<td>57.66</td>
<td>8.11</td>
<td>111</td>
</tr>
<tr>
<td>Tertiary</td>
<td>100.00</td>
<td>52</td>
<td></td>
<td>28.85</td>
<td>55.77</td>
<td>15.38</td>
<td>52</td>
</tr>
</tbody>
</table>

### Respondent’s No of children alive

<table>
<thead>
<tr>
<th>Respondent’s No of children alive</th>
<th>Mean (SD)</th>
<th>N</th>
<th>95% CI</th>
<th>Median</th>
<th>Min</th>
<th>Max</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>95.71</td>
<td>67</td>
<td>0.279</td>
<td>30.00</td>
<td>54.29</td>
<td>15.71</td>
<td>70</td>
</tr>
<tr>
<td>1 - 4</td>
<td>91.51</td>
<td>97</td>
<td></td>
<td>33.98</td>
<td>58.25</td>
<td>7.77</td>
<td>103</td>
</tr>
</tbody>
</table>

### 4.5: Compliance to drugs and Demographic characteristics

This is important because failure to comply with medication can lead to resistance and treatment failure. Once a patient’s test is reactive, adherence counselling is done before commencement of therapy. The respondents were asked whether they were compliant to therapy.

When compared to place of residence, 100% (n=38) of rural dwellers were complaint while 76.80% (n=96) of urban dwellers were compliant which was statistically significant with a P value = 0.001

Age, marital status, religion, and level of education do not significantly affect compliance to therapy.
<table>
<thead>
<tr>
<th>Demographic Factors</th>
<th>Information on respondents compliance to drugs</th>
<th>Total</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence of Respondent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>76.80</td>
<td>96</td>
<td>0.001</td>
</tr>
<tr>
<td>Rural</td>
<td>100.00</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Age As At Last Birthday (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 24</td>
<td>86.21</td>
<td>25</td>
<td>0.052</td>
</tr>
<tr>
<td>25 - 29</td>
<td>87.01</td>
<td>67</td>
<td></td>
</tr>
<tr>
<td>30 - 34</td>
<td>68.89</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>91.67</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or living together</td>
<td>82.89</td>
<td>126</td>
<td>0.395</td>
</tr>
<tr>
<td>Divorced/ separated/not married</td>
<td>72.73</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islam</td>
<td>65.00</td>
<td>13</td>
<td>0.032</td>
</tr>
<tr>
<td>Christianity</td>
<td>84.62</td>
<td>121</td>
<td></td>
</tr>
<tr>
<td>Highest Level of Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>non</td>
<td>71.43</td>
<td>5</td>
<td>0.172</td>
</tr>
<tr>
<td>Primary</td>
<td>82.35</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>87.37</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>72.73</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>No of children alive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>80.77</td>
<td>42</td>
<td>0.742</td>
</tr>
<tr>
<td>1-4</td>
<td>82.47</td>
<td>80</td>
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</tbody>
</table>
4.6: Health Workers Attitude and Demographic Characteristics

Demographic factors do not have any significance effect on Health workers attitude to respondents continued access to PMTCT

**Table 4.12.** Demographic characteristics and Health workers attitude

<table>
<thead>
<tr>
<th>Demographic Factors</th>
<th>Information on the effects of health workers attitude to respondents continued access to PMTCT</th>
<th>Total</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence of Respondent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>17.39</td>
<td>24</td>
<td>0.396</td>
</tr>
<tr>
<td>Rural</td>
<td>24.14</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Age As At Last Birthday (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 24</td>
<td>12.90</td>
<td>4</td>
<td>0.042</td>
</tr>
<tr>
<td>25 - 29</td>
<td>18.18</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>30 - 34</td>
<td>30.23</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>0.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or living together</td>
<td></td>
<td>19.50</td>
<td>31</td>
</tr>
<tr>
<td>Divorced/ separated/not married</td>
<td></td>
<td>0.00</td>
<td>0</td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Islam</td>
<td>20.00</td>
<td>4</td>
<td>0.860</td>
</tr>
<tr>
<td>Christianity</td>
<td>18.37</td>
<td>27</td>
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</tr>
<tr>
<td>Highest Level of Education</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>non</td>
<td>0.00</td>
<td>0</td>
<td>0.523</td>
</tr>
<tr>
<td>Primary</td>
<td>11.76</td>
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<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>21.57</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>15.91</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>No of children alive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>20.97</td>
<td>13</td>
<td>0.090</td>
</tr>
<tr>
<td>1-4</td>
<td>10.99</td>
<td>10</td>
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</tbody>
</table>
4.7: Enrolment in Support Group and Demographic characteristics

Age of respondents have a statistical significant relationship with respondents support group enrolment. 13.79% (n=4) of the respondents within the age range of 20-24 registered for support group and 28.75% (n=23) within the age range of 25-29 registered while less than 10% each of those within the age ranges of 30-34 and 35-39 registered for support group (p = 0.005).

The other demographic factors such as place of residence, marital status, educational level, religious affiliation and no children do not have any significant influence in respondent’s enrolment for support group.

Table: 4.13: Demographic characteristics and belonging to support group

<table>
<thead>
<tr>
<th>Demographic Factors</th>
<th>Respondents that belong to support group</th>
<th>Total</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residence of Respondent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>12.08</td>
<td>18</td>
<td>1.000</td>
</tr>
<tr>
<td>Rural</td>
<td>42.42</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Age As At Last Birthday (years)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>20 - 24</td>
<td>13.79</td>
<td>4</td>
<td>0.005</td>
</tr>
<tr>
<td>25 - 29</td>
<td>28.75</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>30 - 34</td>
<td>7.02</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>6.25</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married or living together</td>
<td></td>
<td>17.26</td>
<td>29 0.694</td>
</tr>
<tr>
<td>Divorced/ separated/single</td>
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<td>21.43</td>
<td>3</td>
</tr>
<tr>
<td>Religion</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Islam</td>
<td>16.67</td>
<td>3</td>
<td>0.914</td>
</tr>
<tr>
<td>Christianity</td>
<td>17.68</td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Highest Level of Education</td>
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<td></td>
<td></td>
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<tr>
<td>None</td>
<td>40.00</td>
<td>2</td>
<td>0.347</td>
</tr>
<tr>
<td>Primary</td>
<td>17.65</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>19.44</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Tertiary</td>
<td>11.54</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Respondent’s No of children alive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>10.45</td>
<td>7</td>
<td>0.057</td>
</tr>
<tr>
<td>1 - 4</td>
<td>21.78</td>
<td>22</td>
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</tr>
</tbody>
</table>
4.8: CONCLUSION:

It is worth noting that perception of HIV infection among pregnant women was high. This was enhanced by the level of awareness gotten through different media of communication. They also feel that HIV screening is important. Majority of them actually did the test. Disparity in rate of disclosure to spouse was noted especially among the older age group and the learned.

Age, place of residence, educational statuses were all noted to play a significant role in the rate of acceptance and utilization of PMTCT services.
CHAPTER 5
Discussion of Findings and Recommendations

5.1 INTRODUCTION
This chapter provides a summary of the study, discusses research findings and recommendations for practise and areas for further researches.

The purpose of the study was to investigate the perceptions of HIV-positive pregnant women regarding the quality of PMTCT services, identify factors that prevent them from returning to the health facility for follow-up and delivery and explore measures that would promote the utilisation of PMTCT services by HIV-positive pregnant women in FCT, Abuja, Nigeria. The researcher used quantitative research design to systematically gather information from antenatal attendees in the selected health facilities in order to identify factors that may hinder HIV-positive mothers from utilising PMTCT services. The study was based on the Anderson’s model of health service utilisation, which also guided the construction of a structured quantitative survey questionnaire. Data were collected from pregnant women using a structured quantitative survey questionnaire. The sample consisted of 190 HIV positive pregnant women representing rural and urban populations. Data were gathered over two weeks on the antenatal days for registered women who met the key inclusion criterion (having been tested for HIV) in health facilities in the study area.

5.1.1: SECTION 1: Socio Demographic Characteristics & Background Information
Knowledge of HIV and PMTCT

The majority of the respondents (91.57%; n=174) were under 35 years old with the highest age range being 25-29 (43.68%; n= 83); in line with the finding by Nnamdi-Okagbue (2009:79) in a similar study conducted in Anambra State of Nigeria where the highest age range were 25-29 years old accounted for 36.3% of the respondents. This shows that less than 30 years is still a high risk age group according to this study and it means that this age group should be the target for campaigns against unsafe sex, the most common source of contracting HIV in Nigeria. Early marriage is predominant especially in the rural setting where they do not have the opportunity to attend higher education. Thus it is important that HIV/AIDS awareness should be directed to higher institutions (universities and polytechnics) where these age groups are found.
Of all the respondents, 92.63% (n=176) were married, this signifies that marriage is a factor especially where pre-marital HCT is not considered a priority. This is in keeping with Olanrewaju et al (2007:6) where they find marital status (>80%) significantly associated with HIV status. This result is not out of place in an environment where pregnancy outside marriage is not acceptable. Still HIV testing before marriage should be encouraged so that those willing not to get pregnant upon knowing their status can have access to family planning method of their choice.

Of the respondents, 85.79% (n=163) had achieved secondary and tertiary education, this collaborates with the 2010 ANC sentinel survey (FMOH 2010a: 15) 34% of the women had secondary education, closely followed by primary education (22.4%) with only 19% having higher education. Katushabe (2007:41) reveals that majority of the respondents were within the range of higher primary and ordinary Level. Some 38.42% (n=73) were either self employed/other employment or in permanent employment. Though majority of the respondents had secondary and tertiary education, only few (38.42%) are in one form of employment or another. This supports Nnamdi-Okagbue (2009:84) where 31.4% were housewives, while 19.6% were either students or unemployed, 25% were traders, and 23.5% were in permanent employment. Shangula (2006:32) in Namibia reveals that majority of the mothers are unemployed (80%) with only 20% employed.

Though unemployment was not established as a factor contributing to the spread of HIV among married women in this study, empowerment through job creation can enable the women to take certain decisions about their health and who and when to marry.

Of the respondents, 36.84% (n=70) were pregnant for the first time, 53.16% (n=101) had 1-5 children, and 2.63% (n=5) had 5 or more children. According to Chama et al (2007:814) “Wanting to have children is a legitimate desire of men and women in Africa, irrespective of their religious beliefs, to give meaning to life; it is the social norm and this desire cannot be suppressed by HIV infection”.

For most of the respondents 45.26% (86) of their husbands were self employed, 31.58% (n= 60) were civil servants. Most of the respondents were within the child-bearing age and at risk of becoming infected. Those that their husband were gainfully employed or financially stable can afford to send their wives for antenatal services. In addition, HIV-positive women’s desire to have a baby in order to fulfil societal
expectations is an added risk of having a HIV infected baby which may occur during pregnancy, labour/delivery and through breastfeeding.

5.1.2: SECTION 2: KNOWLEDGE, PERCEPTION AND ATTITUDE TOWARDS HIV/AIDS/PMTCT

In the context of the Andersen’s health services utilisation which involves three factors namely: individual factor, environmental (societal) and health services system factors, knowledge has an influence on each of the factors as it enables an individual to recognise the risk of an illness and thus take steps to adopt healthy behaviour to prevent illness or infection.

The majority of the respondents were knowledgeable about PMTCT (92.11%, n=175). This shows that knowledge about the existence of PMTCT is widely circulated especially among the pregnant women based on this study. This result could be as a result of the high number of women that had at least secondary education. It also shows that knowledge of PMTCT cuts across all age groups, both older and younger women.

This is in keeping with a study conducted in western Nigeria by Amoran et al (2012: 1) where no statistically significant difference in the knowledge difference of the teenage pregnant women when compared to older women about PMTCT (OR=1.47).

When comparing knowledge of PMTCT among urban and rural respondents, of the urban women, 92.11% (n=140) responded yes, they have heard of PMTCT services before, 7.82% (n=12) answered no, they have never heard of PMTCT service before. While amongst the rural women 92.11% (n=35) responded yes, they have heard of PMTCT services before while 18% (n=34) answered no they have not heard of PMTCT services before. This shows that over 90% of urban and rural women are knowledgeable about PMTCT. When compared to level of education, while 100% of those with tertiary education have knowledge about PMTCT only a little above half (57.14%) of those with no formal education knew about PMTCT. More still needs to be done in areas of enlightenment and outreach programmes to educate mothers irrespective of their educational background on the significance of PMTCT.

According to Fjeld Falnes et al (2010:1) mothers attending urban antenatal clinics tended to be more knowledgeable about PMTCT than the rural attendees. This shows that in some areas, place of residence can affect knowledge and utilisation of PMTCT services and though it is not evident in this study, effort should be made at sensitising
the few urban and rural dwellers on the importance of getting tested and accessing PMTCT services.

Information about PMTCT was heard by majority of the respondents for the first time through health workers (71.06%), this affirms the significant role that health workers play in disseminating information about HIV and MTCT.

The respondents were also aware of the different ways that a pregnant woman could transmit HIV to her baby: during pregnancy (81.58%; n=155), during labour/delivery (85.26%, n=162) and through breastfeeding (83.6%, n=159). This finding indicates that despite the fact that over 90% of the women knew about PMTCT, the number dropped when asked various ways that MTCT can be transmitted.

This is an improvement from Okonkwo Reich, Alabi, Umeike, Nachman (2007:255) who find out that only 42.1% knew that HIV can be transmitted through breastfeeding. This is unlike Nnamdi-Okagbue (2009:92) findings where only 39% of the women agreed that transmission can occur during delivery.

Asefa & Beyene (2013: 2) reveals that only 60.7% of all interviewed pregnant women who were aware of HIV/AIDS transmission knew about the risk of MTCT. The possibility of MTCT during pregnancy, delivery and breastfeeding was known by 48.4%, 58.6% and 40.7% of the respondents, respectively.

It shows that gap still existed in the respondents’ knowledge regarding MTCT of HIV especially during delivery and breastfeeding, therefore on-going education should be sustained for pregnant women during antenatal visits, emphasising all aspects and explaining the implications of transmission at each stage. This is with regard to prolonged labour, early membrane rupture, and performing an episiotomy, since their knowledge of transmission during labour/delivery was much lower than the other ways.

On whether a pregnant woman will have HIV and still look health. Majority of the respondents agreed 96.32% (n = 183) translating to answering yes while 3.68 % (n = 7) responded No. In the context of the health service utilisation, access to information equips individuals with knowledge to take measures to prevent an illness. Someone can feel and look healthy for many years while being infected, and can also transmit the virus to other people (Centres for Diseases Control 2008:2). Knowledge of the fact that HIV infected woman can still look health has helped in the increased enrolment for
PMTCT. Wrong perceptions associated with HIV/AIDS in the past has been a limiting factor to accessing PMTCT services because the women feel that it is needless seeking help when they know that they will soon die and leave behind a sickly baby. Indeed this line of reasoning could be discouraging.

Most respondents feels that every pregnant women should be tested (95.26%, n = 181). Testing is the entrance gate to any HIV/AIDS intervention programme and should not be relegated to the background. Katushabe (2007:53) reveals 76.7% of the pregnant women think it is good to be tested. Also, Nnamdi-Okagbue. (2009:98) reveals that 99% of the respondents want all pregnant women tested. Some of the HIV positive women confessed that the opt-out testing initiative adopted for PMTCT by the Federal Government, have made many of them know their status and gave them the opportunity of free interventions being offered and helping them to have an un-infected baby.

A significant number of the respondents were aware of interventions available to reduce MTCT 88.95% (n = 169) answered yes, but a little above half (57.37%; n=109) indicated the use of combined anti-retroviral drugs and exclusive breastfeeding as one of the interventions while 14.74% (n=28) indicated the use of ARVs and breast milk substitute. According to Carole Leach-Lemens (2011:1) exclusive breastfeeding and triple-drug antiretroviral treatment (ART) were both protective factors, unplanned pregnancies and mixed feeding were risk factors associated with MTCT.

Initially, HIV positive mothers were advised not to breastfeed babies but with an increasing knowledge that with anti retroviral, they can breastfeed. This was a welcome development among the mothers and has increased their willingness to access PMTCT services to postnatal care as long as the assurance of having a HIV negative baby is guaranteed. Also health workers should help encourage these mothers to breastfeed their babies.

5.1.3. SECTION 3: BARRIERS TO UTILISATION OF PMTCT SERVICES

Some 93.68% (n = 178) of the respondents indicated there interest to utilize the PMTCT services and none objected usage. This was made possible as a result of the health talks given to them at the hospital during antenatal visits. This response was possible because this was a hospital based study among women accessing PMTCT including first time attendee; it was possible that the remaining 6% might be new entrant yet to
fully understand what PMTCT is all about. Moreover the service was at no extra cost to
them. With the health talk on the importance of PMTCT and all the interventions that will
help prevent MTCT explained to them, and with a relatively educated audience, the
acceptance of the service should be expected as expressed by some of the women.
This is in contrast to Amoran, Salami, Oluwole (2012:1) where the teenage pregnant
women are 3 times less likely to use the service when compared with the older women
(OR=0.34)
Worku (2007:29) also notes that one of the barriers to utilisation of PMTCT services is
stigma and inadequate information of the efficacy of the drugs. He observed that “Of the
67 pregnant women who had expectation of having positive HIV test result, 23 (34.3%)
were not willing to take the drug for PMTCT. The reason given by 14 of them was to
avoid discrimination by the family, and that by 9 was lack of trust on the effectiveness of
the drug”.
As majority of the respondents indicated interest to utilise or were already utilising the
services, effort should be made by government and community to ensure continuous
availability of drugs through a robust supply chain system, integrating other services like
family planning and creating avenues to integrate these mothers into the community to
reduce stigma.

Concerning taking permission from spouse before doing HCT, 41.05% (n=78) of the
respondent stated that they need permission while 53.16% (n = 101) responded they do
not. When place of residence was compared 63.16% of rural dwellers as against
38.30% of urban dwellers needs permission. It was also noted that the young women
20-24years (61.29%) needed permission unlike the older women 35-39years (6.25%).
This contradicts Okonkwo et al (2007:256) where 82.9% responded they did not need
permission to undergo testing while 17.1% answered they did needed permission. Also
Nnamdi-Okagbue (2009:110) findings showed that only 33% of respondents’ needed
husband permission while 65% does not need husband’s permission. A lot of the
women were afraid of marital disharmony. Many of those that did not take permission
before doing the test may be scared of divorce; stigma, physical abuse and rejection
from their spouse. This shows the dominance of men over their spouses. This is where
couple counselling plays a vital role in uniting the family.
On the issue of disclosure, 76.84% (n = 146) disclosed their result while 18.42% (n = 42) did not. Many were afraid of abandonment or being separated from their children. This can be related to the previous question on permission. The situation can degenerate to discord in the family especially for discordant couples where accusations and counter-accusations will manifest. Some women confessed that they have a husband that is not understanding hence cannot even mention the test result to him. While some women especially among the learned ones (93.48%) and 100% of those within the age range of 34-39 years disclosed to their husband because he is understanding, and has stood by them, giving them all the necessary support. Also 100% of women that practise Islamic religion disclosed their results to their spouse.

Concerning what the relatives reaction will be if they know that they were HIV positive, 10% (n = 19) responded they will be thrown out of home, 8.42% (n = 16) answered they will be physically abused, 46.6% (n = 89) responded that the family will start to care for them. This contradicts Okonkwo et al (2007:256) where 69.2% of their respondents responded that they would be discriminated against socially and/or culturally if they tested HIV positive. According to Talam et al (2008:75), they identified stigma (28.9%) as one of the factors affecting adherence to treatment with ARVs. According to health service utilisation, stigma, fear and disclosure are some of the identified socio-economic factors influencing PMTCT utilisation.

Close to half of the respondents responded they will be catered for by their family. This can only happen when the result is disclosed to them and they have an understanding family, others prefer to keep it a secret from the family. This shows that the war against stigmatisation is not yet over. Enlightenment campaign should be scaled down to communities to enlighten the people on ways HIV cannot be contacted and how to care for the infected relatives.

When asked where they received their HCT, 77.39% (n = 147) answered in this hospital, 18.42% (n = 35) replied in another hospital while 2.63 % (n = 5) responded in a VCT centre. This shows that majority of the respondents had their test done in the antenatal clinic and that most of the women knew their status for the first time during the ANC visit. This collaborates Fjeld Falnes (2010: 3) which showed that of all the 426 mothers interviewed, 94.6% of them have knowledge about HIV from antenatal clinic while 98% accepted testing. This shows that integration of HCT into ANC will increase
access to PMTCT services. The scale up plan for PMTCT should include reaching all MCH clinics with PMTCT activities. This is a limiting factor because those women that do not have access to ANC services will not be tested and enrolled for PMTCT services. Efforts should be made towards encouraging pregnant women to go for ANC as well as reaching out to the TBA’s to encourage their clients to get tested for HIV.

On how they knew about the PMTCT services 19.47% (n = 37) responded they were referred while 10% (n = 19) replied they came on their own and 4.21% (n = 8) responded they were brought by a community worker. This is a follow-up question for those that did not do HCT at the hospital, majority of them were referred and probably they were tested in a non PMTCT centre. This is a pointer towards strengthening the referral linkages; PMTCT centres should be published and kept in all the MCH centres to ease referral. Community workers should be empowered with means of transportation to enable them carry them to the referral centres.

Concerning cost of transportation being a source of concern, 22.11% (n = 42) replied yes, 75.46% (n = 143) responded no. Cost of transportation is not an issue to majority of the respondents. It has been observed in the course of working with the HIV/AIDS units that some HIV infected persons prefer to access services in a hospital that is not close to their house. This corroborates Nnamdi-Okagbue (2009:113) where 86% (n=88) of the HIV positive pregnant women indicated that they would not use the services if they were near their home, citing confidentiality and stigmatisation as the major reason. It was also noted in the course of this study that majority of the respondents feel that despite the fact that the live far from the hospital location, cost was not an issue to them. Some stated that they wanted a place where they can get a comprehensive package, some wanted a place away from their place of residence for confidentiality sake while others feel that the attitude of health workers attracted them to the hospital. Majority of those that indicated cost as an issue might be unemployed and so they depend on spouse for fund, yet they want to go to comprehensive health centres which are usually located in the urban area.

As for the type of pretest received, 27.37% (n= 52) of the respondents had group counselling, 58.42% (n = 111) had one-on-one and 6.32% (n = 12) had none, while for Post test counselling, 28.8% (n = 55) answered group counselling, 60.3% (n = 115) answered individual counselling. This supports Olarewaju et al (.2007:5) where 587
(80.6%) pregnant women underwent the test after pre-test counselling; 69 women (9.5%) had a positive result. The women were counselled on the need for prevention of mother to child transmission of HIV infection, only 13 (18.8%) of the women accepted to utilise PMTCT facilities.

Post test counselling according to the opt-out initiative is supposed to be one on one to enable the women express their concerns and ensure confidentiality. The pre test counselling is usually done in groups because of the large number of pregnant women attending ANC and the issue of confidentiality does not arise until post test stage, one on one counselling is important especially for those knowing their status for the first time, if proper counselling is not done, they may not return for PMTCT services because of fear, stigma and loss of self esteem.

On the rating of the counselling, majority of the respondents 91.52% (n=174) responded good, 4.21 % (n=8) replied Poor while 2.63% (n=5) reported unacceptable. Majority of the respondents accepted that the quality was good, a reason they returned for PMTCT services. This supports Katuhabe (2007:69) where 57% of the respondents reported that they were comfortable with the form of counselling offered, while 43% were not comfortable. This is not in agreement with Nguyen et al (2008:8) they discovered that one possible reason for under-use of PMTCT services is that women did not receive adequate counselling on PMTCT options. In this study, 22 women did not receive any counselling although they tested positive for HIV. Not only the quantity but also the quality of the counselling did not meet the required standards. The results revealed an emphasis in pre-test counselling on prevention of transmission of HIV, and not on what the test means, or what to do if it is positive. In the post-test counselling, again the emphasis was on disclosure and harm reduction, not on the needs of the women for care and protection.

One possible reason for under-use of PMTCT services is that women did not receive adequate counselling on PMTCT options (Nguyen et al.2008:4). The quality of counselling is a serious factor and if done hastily without addressing all the women’s concerns, fears and anxieties, it will lead to non response to the PMTCT services. It has been noted that because of the workload on the available staffs in some health centres, they tend to attend to as many patients as possible and by so doing give less quality counsel to clients. Employment of more staff will reduce the workload on the few available nurses.
When asked about follow up counselling, majority of respondents 82.11% (n = 156) responded yes, 14.74% (n = 28) replied no. Fjeld Falnes (2010: 3) showed that of all the 426 mothers interviewed, 65.5% received infant feeding counsel. This can be achieved mostly through follow-up counselling. This is extremely important in that some test naive women can be followed up and encouraged to test as well as help encourage HIV positive mothers who may not want to utilise PMTCT services to do so. This is in contrast to a study by Nguyen et al (2008:8) who discovered that women who received post test counselling still did not always receive any other services. While follow-up care is a crucial component of comprehensive care and support for the HIV infected mother and her family after delivery, less than one fifth of the women were asked to come back to the hospital for an appointment. In this study most of them were followed up and majority accepted to access the services. There is need for follow up counselling to be done as it increases the knowledge base of the HIV positive mothers.

Concerning couple counselling, 44.21% (n = 84) answered yes, 47.37% (n = 90) responded no. Close to half of the respondents had couple counselling done. This has been a serious barrier to the uptake of PMTCT services for it is the entry point of discussion about HIV to the family. Partner participation will increase uptake of the services and the women are more likely to take their medication, deliver in the hospital and benefit from the entire PMTCT package with the support of their partner/spouse assured. Some of the reasons given for not having couple counselling done includes: partner refusal to come, fear of disclosure by the woman, not encouraged to bring their spouses/partners for counselling by the health personnel, some feels it was not necessary and it will not change anything. These reasons were worth focusing on as couple’s involvement will improve uptake in Nigeria.

When looking at what gestational age they registered for antenatal, 29.47% (n = 56) registered during first trimester, 55.79% (n = 106) second trimester and 13.16% (n = 25) third trimester. A little above half of the mothers registered in the second trimester. Among these people, 81.58% resided in the rural area and 75.90% of them were within the age range of 25-29. 71.49% of those with no formal education registered in the third trimester. This was important given the significant reduction in viral load will be gotten if ART was commenced early in pregnancy and those that registered late in pregnancy
may not start therapy before delivery thereby constituting a failure of the system and probably adding to the increasing number of HIV infected children.

‘We found that gestational age at first antenatal visit was a major determinant of HAART initiation during pregnancy; with women making their first antenatal visit during the third trimester 75% are less likely to start HAART while pregnant. In the study less than half of the women received HAART for more than eight weeks’. (Stinson.et al.2010: 830). This supports data from the European Cohort Study that at least eight weeks of HAART are required to achieve viral suppression in women with advanced HIV disease (European Collaborative Study Group.2007:1652 ).

The churches and mosques as well as women leaders can be used to reach out to the women with no education to encourage them to register for ANC. Though more campaign effort should be focused on rural areas, urban areas should not be neglected.

Adherence to counselling is important if treatment failure is to be averted through non compliance. 83.16% (n=158) had adherence counselling, 11.05% (n = 21) did not, majority of the respondents had adherence counselling done but complained that it was not in depth as the number of people coming to collect drugs increased against the limited number of staff attending to patients. Only 70.53% (n=134) were compliant with their drugs. Some of the reasons for non compliant were that they were scared of people seeing them with the drug and some do not like the drug. Though availability of drug is not an issue in Nigeria as attested to by 91.05% (n=173) of the respondent since the drugs were given free. This study affirms this viewpoint; ‘Fortunately, most countries are benefiting from donor funding as such the services are either received at a subsidised rate or free of charge. Nigeria belongs to the later group where services are given at no cost to clients’. (FMOH 2010b:12).

A study conducted in Ghana to follow up women initiated on ARVs in a PMTCT clinic shows that 26 out of 30 women being prospectively followed up after initiation of PMTCT suffered various ADRs to ARV. Three patients had serious reactions necessitating cessation of therapy (Zigah.et al 2009:1). Also MTCT can be reduced to 2% by ARV given during pregnancy, labour and breastfeeding (FMOH 2010a: 3)
Once adherence counselling is not properly done, the importance of regular ingestion of drug is lost; this will result to compliance failure, development of resistance, treatment failure and failure of the HIV/AIDS programme.

Majority of the respondents indicated interest to deliver in the hospital where they attended antenatal 89% (n = 169) responded in this hospital 4.1% (n= 8) responded in another hospital offering PMTCT 2.7% (n=5) replied in another hospital do not know if PMTCT is offered there. But on whether to continue PMTCT after delivery, 97.3 % (n= 185) answered yes and 1.4 % (n =3) answered no. Majority of the respondents replied they will deliver and continue the PMTCT services after delivery. This response could be attributed to the knowledge gained in the course of visit to the hospital and also the desire to have a HIV free baby. If the mothers understand that after delivery, the baby will still be on therapy till test is conducted to know whether baby is HIV negative or not, that eagerness will make the mother to continue with the services. Secondly most mothers will want to breastfeed their babies and the fear of MTCT during breast feeding will make the mothers to continue even after delivery.

On the issue of family planning only 37% (n= 70) of the respondents were offered family planning while 39.7% (n= 75) where not offered. This is one of the PMTCT packages often neglected and have resulted in many unplanned pregnancy among the HIV positive mothers which will ultimately lead to more children being born with HIV. WHO (2010b:28) showed contraceptive prevalence for Nigeria to be 14.7% while the unmet need for family planning is 16.9%. This factor can be reduced by incorporating family planning into the PMTCT and MCH programme so that information is passed across to the mothers equally during antenatal visits. As attested to by Chabikuli, Awi, Chukwujekwu, Abubakar, Gwarzo, Ibrahim, Merrigan, Hamelmann (2009: 97-103) where the mean attendance at family planning clinics increased significantly from 67.6% in pre-integration to 87.0% in post-integration. The mean couple years of protection (CYP) increased significantly from 32.3% pre-integration to 38.2% post-integration.

When asked whether attitude of Health workers discourage patients assessing PMTCT services, 12.3% (n= 23) responded yes and 75.3% (n= 143) reported no. Finally 82.2% (n= 156) of the respondents were satisfied with the services rendered to them while 1.4 % (n=3) replied No. Health workers attitude can be a hindrance and could hinder some of the women that attended antenatal from accessing these services. Most HIV positive
women were apprehensive of the way they will be treated and will easily get discouraged by any actions posed by the health personnel and this may affect their ability to utilise the PMTCT services. The need to train health personnel on a more courteous way to deal with HIV positive women will encourage the women to access and stay in the programme.

5.1.4. Ways to improve PMTCT services uptake

The respondents were asked to suggest ways to help more HIV-positive pregnant women to use PMTCT services. The respondents’ suggestions include:

- Employ and train more health care workers to work in the antenatal clinic.
- Friendlier attitude by health care workers.
- Health education on HIV/AIDS at every antenatal visit beyond the one given on the day the women come for their antenatal care registration.
- Provision of free infant formula for those who do not want to breastfeed their babies.
- Reduce long waiting time at the clinic especially during refill of ART.
- Health workers to encourage mothers to take up family planning to avoid unplanned pregnancy.
- Reducing stigma and discrimination towards people living with HIV/AIDS.

5.2 LIMITATIONS

The limitations encountered in the course of this study were:

Time frame required for data collection was three weeks. Which was too short making data collection from the three area councils a tasking activity.

The cost of printing the materials, having to visit some of the health facilities several times to either get approval or meet participants on their clinic days.

The area councils were not too closely located and some of the rural health centres are far from the main area council making access difficult.

Having a distant supervisor was not easy as the flow of communication was delayed.
Most of the sites with large patient load were private hospitals and out of reach of the common Nigerian. While some primary health care centres in rural areas do not offer PMTCT services.

Abuja is a rapidly developing area and the cost of living is high hence 75% of the respondents were attending health centres located in the urban centre even though some of them live in the rural area because they wanted a centre where they can get adequate services.

Abuja is an Elitist society and the findings may differ from what may be obtained in a typical rural setting.

Despite the limitations, the study provides invaluable information that could help in improving services to prevent MTCT of HIV in the study area and immediate vicinity.

5.3 RECOMMENDATIONS

Based on the findings, the researcher makes the following recommendations for Practise and further research.

5.3.1 Knowledge and Attitude towards HIV transmission and PMTCT

- It is recommended that on-going health talks given at antenatal clinics should be extended even at postnatal clinics and immunisation clinics in our health centres especially in the area of couple counselling, follow-up counselling, family planning and the need to delivery in hospitals and continue the services after delivery. Continuous talk on the topic will increase understanding of the issues and help the HIV positive mothers to comprehend and appreciate the implications of not using the PMTCT services. All the various aspects of transmission from mother-to-child and the complete preventive packages should be emphasised during the health talks to promote a better understanding of PMTCT.

- Though majority of the respondents have heard about PMTCT, a good number of rural dwellers and those with no formal education heard of it for the first time in the health centre. Social media like churches, mosques and community meetings can be used to reach these groups of people.

- Support group membership has not been well explored. From this study membership was generally poor with rural dwellers participating more than urban
dwellers. This area is important as they gather together to share challenges and fears as well as possibly find solutions from colleagues who have had such problem in the past.

- Regular training of health workers on the new innovations regarding PMTCT should be communicated to them to update their own knowledge and skills in HIV/AIDS counselling, infant feeding counselling and PMTCT in order to effectively educate the pregnant women.
- Educational campaigns should be continued at all levels to create more awareness of HIV/AIDS, promote understanding about the disease to reduce stigma and discrimination as well as provide support for those who are infected.

5.3.2 Barriers to utilising PMTCT services

- It is recommended that confidentiality be maintained in all encounter with HIV positive mothers and that the women are given all the necessary support to enable them use the services.
- Health care workers should deepen effort to improve male involvement to encourage their support of their HIV-positive wives/partners especially during couple counselling. HIV positive women should be encouraged to bring their husbands for couple counselling as this will promote good understanding among couples and reduce abuse and stigma at home.
- Health care workers should also talk to HIV-positive women in a friendly and courteous manner as this will enable the women open up and share their challenges with them. This will enable them cope better with the situation so that they obtain the optimal benefit from the services available.
- HIV counselling and testing should be promoted and the benefits of PMTCT services underscored.
- HIV-positive mothers who have HIV-negative babies should be counselled on further preventive measures in order not to infect their babies.
- Compliance to drugs was high in this study but to achieve maximum reduction of MTCT, compliance should aim at 100% so adherence counselling and counsellors should improve in quality and quantity. The national strategic plan target for PMTCT is to reach ARV prophylaxis coverage of 90% by 2015 indicated for the elimination of paediatric AIDS (FMOH.2010b:26).
Notably, 100% of rural dwellers were compliant properly because more efforts were made at enlightening the rural dwellers. The urban areas were gradually declining in their responses; hence a revisit there is inevitable and desirable.

- Newly identified HIV-positive mothers should be encouraged to join a support group where they will be given hope and support.
- Ways of disclosing results to spouse and relatives should be developed as this is a major barrier to utilising PMTCT services.
- Campaign on early registration is important for ANC as early commencement of ARVs will reduce MTCT to 2%. Focus should be more on non-educated mothers since they have been found to register late for ANC as well as required permission to undergo HCT.

Finally according to a study in Uganda based on listening to health care workers by Rujumba, Tumwine, Tylleskär, Neema, Heggenhougen (2012: 12) reveals “The key lessons for programme improvement were: ensuring constant availability of critical PMTCT supplies, such as HIV testing kits, antiretroviral drugs (ARVs) for mothers and their babies, regular in-service training of health workers to keep them abreast with the rapidly changing knowledge and guidelines for PMTCT, ensuring that lower level health centres provide maternity services and ARVs for women in the PMTCT programme and provision of adequate facilities for effective follow-up and support for mothers”.

Though we did not listen to health care workers view these suggestions were not far from findings in this study and should be further explored.

5.3.3 Further research

Further studies should be conducted on the following topics:

- Barriers to utilisation of PMTCT services in other settings, mainly those offering PMTCT for a fee.
- Health workers perspective towards improving PMTCT services in the country.
- Supply chain challenges of ART commodities affecting PMTCT Services.

5.4 CONCLUSION

Mother-to-child transmission of HIV remains the major means by which children under the age of 15 years are infected with HIV. There are interventions available in Nigeria to
support pregnant women such as HIV Counselling and Testing, ART, Infant feeding option all packaged under PMTCT services.
The findings underscored the importance of on-going awareness of HIV/AIDS, interventions during antenatal visits and beyond. These findings should be of significant assistance to policy makers, health care workers and those involved in rendering PMTCT/HIV/AIDS services.
Reference:


General Assembly on Political Declaration on HIV and AIDS. 2011: Intensifying Our Efforts to Eliminate HIV and AIDS (extract from resolution adopted).


HIV/AIDS Division. 2012a. PEPFAR PMTCT PSM Update. A presentation made by PEPFAR PSM at the National PMTCT Task team Meeting held in Abuja.

HIV/AIDS Division. 2012b. PMTCT UNIT Update. A presentation made by the PMTCT unit of HIV/AIDS Division at the ART technical Working Group Coordination Meeting held in Abuja.


Nnamdi-Okagbue, R. 2009: *An Investigation into the factors affecting the utilization of mother to child transmission services by Human Immuno-Deficiency virus Positive women in Onitsha*, Anambra State, Nigeria. A thesis presented in fulfilment of Masters degree in UNISA SA.


Rapidsms: glossary of key terms.


The Chambers Dictionary.1999: Chambers Harrap Publishers Ltd. 7 Hopetoun Creasent, Edinburgh, EH7 4AY.


ANNEXURE A

UNISA Clearance Certificate

UNIVERSITY OF SOUTH AFRICA
Health Studies Higher Degrees Committee
College of Human Sciences
ETHICAL CLEARANCE CERTIFICATE

HSHDC/63/2012

Date of meeting: 7 June 2012  Student No: 4603-310-6

Project Title: Factors influencing the utilization of PMTCT services in the federal capital territory of Nigeria

Researcher: Dr Chukwukaodinaka Nwakaogo Ernestina

Degree: Masters in Public Health (MPH)  Code: DLMPH95

Supervisor: Dr ES Seloiwe
Qualification: PhD
Joint Supervisor: -

DECISION OF COMMITTEE

Approved ☑  Conditionally Approved

Prof E Potgieter
CHAIRPERSON: HEALTH STUDIES HIGHER DEGREES COMMITTEE

Dr MM Moleki
ACTING ACADEMIC CHAIRPERSON: DEPARTMENT OF HEALTH STUDIES

PLEASE QUOTE THE PROJECT NUMBER IN ALL ENQUIRIES
ANNEXURE B
PERMISSION FROM THE HEALTH FACILITIES

Dr N.E. Chukwukaodinaka
HIV/AIDS Division (NASCOP)
Public Health Dept,
FMOH Abuja

The Medical Director

...........................................

Abuja,

Dear Sir,

REQUEST FOR PERMISSION TO CARRY OUT A STUDY IN THE HEALTH CENTER

My name is Dr. N.E. Chukwukaodinaka. I am a Master’s Student with the department of Health Sciences of the University of South Africa; I am currently conducting a study on the utilization of PMTCT services among Urban and Rural Health Center in FCT.

This study will be conducting among pregnant women attending PMTCT Services in selected Health Center in FCT. .................................................................hospital is among the health centers selected for this study. This is in partial fulfillment of the requirements for the degree of Masters in Public Health.

The objective of the present study is to examine Factors influencing PMTCT service utilization in FCT. A number of pregnant women will be interviewed in this study which is being conducted in FCT Abuja.

This research involves human subject and this letter is to seek your permission to use your health facility as it falls among the randomly selected health for this study.

Strictly confidentiality of the participants will be maintained and participation will be purely on voluntary bases.

This study is schedule to be conducted from 2nd – 14th September 2012. The time for the study will be scheduled not to interfere with daily activities in the facility.
Thank you for anticipated favorable response.

Dr. N.E. Chukwukaodinaka

Principal Researcher

FHREC Protocol Approval Number: FHREC/2012/08/24/28-08-12

Duration of the Study: 28/08/2012 to 27/08/2013

Contact:

Block E, Flat 1 National Hospital Quarters

Central Area Abuja.

08055025066
Dr. N.E. Chukwukaodinaka
HIV/AIDS Division (NASCP)
Public Health Dept
FMOH, Abuja.

LETTER OF APPROVAL

With respect to your letter dated 21st August, 2012. I am directed to inform you that approval has been given for you to carry out your research work in the hospital on the factor influencing the utilization of PMTCT services in the Federal Capital Territory in Nigeria.

2. You will therefore be expected to report to the office of the Medical Director for further necessary instructions.

Beatrice Obike
Hospital Secretary

Kuchingoro Primary Health Centre,
AMAC,
Abuja.

Dr. Chukwukaodinaka Nwakaego
HIV/AIDS Division,
F.M.H,
Abuja.

Dear Ma,

ACKNOWLEDGEMENT LETTER

This is to acknowledge that your letter dated 16th August, 2012 has been received and also approved for you to carry on the study in our various health facilities.

Please accept my warm regards.

Thanks.

[Signature]

Dr. Ihegazie

OIC Kuchingoro PHC
15/5/2014

TO WHOM IT MAY CONCERN:

LETTER OF ACKNOWLEDGEMENT

I sincerely wish to acknowledge that Dr. N. E. Chukwukaadinaka a Master’s Student with the department of Health Sciences of the University of South Africa, in carrying out a study on the utilization of PMTCT services among Urban and Rural Health Centre in FCT, applied to use our hospital as one of the health centers randomly selected for the study.

The study was conducted in our Hospital from 1st week of July – 4th week of July, 2012.

Approval was given in consideration of the objective of the study which was to examine the factors influencing PMTCT service utilization in FCT.

Please render any assistance the above named researcher merits.

Attached is a letter of request from the researcher to carry out the study in our hospital.

Thank you for your anticipated cooperation.

Yours sincerely,

[Signature]

Dr. B. O. Azide (Rev. Sister)

Medical Director/C. E. O
HEALTH AND HUMAN SERVICES SECRETARIAT
WUSE GENERAL HOSPITAL
CONAKRY STREET WUSE ZONE 3
P.M.B 24
FCDA, ABUJA

Our Ref: FCTA/HHSS/HMB/WDH/GEN/107
Your Ref: 

Dr N.E.Chukwuakadi,  
HIV/AIDS Division (NASC),  
Public Health Dept,  
FMOH Abuja.

LETTER OF APPROVAL

With respect to your letter dated 21st August, 2012 I am directed to inform you that approval has been given for you to carry out your research work in the hospital on the utilization of PMTCT services among Urban and Rural Health Center in FCT.

2. You will therefore be expected to report to the office of Medical director for further necessary instructions.

Victoria Nnamani  
For: Hospital Secretary (WDH).
ANNEXURE C (1)

INFORMATION LETTER
This study is being conducted in some selected Health center in FCT Abuja. The study is aimed at finding out the various factors affecting the uptake of PMTCT services by HIV positive pregnant women. The study will help the researcher and further more the policy maker to know the challenges these group of women go through in the course of accessing this services. This will help in knowing the areas to focus attention to knowing that the federal government’s target is to reduce mother to child transmission to 90% by the year 2015.

We know we cannot get to those not attending ANC but we can get clues to the reasons why some people are not accessing services despite the fact that the services are offer at no cost to them.

This study will not in any way expose you unnecessarily as it is a confidential study and you can also learn more about what PMTCT services entails and you will be better informed on making an informed decision for you and your unborn child.

Thank you for granting me the audience.
CONSENT TO PARTICIPATE IN RESEARCH (INFORMED CONSENT)(2)

My name is ----------------------------- I am working temporarily as a data collector for a researcher, Dr. N.E. Chukwukaodinaka. She is a registered student with the Department of Health Studies of University of South Africa, who is conducting a study among pregnant women. The objective of the present study is to examine PMTCT service utilization. A number of people are needed to be interviewed in this study in selected health centers in FCT Abuja.

During the interview you will be asked some short questions about your background, about HIV and PMTCT utilization, your feelings etc. Your answers will be recorded on a survey questionnaire. You may feel uncomfortable or experience some emotional stress from being asked some of the personal questions. No personal identifiers will be attached/recorded to the interview. All the data obtained will be kept strictly confidential by using only code numbers and will be stored in locked file cabinets and deposited with the researcher, to be accessed only by the principal investigator, and destroyed immediately when the study is finalized.

Your participation in the study is upon purely voluntary basis. What we learn from this study will be used to generate information necessary for the planning to improve, redesign and scale up the PMTCT programs in our country. The interview will be conducted in private and will take about 15-20 minutes. During the interview (discussion) period, if you feel inconvenient, you can interrupt and clarify inconvenience, appoint to other time or even withdraw any time after you get involved in the study. Your honest and genuine participation in responding to the questions prepared is very important & highly appreciated. If you agree to participate in this study I will interview you.

Would you be willing to participate?

If yes, proceed. If no, thank and stop here.

__________________ (Signature of interviewer certifying that respondent has given Informed consent verbally).

Contact: Dr. N.E. Chukwukaodinaka
HIV/AIDS Division, Dept of Public Health

Or Block E, Flat 1 National Hospital Quarters

Central Area Abuja

Phone No – 08055025066

FHREC Protocol Approval Number: FHREC/2012/08/24/28-08-12

Duration of the Study: 28/08/2012 to 27/08/2013
ANNEXURE D
EDITORS LETTER

From the Desk of:
Mr. Ayo Egunjobi,
Head, Publishing Unit
NISER, Ibadan.

20th October, 2014

Head of Department
Health Studies Department
University of South Africa.
South Africa.

Dear Sir,

RE: EDITING OF FACTORS INFLUENCING THE UTILISATION OF PMTCT SERVICES IN THE FEDERAL CAPITAL TERRITORY OF NIGERIA

The above refers.

This is to formally acknowledge that I edited Dr. Chukwukaodinaka Nwakaego Ernestina's thesis. Indeed, I personally effected the corrections of the chapters on the soft copy (system).

Attempts have been made to incorporate the University of South Africa referencing style.

Yours sincerely,

Mr. A. A. Egunjobi
### ANNEXURE E

**DATA COLLECTION INSTRUMENT**

#### Section 0: General Information

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<td></td>
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<td>002</td>
<td>Place of interview</td>
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<tr>
<td></td>
<td></td>
<td>GWAGWALADA</td>
<td>2</td>
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<td></td>
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<td>BWARI</td>
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<tr>
<td>004</td>
<td>Time of finish of 1st interview</td>
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#### Section 1: Socio Demographic Characteristics & Background Information

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<td>011 Location of facility</td>
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<td>Rural...............</td>
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<td>012 Age of the respondent</td>
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<td>21 – 25</td>
<td>2</td>
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<td></td>
<td>26 – 30</td>
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<td></td>
<td>31 - 35</td>
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<td></td>
<td>36 – 40</td>
<td>5</td>
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<td></td>
<td>Above 40</td>
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<td>013 Marital Status</td>
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<td>Married</td>
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<td>What is your religion?</td>
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<td>Option 2</td>
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</tr>
<tr>
<td>Can a HIV Pregnant woman still look health:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Do you think that every pregnant woman should be screened for HIV?</td>
<td>Yes...............................................</td>
<td>No...............................................</td>
</tr>
<tr>
<td>Are you aware of interventions that can prevent MTCT of HIV:</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>If yes, What are they?</td>
<td>Use of ARV Prophylaxis (for mother baby) and exclusive breast feeding.</td>
<td>Use of ARV Prophylaxis (for mother/baby) and breast milk substitute.</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

**SECTION 3: BARRIERS TO UTILIZATION OF PMTCT SERVICES**

<table>
<thead>
<tr>
<th>Question</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you going to continue utilization of PMTCT Services</td>
<td>Yes</td>
<td>No</td>
<td>Don’t know</td>
</tr>
<tr>
<td>Do you need permission from you spouse/partner to do HCT</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Question</td>
<td>Potential Responses</td>
<td>Frequencies</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>--------------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>033</td>
<td>Did you disclose your result to your spouse</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>034</td>
<td>If no, why</td>
<td>Afraid of been abandoned/divored by husband and family</td>
<td>Physically abused by husband</td>
</tr>
<tr>
<td>035</td>
<td>What will be your relatives reaction if they know your HIV status</td>
<td>will be thrown out of home</td>
<td>will be physically violated/ abused</td>
</tr>
<tr>
<td>036</td>
<td>Where did you receive the HCT</td>
<td>In this hospital</td>
<td>In another hospital</td>
</tr>
<tr>
<td>037</td>
<td>If not in this hospital, how did you know about PMTCT Services here:</td>
<td>Was referred</td>
<td>Came on my own</td>
</tr>
<tr>
<td>038</td>
<td>Do you think that cost of transportation will be an issue</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>039</td>
<td>Is this hospital easily accessible to you?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>039</td>
<td>Which type of pretest counseling did you receive:</td>
<td>Group counseling</td>
<td>One-on-one,</td>
</tr>
<tr>
<td>Question</td>
<td>Options</td>
<td>Code</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>040 Which type of Post test counselling did you receive:</td>
<td>Group counseling</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Individual counseling</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>041 How will you rate the counselling you received</td>
<td>Good</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unacceptable</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>042 Was follow up counseling done</td>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>043 Was couple counseling done:</td>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>044 If no why:</td>
<td>Scared of disclosing to partner.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Partner refused to come.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>You were not encouraged to do it</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>It was not necessary</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not married</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>045 At what month in pregnancy did you register for ANC</td>
<td>First trimester (1-3 month)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Second trimester (4-6 month)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Third Trimester (7-9 month)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>046 Before commencing PMTCT was adherence counseling done</td>
<td>Yes</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>047</td>
<td>If yes have you been compliant</td>
<td>yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>2</td>
</tr>
<tr>
<td>048</td>
<td>Reason for non compliant:</td>
<td>Don’t like the drugs</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Scared of people seeing me with the drug.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>So busy to remember timing</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Afraid of stigmatization</td>
<td>4</td>
</tr>
<tr>
<td>049</td>
<td>Were your drugs readily available each time you need it:</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>no</td>
<td>2</td>
</tr>
<tr>
<td>0410</td>
<td>Where do you intend to delivery this index pregnancy</td>
<td>In this hospital</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In another hospital offering PMTCT</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In another hospital, don’t know if PMTCT is offered.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deliver in a TBA”s place</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deliver at home under supervision of relatives</td>
<td>5</td>
</tr>
<tr>
<td>0411</td>
<td>Do you intend to continue PMTCT services after delivery for yourself and the baby</td>
<td>Yes</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>2</td>
</tr>
<tr>
<td>0412</td>
<td>If No, What are the reasons?</td>
<td>Exclusive breastfeeding</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Which breastfeeding option do you intend to use</td>
<td>Breastmilk substitute</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mixed feeding</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Don’t know</td>
<td>9</td>
</tr>
<tr>
<td>Question</td>
<td>Description</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>0413</td>
<td>Give reason/s for option selected</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0414</td>
<td>Where you offered family planning services at this facility</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>0415</td>
<td>Does the attitude of health workers discourage you to continue accessing PMTCT Services</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>0416</td>
<td>If yes, what are the attitudes?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0417</td>
<td>Are you satisfied with the quality of PMTCT services you are currently receiving?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>0418</td>
<td>If no, what do you think needs to be done to improve services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0419</td>
<td>In your own opinion, what do you think prevents other HIV Pregnant mothers from accessing service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0420</td>
<td>Do you belong to any Support group</td>
<td>Yes……</td>
<td>No</td>
</tr>
<tr>
<td>0421</td>
<td>If yes, Do you feel that it is helpful to you in this condition</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 4: Ways to improve PMTCT services uptake**
Any Additional information you would like to mention with respect to underutilization of PMTCT service by pregnant women.  
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Thank you for your Participation!!!

Assurance of Completeness

<table>
<thead>
<tr>
<th>Certified By (Name)</th>
<th>Completed/Interrupted/Incomplete</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supervisor</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>