FACTORS INFLUENCING THE UPTAKE OF VOLUNTARY COUNSELLING AND TESTING (VCT) OF HIV IN ANTENATAL CLINIC IN AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA.

A THESIS SUBMITTED TO THE POST GRADUATE SCHOOL, AHMADU BELLO UNIVERSITY, ZARIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER IN PUBLIC HEALTH DEGREE.

BY

DR. R.S. ADELAIYE

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DECLARATION

I DR. R. S. Adelaiye declare that this thesis is an original work done by me under the supervision of DR.C. L. Ejembi of the department of community medicine ABU, Zaria.

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Dr. R.S. Adelaiye

Department of Community Medicine

Faculty of Medicine

A.B.U. Zaria.

CERTIFICATION

This work entitled: Factors influencing the uptake of VCT in women attending ANC in ABUTH Zaria, meets the regulation governing the award of the degree of Masters in Public Health in Ahmadu Bello University, Zaria.

_____	_____
DR C. L. EJEMBI.	Date
MBBS, DTM&H, FMCPH.	
Supervisor	
_____	_____
DR. A.U. SHEHU	Date
MBBS, DTM&H, FWACP.	
Head of Department,	
Community Medicine	
_____	_____
PROF. D.B.PARAKOYI	Date
MD, FWACP.	
External examiner	
_____	_____
PROF. J.U. UMOH,	Date
DVM, MSPH, Ph.D.	
The Dean	
Postgraduate school	

DEDICATION

This work is dedicated to God who has sustained and enabled me by His divine grace. It is also dedicated to my husband and children.

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My thanks go to the Almighty God and my Saviour Jesus Christ for His continuous guidance, love and grace which He bestowed on me.

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Lastly, I thank my husband who supported and encouraged me throughout the study period and my children who partially helped me in the typing and setting of this document.

LIST OF ACRONYMS

ABU	Ahmadu Bello University
ABUTH	Ahmadu Bello University Teaching Hospital.
ADA	Americans with disabilities act
AIDS	Acquired immune deficiency syndrome
ANC	Antenatal Clinic
CDC	Centre for disease control.
EIA	Enzyme immunoassay.
FMOH	Federal Ministry of Health.
HIV	Human immunodeficiency virus.
IOM	Institute of Medicine.
MTCT	Mother to child transmission
NVP	Nevirapine.
PMTCT	Prevention of mother to child transmission.
STD	Sexually transmitted disease.
STI	Sexually transmitted infection.
VCCT	Voluntary counselling and confidential testing for HIV.
VCT	Voluntary counselling and testing for HIV.
UNAIDS	United Nations joint programme on AIDS.
WHO	World Health Organization.
ZDV	Zidovudine.

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ABSTRACT

With the increase of awareness of mother to child transmission and ways to prevent the transmission, voluntary counselling and testing has been found to be a useful tool, and this work was therefore designed to study the factors that influence the uptake of VCT among pregnant women in Ahmadu Bello University Teaching Hospital, Zaria.

A cross-sectional study was conducted using the eligibility criteria in selecting the 221 ANC attendees and the total numbers of health workers in the ANC involved with PMTCT (10) were taken as sample in the study. Information was obtained through the use of interviewer- administered questionnaires.

The findings are as follows; a total of 221 ANC attendees were studied.94.6% was aware of HIV/AIDS, 82.4% had knowledge of mother to child transmission and 81.4% had knowledge about PMTCT. In response to whether they were afraid of HIV/AIDS, 89.1% said they were afraid of the disease because it was incurable. HIV/AIDS is also associated with stigma and discrimination. The health workers (80%) proffered fear of stigma and discrimination as reason for the low uptake of VCT.

Of these ANC attendees interviewed, 50.7%said they were willing to be tested but only 14.5% of the sample studied had been tested. Reasons for not willing to be tested in 54% of the 221 attendees, were being afraid of stigma, discrimination and ostracism if tested positive for HIV, 16.5% were sure of them selves; 6.4% were not permitted by husband, 7.4% said they have not made up their minds 1.8% said they were not informed and 9.2%said they were not interested and another 9.2% said they had no reason.

In conclusion, although VCT is acceptable in principle, much will need to be done to allay women's fears of stigmatisation and discrimination through intensive counselling. This will also help in removing the ignorance of the attendees pertaining to HIV/AIDS and VCT.

CHAPTER ONE

INTRODUCTION

HIV/ AIDS is a major public health problem of our time. The global magnitude of the epidemic according to the UNAIDS estimate of December 2003, showed that in that year more than 3 million people died from AIDS while an estimated 5 million people acquired the human immunodeficiency virus [HIV], during the same year. It also estimated that 40 million people were living with the virus around the world[1].

Sub-Saharan Africa remains by far the region most affected by the HIV/AIDS epidemic. In 2003, an estimated 26.6 million people in this region were living with HIV, including the 3.2 million who became infected during the past year. AIDS killed approximately 2.3 million people in 2003.[1]

In Nigeria, the situation is becoming alarming. The United Nations joint programme on HIV/ AIDS (UNAIDS) has also estimated that more than 3.5 million Nigerians (Adults and children) are living with HIV/AIDS by the end of the year 2003[1]. Since the first official report of HIV/AIDS in a thirteen year old in 1986, the prevalence of the infection has shown a steady rise.

Among women attending antenatal care, the prevalence has steadily increased from 1.8% in 1991, 3.8% in 1993, 4.5% in 1995 to 5.4% in 1999, 5.8% in 2001 and 5.0% in 2003.[2]

Sexual transmission remains the main mode of transmission of the virus. It is estimated that about 80% of transmission is through sexual intercourse. HIV/AIDS is also transmitted by contaminated blood, through transfusion of whole blood cells, platelets and factors viii and ix derived from human plasma. The risk of contracting HIV infection from transfusion of a unit of infected blood is estimated to be over 95%.[3]

Mother to child transmission (MTCT) of HIV is responsible for over 90% of HIV infection among children under 15 years of age[4]. The transmission could occur during pregnancy, labour or breast-feeding. The MTCT is between 14-40% worldwide.[4,5] However, this is worse in the Sub-Saharan African region where transmission rates have been shown to be as high as 50% .[6]

Several studies have shown that paediatric AIDS cases are rising at an alarming rate. According to the UNAIDS an estimated one million children below fifteen years are living with HIV worldwide and over 90% of them are in Sub-Saharan Africa.[7] The burden of MTCT of HIV is much higher in Sub-Saharan Africa compared to the rest of the world because of higher levels of hetero-sexual transmission high female: male ratio, high total fertility rate (TFR) and high levels of breastfeeding[7].

There are four strategies for reducing MTCT. They are; 1, primary prevention of HIV; 2, prevention of pregnancy in HIV positive females; 3,PMTCT; 4, care and support for HIV positive women and children[8].

To prevent MTCT of HIV, provision of early detection and appropriate management would help to reduce the chances of transmission of the HIV to the child. Thus the need for voluntary screening of all pregnant women so that they can know their HIV status.

For many years, little was know about preventing transmission of HIV infection from mother to child. Recently, however, many advances have been made in developing effective and affordable interventions that reduce the likelihood that a HIV positive woman will pass HIV on to her baby[1]. The two most important interventions are the provision of antiretroviral drugs and the avoidance of breastfeeding by HIV-positive

women. Both interventions therefore require that a woman know whether she is infected by HIV[1, 7,8].

Statement of research problem

The National prevention of maternal to child transmission (PMTCT) model program was started in Nigeria in July 2002 at Abuja and Ahmadu Bello University teaching hospital (ABUTH) is one of the initial sites in the country. Voluntary counselling and testing (VCT) for HIV, which is one of the key points in PMTCT was introduced to ABUTH in July 2002. In spite of the provision of free VCT services to pregnant women, uptake in ABUTH is 8.1%[9].

1.2 General objective

This study was designed to find out the factors influencing the uptake of voluntary counselling and testing (VCT) of HIV among pregnant women attending antenatal clinic in ABUTH Zaria.

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1.2.1 Specific objectives

1. To assess the level of knowledge of ANC attendees of HIV/AIDS and PMTCT.
2. To determine the attitude of ANC attendees towards HIV/AIDS and VCT.
3. To determine the level of uptake of VCCT services by ANC attendees.
4. To determine the factors that influences the decisions on VCCT uptake by the ANC attendees.

5. Based on the findings, recommendations will be proffered on how to improve the understanding of the knowledge of antenatal attendees on HIV/AIDS and VCCT services.

1.3 JUSTIFICATION

Mother to child transmission [MTCT] of HIV is becoming a major concern worldwide. An estimated 700,000 infants acquired the human immune deficiency virus [HIV] from their mothers in 2001 and approximately 1600 are born with HIV infection everyday[1]. Most of these babies with HIV infection [90%] are born in developing countries like Nigeria[1]. As at 1999; the HIV prevalence among pregnant women attending ANC at ABUTH Zaria was 11.6%, the highest in the nation.[10]

. There is a clear need for preventive and control strategies to reduce further MTCT of HIV in developing countries. Recognizing the magnitude of MTCT, African governments committed themselves to setting up PMTCT services.

The most effective intervention to reduce MTCT depends upon a woman knowing her HIV status and this in turn depends on the availability of information, counselling and voluntary testing services. In fact, voluntary counselling and confidential testing for HIV is the first step to accessing care and preventing further infection. It is an important component of serostatus and can facilitate behavioural change; enable access to strategies to reduce the risk of MTCT of HIV; enable early access to care for HIV- related conditions; enable earlier access to emotional and social support services;

help in making informed decisions about future pregnancy where safe and legal services exist and assist in negotiation about safer sex practices[8].

Access to VCCT is appropriate in the ANC because the most effective ways of preventing HIV transmission to the infant rely on identification of HIV positive women, in order to provide antiretroviral therapy or to allow women to make informed choices about infant feeding practices.[8]

This study is a further attempt to throw more light into possible factors that influence the uptake of VCT in this area.

CHAPTER TWO

Literature Review

Infection with Human immunodeficiency virus [HIV] that leads to Acquired Immunodeficiency syndrome [AIDS] is presently the most important threat to humanity, threatening the successes recorded in the twentieth century consequent to technological advancement both in terms of longevity and quality of life. To Nigeria and most of Sub Saharan Africa, its consequences are already threatening the gains made by the heath care delivery and economic development.[12]

Sub-Saharan Africa is by far the most affected region with the highest HIV prevalence rates occurring in the eastern and southern parts of the continent and a second epidemic focus around Ivory Coast in West Africa.[13]

The pandemic is rising at an alarming rate worldwide especially in the Sub-Saharan Africa where 90% of the HIV infected people live, yet contributes only 10% of the world population.[6]

The number of persons living with HIV/AIDS is indicative more of the current and future cause of the pandemic than the cumulative number of which 19.2 million are women and 3.2 million children under 15 years.[1]

Worldwide, 75-85% of HIV infections in adults have been transmitted through unprotected sexual intercourse with heterosexual intercourse accounting for more than 70%. Mother to child transmission accounts for more than 90% of global infections in infants and children.[7] Sharing HIV infected injection by drug users accounts for 5-10% of all adult infections and transfusion of HIV infected blood or blood products represents 3-5%[1].

Mother to child transmission during pregnancy, during delivery or through breast-feeding is the second most common mode of spread of HIV 1 in the developing world. It is striking that the observed rates of MTCT of HIV 1 have been consistently higher in Africa than in Europe or North America [30-40% as compared with 15-20% respectively] [1].

Factors playing a role in this higher risk of transmission include transmission through breast-feeding, more frequently advanced immunodeficiency [associated with higher HIV viraemia] and more common occurrence of chorioamnionitis as a result of genital infection. In several studies, maternal HIV-1 infection was associated with adverse pregnancy outcome, including stillbirth, premature delivery and low birth weight [14, 15]

Unlike women in other regions in the world, African women are considerably more likely- at least 1.2 times- to be infected with HIV than men. Among young people aged 15-24 years women were found to be 2.5 times as likely to be HIV infected as their male counterparts, according to six recent national surveys.[1] The rising trend of HIV/AIDS among women could be a result of a combination of social and biological factors. The biological make up of the female vagina enhances HIV transmission from men to women[1].

The epidemic of HIV/AIDS sweeping the world cuts across the conventional boundaries of nationality, sex and age. The human immunodeficiency virus (HIV) has infected millions of women, men and children in developed as well as developing countries[1].

The number of persons living with HIV/AIDS is indicative more of the current and future cause of the pandemic than the cumulative number of adult AIDS cases. Currently 42million men, women and children are estimated to be living with

HIV/AIDS including 38.6million adults of which 19.2million are women and 3.2million children under 15years[1].

By far the worst affected region, sub-Sahara Africa is now home to 29.4million people living with HIV/AIDS. Approximately 3.5million new infections occurred there in 2002, while the epidemic claimed the lives of an estimated 2.4million Africans in the past year, 10million young people (aged 15-24) and almost 3million children under 15 are living with HIV[1].

Worldwide, 75-85% of HIV infections in adults have been transmitted through unprotected sexual intercourse with heterosexual intercourse accounting for more than 70%. Mother to child transmission accounts for more than 90% of global infections in infants and children and sharing HIV infected injection by drug users' accounts for 5-10% of all adult infections and transfusion of HIV infected blood or blood products represent 3-5%[1].

For many years, little was known about preventing transmission of HIV infection from mother to child. Recently, however many advances have been made in developing effective and affordable interventions that reduce the likelihood that a woman will pass HIV on to her baby. These interventions require that a woman knows her HIV status. Yet in developing countries where 95% of mother-to-child infections take place, there are very few counselling and testing services that allow a woman to find out her HIV status[16].

Human immunodeficiency virus (HIV) counselling in conjunction with HIV testing is a powerful prevention tool. The primary public health purposes of pre and post- test counselling are to educate uninfected individuals initiate and sustain behavioural changes that reduce the risk of becoming infected[16, 17]. In addition the anxiety and

fear of the patient or client can be reduced and the significance of the test results explained through counseling[17].

There is a great need for voluntary and confidential counselling and testing in all reproductive health services outlet facilities in Nigeria to be made accessible for women of reproductive age, irrespective of social status or educational background. Survey conducted among university students in USA, has shown that half (59%) students seeking HIV anti-body testing were women with average age of 22.6 years[18].

HIV counselling is a confidential dialogue between a person and a care provider aimed at making personal decision to prevent infection or to enable the person to cope with stress related to HIV/ AIDS[10]. HIV testing is voluntary because it has far reaching consequences for the person being tested beyond that of the diagnosis. Although there are many benefits to knowing ones HIV statuses, there may be in communities where HIV/AIDS is a stigmatizing condition, negative consequences of testing[10]. Counselling and testing should be confidential because of the possibility of discrimination; ostracism and personal recrimination that an individual diagnosed with HIV may face[10, 12]. This is why the national policy on HIV/AIDS in Nigeria stipulates that no one should be coerced into being tested[12].

Voluntary and confidential counselling and testing for HIV is an important component of HIV prevention and care[12, 16,17]. The knowledge and acceptance of serostatus can facilitate behavioural change; enable access to strategies to reduce the risk of mother to child transmission of HIV; enable early access to care for HIV-related conditions; enable early access to emotional and social support service; help in making informed decisions about future pregnancies; help in making decisions about

termination of pregnancy where safe and legal services exist and assist in negotiation about safer sex practices [12, 16]. Counselling and voluntary testing for HIV has benefits beyond the prevention of transmission from mother to child (PMTCT). Counselling services have been slow to gain acceptance in many countries, especially where HIV is heavily stigmatized and access to services and support for the HIV infected is limited[1]. Indeed HIV testing has often been used as a diagnostic tool to confirm symptomatic AIDS[17] but a growing number of studies attest to the value of counselling and voluntary HIV testing in largely healthy population[19]. These services have been shown to contribute to an increase in safe behaviour at the individual level and are likely also to reduce the ignorance fear and stigma associated with HIV infection in population at large[19].

The knowledge of a negative result in pregnancy can reinforce safer sex practices and may help empower the pregnant woman to remain negative. Knowing a woman's HIV status would allow counselling about infant feeding practices. HIV negative women will be encouraged to exclusively breastfeed and positive women would have options to minimize the risk of HIV transmission through breastfeeding. Identifying HIV in pregnancy may enable women to access antiretroviral therapy to reduce mother to child transmission of HIV. Knowledge of her HIV status may enable a woman to make informed choices about future pregnancies and future fertility. A woman who knows she is HIV infected may seek early appropriate medical care for HIV related condition (e.g. tuberculosis) if she becomes ill[19]. If a woman and her health care provider are aware that she has HIV, she can be referred for specialist medical help or to non-governmental organizations (NGOs) for ongoing HIV care and emotional and social support. A diagnosis of HIV in the mother allows appropriate diagnosis, treatment and follow-up of her baby. Women who have had an HIV test

may be able to share their test results with their sexual partners. With increasing number of people being aware of their status through widespread counselling and testing, it can help to normalise HIV in the community. Knowledge of their HIV positive status enables women to take part in pair support groups and also enable newly identified HIV infected women to adopt a positive lifestyle[19].

The scope and challenges of VCT have changed over the past decade. At the outset VCT was primarily used to make diagnosis of infection in symptomatic people to help medical management, and testing was often accompanied by minimal counselling. It was also promoted in a piece meal way as a component of HIV prevention. There were reports of barriers to HIV testing because of perceived stigma associated with a diagnosis, the lack of services and interventions available to those who tested seropositive[20], and adverse consequences, particularly for women, following testing[21]. The development of antiretroviral (ARV) treatment for people with HIV, less costly interventions to reduce the incidence of HIV associated infections (such as tuberculosis), preventive therapy [22] and relatively cheap feasible methods to prevent MTCT have made the need to promote VCT for people with a symptomatic diseases more compelling. The importance and cost effectiveness of VCT in reducing HIV transmission are also now recognised.[23] HIV testing methods have also become simpler and cheaper, making testing a more feasible option in many developing countries[24]. The ease of HIV testing has also increased the role of the private sector in VCT in many developing as well as unindustrialized countries[24]. The monitoring and evaluation of VCT services in the private sector brings additional challenges. Studies evaluating VCT has concentrated on attempting to prove that VCT reduces incidences of HIV infection and thus contributes to prevention[23]. This is

because in planning and funding of VCT services it has been important to demonstrate that VCT "works" study on the efficacy of VCT have largely concentrated on the role of VCT in risk reduction and changing sexual behaviour.[23, 25, 26]

A comparative cross-sectional study was carried out between two large antenatal clinics in Lagos, Nigeria. The Lagos General Hospital administered VCT while the Ikeja General Hospital did not. It was found that there was greater awareness of factors affecting MTCT of HIV in the Lagos General Hospital [p>0.01] and there was also greater acceptability of testing and more of the mothers were aware of their HIV status. The study suggested that VCT increases the awareness and knowledge of HIV/AIDS and increases the acceptability.[27]

In high HIV prevalence areas it is more appropriate to develop services for the general population[28]. It is important not to provide VCT services in isolation, but develop them in conjunction with support services for those who test seropositive and HIV prevention of services. VCT should not only be developed in conjunction with adequate support services. There should always be a link between the type and quality of HIV education in the community offering VCT. If the predominant view in the community are that "HIV= AIDS=DEATH" that "you can do nothing about it" and that HIV is a diseases of promiscuous people, interest in VCT will be low. People base their decision on having a HIV test on the balance of advantages and disadvantages of knowing their status. If community attitudes are unfavourable interest in VCT will be low. If, however, the community are properly educated on the benefit of VCT for individuals and their families, people are more likely to accept it. VCT services need to be built on the fact that HIV is a discussible diseases and that HIV risks is discussible too. This is the case in Uganda and this has been achieved

by the long- term commitment of its leaders to openness about AIDS[28]. A community that feel helpless against HIV and defend itself by stigma may not be ready for VCT, although promoting VCT will help achieve community openness.

For the benefit to be understood and hence used services must be endorsed by and included in the national AIDS programme plan. The success of VCT in Uganda, compared with other countries in sub-Saharan Africa, is thought to be in part due to the political commitment to VCT as part of the overall HIV prevention and care programme[28]. Some low income, high prevalence countries will continue to consider VCT a low priority and others may consider developing VCT in phased manner. This will be particularly appropriate if support services for people living with HIV or AIDS are not well developed and resources are very limited or when the infrastructure is not sufficiently developed to support VCT services.

However, even if political commitment to VCT does not exist, NGO's can advocate the concept and setup projects to demonstrate the need for and benefit of VCT. The Thailand Red Cross set up the "Anonymous clinic" VCT services in Bangkok in July 1991 when HIV was a modifiable disease and mandatory HIV testing' was widely practiced[29]. The success of the anonymous clinics succeeded in persuading the government to change the law on mandatory reporting. This was followed six months later by a policy to set up VCT sites in every province of Thailand[29].

In 1995, the United States Public health service (PHS) issued guidelines recommending universal counselling and voluntary HIV testing of all pregnant women and treatment for those infected[30]. Publication of this recommendation was followed by rapid implementation by health care providers; widespread acceptance of chemoprophylaxis by HIV infected women, and a steep and sustained decline in perinatal HIV-infected transmission[31, 32].

Despite the progress made, children were still being infected perinatally. CDC estimated that 280-370 infants were born with HIV infection each year in the USA[32]. These continued infections underscore the need for improved strategies to ensure that all pregnant women were offered HIV testing and if positive, treatment to reduce transmission risk and to safe guard their health and the health of their infants.

In December 1998, the Institutes of Medicine (IOM) completed a study commissioned by congress to access the impact of current approaches for reducing perinatal HIV transmission, identify barriers to further reductions and determine ways to overcome these barriers[33]. IOM concluded that continued perinatal transmission was mainly caused by a lack of awareness of HIV status among some pregnant women.

Since 1994-1998 major scientific advances in prevention of perinatal transmission and the care of HIV-infected persons have occurred. These advances increased the benefits of knowing ones HIV status especially during pregnancy, more effective treatment has prolonged survival of HIV-infected persons and improve their quality of life[34]. Clinical trials proved the effectiveness or prophylactic therapy for preventing perinatal transmission in women who are not treated until the time of delivery[35]. Studies have indicated that women with non-detectable viral load rarely transmit HIV infection[36, 37, 38.] Finally, new testing technologies (e.g. rapid testing, urine sample) offer new options for HIV screening[6].

Despite the declines, cases of perinatal HIV transmission continue to occur, largely because of missed opportunities for prevention particularly among women who lack prenatal care or who are not being offered voluntary HIV counselling and testing during the pregnancy[39]. The estimated 280-370 infants born with HIV infection each year represents population in which prevention efforts are impeded by lack of timely

HIV testing and treatment of pregnant women. Of the 329 children with perinatally acquired AIDS born between1995-1996, a total of 112 (34%) were born to mothers not tested for HIV before the child's birth and 67(20%) to mothers for whom the time of testing was not known[39].

Perinatal transmission can occur during pregnancy (intrauterine) during labour or delivery (intrapartum) or after delivery through breastfeeding (postpartum). In the absence of breastfeeding intrauterine transmission accounts for 25%-40% of infection and 60%-75% of transmission occurs during labour and delivery 10%-15% associated with breastfeeding[40]. In a randomized trial of formula feeding versus breastfeeding approximately 44% of HIV infection has been attributed to breastfeeding[41]. Several studies have indicated that most infections transmitted through breastfeeding probably occurred during the first few weeks to months of life[42, 43, 44]. Risk factors during breastfeeding include viral load in breast milk[45, 46], sub clinical mastitis [45, 47, 48] breast abcesses[47, 48] and maternal seroconversion during the lactation period[47, 49].

The birth of every perinatally HIV infected infant is a sentinel health event signalling either a missed prevention opportunity or more rarely a failure of prophylaxis. An opportunity is missed whenever a woman of childbearing age is unaware of her HIV status or her risk for HIV or when an HIV infected pregnant woman: -

a- Does not receive prenatal care

b- Is not offered HIV testing

c- Is unable to obtain HIV testing

d- Is not offered chemoprophylaxis

e- Is unable to obtain chemoprophylaxis

f- Does not complete the chemoprophylaxis regimes

Prophylaxis failures occur when an infant becomes infected despite chemoprophylaxis and other preventive interventions[32].

Early knowledge of maternal HIV status is also important for decisions regarding obstetrical management. When offered, most women will accept HIV testing[50].

In a multicity study of prenatal clinic patients 74%-95% of the participants accepted HIV testing[50]. Reasons most commonly cited for acceptance were: -

a- Belief that knowledge of the HIV serostatus during pregnancy can be beneficial to both mother and infant.

b- Strong provider endorsement for prenatal HIV testing.

The most common reason for declining the test were no perceived risk, administrative scheduling difficulties, treatment of previous testing and lack of provider endorsement[50].

Universal testing avoids stereotyping or stigmatizing any socio-economic or ethnic group. For the individual woman, the substantial benefit of HIV testing must be weighed against the possible risks. Potential negative consequences in a diagnosis of HIV infection can include loss of confidentiality, job or health care related discrimination and stigmatization, loss of relationship, domestic violence and adverse psychological reactions[51]. Providing HIV-infected women with or referring them to psychological, social and legal services would help minimize these risks and allow women to benefit from the health advantages of early HIV diagnosis without adverse consequences. The Americans with disabilities act (ADA) of 1990 and other federal states and local antidiscrimination provision aim to protect persons with HIV/AIDS against discrimination in the work place, housing, public service and accommodation[52]. A 1998 USA supreme court decision provided further anti

discrimination protection by ensuring with a symptomatic HIV diagnosis are included under ADA and have access to non discriminatory and effective health care.[52]

Testing of women before or during delivery is typically conducted according to the standard protocol for detection of antibody to HIV[53]. For women with unknown HIV status during active labour, antiretroviral treatment can still be effective when given during labour and delivery, followed by treatment of the new born[34]. This expedited intervention requires the use of rapid diagnostic testing during labour or rapid return from results [initial screening with enzyme immunoassay (EIA) followed by confirmatory testing of repeatedly reactive EIAs the supplemental test e.g. western blot[53].

Stigma and discrimination together constitute one of the greatest barriers to preventing further infections; provide adequate care, support and treatment and alleviating the epidemics impact[1].

Stigma and discrimination undermine prevention by making people afraid of adopting preventive measures; they create a false sense of security and build on existing prejudices and patterns of social exclusion.

Fear of discrimination is preventing people from seeking treatment for AIDS[1]. People can be deterred from using voluntary counselling and testing services, a linchpin in prevention, treatment and care programmes. Those living with HIV can therefore be left isolated and deprived of the care and support that could lessen the epidemic impact. Even in seeking care and support, the people infected with HIV can experience the harsh repercussion of stigma and discrimination. Those seeking care or counselling may be rejected by the very services that should help them.

A survey conducted in 2002 among some 1000 physicians, nurses and midwives in four Nigerian states, for example, returned disturbing findings. One in ten doctors

and nurses admitted having refused to care for an HIV/AIDS patient, or had denied HIV/AIDS patients admission to a hospital. Almost 40% thought a person's appearance betrayed his/her HIV-positive status, and 20% felt that people living with HIV/AIDS had behaved immorally and deserved their fate[1]. A lack of knowledge about the virus (often flanked by denigrating attitudes towards people with HIV) seemed to be one factor fuelling the discrimination. Another was the fear among doctors and nurses about exposure to possible infection as a result of lack of protective equipment. Also at play, it appears, was the frustration at not having medicines for treating HIV/AIDS patients, who therefore were seen as 'doomed' to die. Studies in other regions show that such attitudes and actions are commonplace[1].

Studying the staff attitude and knowledge towards caring for people living with AIDS in a Nigerian teaching hospital, Adelekan M.L et al in a survey involving 111 doctors, 92 nurses and 53 none health workers reported that up to 25% of the doctors would hesitate to treat a person living with AIDS. 33.3% of the nurses also would hesitate to nurse a person living with AIDS. They also found out that up to 33.3% of doctors would not perform surgery on a person living with AIDS despite adequate precaution[54].

In the Philippines, a survey among persons living with HIV/AIDS found that almost 50% of respondents have experienced discrimination at the hands of health-care workers, while, in Thailand, 11%of respondents said they had been denied medicine because of their seropositive status, and 9% had experienced delays in treatment. Some 70% of people living with HIV/AIDS in India said they had faced discrimination, most commonly within families and in Health-care settings according to recent international labour organization (ILO) research[1]. Such experience have prompted

efforts to promote the greater involvement of people living with HIV/AIDS in India- where people, several NGOs and network of HIV-positive people are working to reduce discriminations in local hospitals.[1]

Many people living with HIV/AIDS do not get to choose how, when and to whom to disclose their HIV status. When surveyed, 29% of persons living with HIV/AIDS in India, 38% in Indonesia, and over 40% in Thailand said their HIV-positive status had been revealed to someone else without their consent. In many cases, test results were shared with persons other than the spouse or family member; one in nine respondents in a Thailand survey said their status had been disclosed to government officials. These kinds of violation to the right of privacy undermine HIV/AIDS programmes by deterring people from finding out their serostatus and thus threaten public health as individuals unknowingly transmit HIV to others[48].

In a study to explore the attitudes of women attending maternity clinics to voluntary counselling and testing [VCT] during pregnancy in rural areas in southwest Uganda, almost all women were willing in principle to take an HIV test in the event of pregnancy, and to reveal their HIV status to maternity staff. They were anxious, however, about confidentiality, and there was a widespread fear that maternity staff might refuse to assist them when the time came to deliver if their status were known. The women were also concerned that if their husbands found out they were HIV-positive they would be blamed and separation or domestic violence might result.[55]

Results from another study among men, women and couples at an HIV-1 VCT clinic in Dar es Salaam, Tanzania showed that the most salient barriers to HIV-1 testing and serostatus disclosure described by women include fear of partners' reaction, decision-making and communication patterns between partners and partners' attitudes towards HIV-1 testing.[56]

A quarterly prospective follow-up of a cohort of HIV- positive women was monitored over an average period of 13.5 months following childbirth in a study in Burkina Faso. The study was partially aimed at assessing how HIV test results were shared with male sexual partners. The study showed a poor rate of HIV test sharing.[57]

A study in Kenya in 1996 among ANC attendees Marjan et al reported that all respondents had heard of HIV, 98.5% knew the presentation, 97.3% knew that the test for HIV was blood test, while 47.5% did not object to being tested. 57% would go for sterilization when found positive and all said they would terminate accidental pregnancy for the fear of transmitting it to the baby[58.]

In the 2003 Nigerian Demographic and Health Survey (NDHS) key findings; women who have heard of HIV/AIDS were 86% (87% from the north-west region), women who know that AIDS can be prevented by using condoms and limiting sex to one uninfected partner were 42% (45% N/West), women who have been tested for HIV were 7% (1% N/West) and only 6% received the test results[59.]

Okojie et al in a study of KAP towards AIDS among civil servants in Nigeria, studied responses from 340 randomly selected workers in Benin City using a self-administered questionnaire. They reported that 97.1% respondents were aware of AIDS and 14.7% had correct knowledge of the aetiology. 36.8% thought utensils and 37.9% causal kissing could transmit the infection. 45.9% would ostracise HIV victims[60].

Asindi A.A et al. studied secondary school students using a questionnaire in 1991 and reported 92% level of awareness but 30%were not aware that AIDS was in Nigeria. 79-85% got their information through the mass media, 31% were aware of

condom protection, 37% thought the victims should be isolated, 14% thought they should be killed and 63% and 77% respectively would reject or stop seeing a relative or friend with HIV[61].

CHAPTER THREE

3.0 **Methodology**

3.1 **Description of study area**

Ahmadu Bello University Teaching Hospital, Zaria is one of the four hospitals that form the Ahmadu Bello University Complex situated at Tudun Wada area of Zaria. It has a bed capacity of 513 and a total patient admission turnover of more than ten thousand per year. It is the largest health facility within the Northwest geo-political region with regards to both size and personnel.

The hospital offers health services not only to people residing in Zaria but also in the surrounding district and also serves as referral centre for cases from all over the Federation to its various speciality clinics. It has been designated **c**entre of excellence in Radiotherapy and Oncology for the treatment of cancer. It has staff strength of 550.

.A.B.U.T.H's sources of income have been from the Federal government and internally generated revenue.

The obstetrics and gynaecology department is one of the busiest departments in the hospital. It has a gynaecology ward, maternity ward and a delivery suite. The department also runs specialised clinics for example, antenatal clinic, post natal clinic, special care baby unit [SCBU] run jointly with the paediatrics department and reproductive health unit which provides family planning services and screening for cancer of the cervix.

The antenatal clinic has a wide catchment's area receiving expectant mothers from within Zaria and its environs. The clinic is run by qualified doctors and specially trained nurses who receive the pregnant women every Monday, Wednesday and Thursday mornings. Thursday mornings are specifically designated for the booking of new attendees and on an average booking day 40-60 women are booked and become regular clients of the clinic. An average of 150 attendees is seen on every antenatal clinic day. On a normal antenatal clinic day, the attending nurses give the pregnant women health talk and their questions are answered. They are then weighed and blood pressure measured. The doctors then see them.

In July 2002, voluntary counselling and confidential testing [VCCT] was introduced in the antenatal services of ABUTH to prevent mother to child transmission of HIV. An estimated 7,000 antenatal clinic attendees have benefited from the group counselling given at successive clinics since the onset of the service.

3.2 **STUDY DESIGN**

The study design is a descriptive cross sectional survey of pregnant women attending antenatal care at the Ahmadu Bello University teaching hospital Zaria. The survey also examined the level of knowledge and attitude of the women towards VCT uptake.

3.3 **STUDY POPULATION**

The study included pregnant women having the eligibility criteria, attending antenatal clinic at the. A.B.U.T.H. Zaria. The study also included health workers (doctors and nurses) in ANC involved in the PMTCT.

3.3.1 Eligibility criteria: Inclusion criteria for women in the survey are that:

1. A confirmed pregnant woman.

2. The woman has attended the ABUTH ANC Clinic at least twice.

3. The pregnant woman has not had any HIV screening since onset of pregnancy, before booking in ABUTH ANC Clinic.

Selection of the pregnant women was as they presented for care with favourable criteria.

Exclusion criteria:

1. Any woman without the above three criteria.

3.4 **Sample Size: for the ANC attendees**

Determination will be by the use of the formula

$$\mathbf{n} = \frac{Z^2 pq}{d^2}$$

Where n=sample size for the study

z=standard normal deviate usually 1.96

p=Proportion of pregnant women who have been screened for HIV at ABUTH,Zaria =0.081 (i.e. Prevalence rate [8.1%] of VCT data of pregnant women screened at ABUTH Zaria 2002/2003)

q= 1-p i.e. proportion of population without the desired characteristic 0.919

d=degree of precision usually set at 0.05

Using the above formula therefore

$\mathbf{n}=\frac{1.96^2\,(0.081)(0.919)}{(0.05)2} = \frac{2.86}{0.0025} = 114.4$

n = 114

n = 221 (The sample size was increased to 221 because the higher the sample size the closer the sample value to the population mean Therefore the sample size of 114 was increased to 221)

3.5 **Sampling Method:**

The antenatal clinic attendees who fulfilled the eligibility criteria within the period of the study were selected in the sample. The total numbers of health workers-doctors and nurses- [10] in the ANC, involved with the Prevention of mother to child transmission (PMTCT) were recruited in the study.

Data Collection:

Ten female assistants (medical students and student nurses) who were recruited and trained for the purpose administered an interviewer-administered questionnaire to the antenatal clinic attendees and the health workers. The essence of the training is to standardise data collection and reduce interviewer's errors. The data was collected during the period July-August 2004.To gain the confidence and cooperation of the respondents the rationale for carrying out the study was carefully explained to them

Instrument for data collection:

Two sets of interviewer-administered questionnaire were used. One set of the questionnaire was to gather information on demographic characteristics, knowledge and attitude of ANC attendees on HIV/AIDS, ANC and VCT services and the other set of questionnaire was administered to the health workers. The questionnaires have a mixture of both closed and open-ended questions. The closed questions were to guide the respondents and the open-ended questions were to utilise the basic knowledge and attitude of the respondents to the study objectives.

3.6. 2 **Quality assurance of data:**

Completed questionnaires were reviewed on daily bases by the principal investigator. This was to ensure that the questionnaires were properly filled and for completeness.

3.7**Data Analysis:**

Data analysis was by computer using the Scientific Programme for Social Sciences [SP SS] and summarised data was presented as tables and diagrams. The significance of relationship was tested using the Chi-Square test.

3.8 **Ethical Consideration:**

Permission and clearance were sought and obtained from the head of department of obstetrics and gynaecology. The proposal did not go through the ethical committee of the teaching hospital because of the time limitation. Informed consent was obtained from the respondents and they were assured of confidentiality. They were assured that participation was voluntary and would not interfere with their

management. To ensure anonymity the names of the respondents were not recorded on the questionnaire.

3.9 **Limitations**

1. There was limited period for collection of data.

2. Some of the clients were not willing to answer some of the questions.

CHAPTER FOUR

RESULTS

Analysis was based on data from 221 pregnant aged between 15-44 years, who attended antenatal clinic in ABUTH, Zaria and 10 health workers involved with PMTCT at the clinic during the study period.

Demographic characteristics of women in the study.

The demographic characteristics of the women are depicted in Tables1 and 2

Age distribution.

Women aged 15-24 years constituted 72 [32.6%] of the total sample. The single largest age group was age 25-29 [30.3%] and the lowest age group 40-44 [2.3%]. Mean age is 25.5 years.

Marital Status.

Most of the subjects [95%] were married. 4.1% of them are unmarried.

Educational level.

Over three-quarters [79.2%] of the respondents have had secondary or higher education. Only 3.6% had no formal education.

Occupation.

Most of the respondents were into trading 85 [38.5%], 47 [21.3%] were teachers.

Ethnic group

The respondents were mostly Hausa/Fulani 43.4%, 19.5% Yoruba, 14.5% Igbo and 22.6% were made up of other ethnic groups. Almost two thirds of the women were Muslims (61.5%) while 37.5% were Christians. Only 1% was Traditionalists.

Tables I and2: Demographic characteristics of women in the study

n=221

Table 1: showing the distribution of the ages, marital status, and educational level of the respondents.

Variable	Frequency	Percentage
Age		
15-19	17	7.7
20-24	55	24.9
25-29	67	30.3
30-34	57	25.8
35-39	20	9.0
40-44	5	2.3
TOTAL	221	100.0
Marital Status		
Married	210	95.0
Single	9	4.1
Separated/Divorced	2	1.0
TOTAL	221	100
Educational level		
None	8	3.6
Quaranic	20	9.0
Primary	18	8.1
Secondary	71	32.1
Post Secondary	104	47.1
Total	221	100.0

Table 2: showing the distribution of occupation, ethnic, group and the religion of the respondents n=221

Occupation	Frequency	Percentage
Civil servant	22	10
Petty trader	17	7.7
Business women	68	30.8
Hairdresser	5	2.3
Teacher	47	21.3
Other	62	28.1
Total	221	100.0
Ethnic group		
Hausa/Fulani	96	43.4
Igbo	32	14.5
Yoruba	43	19.5
Others	50	22.6
Total	221	100.0
Religion		
Christianity	83	37.5
Islam	136	61.5
Traditional	2	1.0
Total	221	100.0

Table 3: showing the distribution of respondents' awareness of HIV/AIDS.

Characteristics	Frequency	Percentage
Awareness of Respondents of HIV/AIDS		
Aware	209	94.6
Not Aware	12	5.4
Total	221	100.0

94.6% of the respondents were aware of HIV/AIDS while only 5.4% were not.

n=209

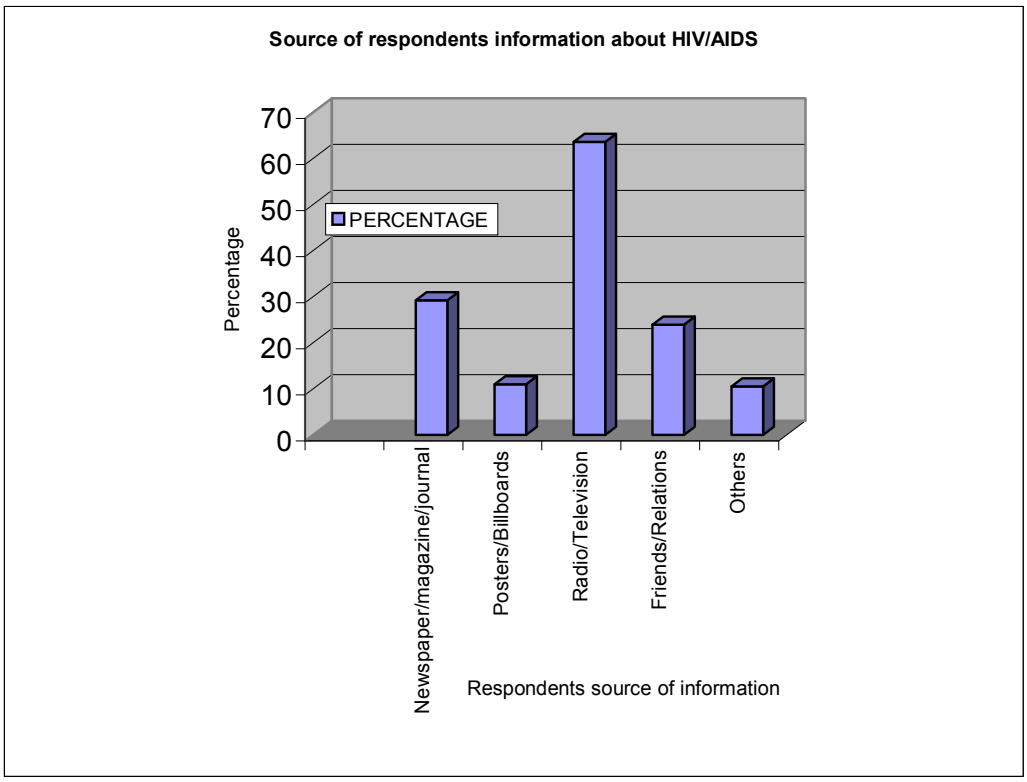


Figure 1: showing the distribution of sources of information about HIV/AIDS among the respondents who have heard of HIV/AIDS.

The commonest source of information on HIV/AIDS is from the electronic medium 133(60.2%), 84 [40.2%] got their information from the print medium, 50 [23.9%] from friends and relations and 22 [10.5%] got their information from other sources including hospital, market place and so on.

TABLE 4: showing the distribution of knowledge of respondents on the routes of transmission of HIV.

ROUTES	YES	NO	I DON'T KNOW
Sexual intercourse	209 (94.6%)	2 (0.9%)	10 (4.5%)
Sharing eating utensils	16(7.2%)	147 (66.5%)	58 (26.2%)
Mother to child	182(82.4%)	5(2.3%)	33(14.9%)
Sharing sharp object like blades	178(80.5%)	12(5.4%)	31(14.0%)
Witchcraft/Charms	36(16.3%)	109(49.3%)	76(34.4%)
Blood transfusion	184(83.3%)	11(5.0%)	26(11.8%)
Mosquito bite and bedbugs	52(23.5%)	106(48.0%)	63(28.5%)
Sharing used needles	163(73.8%)	24(10.9%)	34(15.4%)
Kissing	47(21.3%)	112(50.7%)	62(28.1%)
Hugging	37(16.7%)	133(60.2%)	51(23.1%)
Barbing	163(73.8%)	18(8.1%)	40(18.1%)
Pedicure/Manicure	131(59.3%)	28(12.7%)	62(28.1%)
Ear piercing	99(44.8%)	67(30.3%)	55(24.9%)
Sharing toilets	26(11.8%)	130(58.8%)	65(29.4%)

Table 4.1 showing the distribution of respondents' knowledge on route of transmission of HIV. n=221

STATUS	FREQUENCY	PERCENTAGE
Correct knowledge	164	74.2
Incorrect knowledge	21	9.5
Don't know	36	16.3
Total	221	100.0

74.2% had correct knowledge of routes of transmission of HIV while the rest were ignorant.

TABLE 5: showing the distribution of respondents' knowledge of signs and symptoms of a person with the virus.

Identification	Yes	No	Don't know
Progressive weight loss	158(71.5%)	9(4.1%)	54(24.4%)
Swellings in the armpit and groin	60(27.1%)	47(21.3%)	114(51.6%)
Persistent fever	142(64.3%)	13(5.9%)	66(29.9%)
Chronic cough	131(59.3%)	15(6.8%)	75(33.9%)
Persistent diarrhoea	146(66.1%)	9(4.1%)	66(29.9%)
VCT	118(53.4%)	15(6.8%)	88(39.8%)

Table 5.1: showing the distribution of respondents' knowledge of identification of a person with the virus. n=221

STATUS	FREQUENCY	PERCENTAGE
Correct knowledge	126	57.0
Incorrect knowledge	18	8.2
Don't know	77	34.8
Total	221	100.0

57% of the women had correct knowledge of identification of a person with the human immunodeficiency virus while 8.2% had incorrect knowledge. 34.8% did not know.

TABLE 6: showing the distribution of the respondents' knowledge of the mode of prevention of HIV transmission.

Method	Yes	No	Don't know
Avoiding more than one sexual partner	191 [86.4%]	6 [2.7%]	24 [10.9]
Use of condom	146 [66.1%]	29 [13.1%]	46 [20.8%}
Avoiding injection with unsterilized materials	180 [81.4%]	6 [2.7%]	35 [15.8 %]
Taking antibiotics	38 [17.2%]	102 [46.2%]	81 [36.7%]
Taking herbal preparations	23 [10.4%]	116 [52.5%]	82 [37.1%]
Being faithful to ones partner	151 [68.3%]	18 [8.1%]	52 [23.5%]
Infected mothers not breast-feeding	143 [64.7%]	25 [11.3%]	53 [24.1%]
Blood transmission of unscreened blood	179 [81.0%]	9 [4.1%]	33 [14.9%]

Table 6.1: showing the distribution of status of respondents on the knowledge of the mode of prevention of HIV transmission.

n=221

STATUS	FREQUENCY	PERCENTAGE
Correct knowledge	165	74.7
Incorrect knowledge	16	7.2
Don't know	40	18.1
Total	221	100.0

74.7% of the respondents had correct knowledge of the mode of prevention of HIV transmission while 25.3% were ignorant.

Table 7: showing the distribution of information of mother to child transmission. n=221

STATUS	FREQUENCY	PERCENTAGE
Informed	182	82.4
Not informed	39	17.6
Total	221	100.0

82.4% knew that HIV could be transmitted from mother to child while 17.6% did not know.

Table 8: showing distribution of knowledge of ways through which a mother can transmit HIV to her child among the respondents who answered YES. n=182

WAYS	FREQUENCY
During pregnancy	75
During delivery	72
By breastfeeding	57
Don't know	5

Multiple responses were received and the frequencies are as above.

Table 9: showing the distribution of knowledge of curability of AIDS among the respondents. n=221

STATUS	FREQUENCY	PERCENTAGE
Curable	55	24.9
Not curable	146	66.1
I don't know	20	9.0
Total	221	100.0

146[66.1%] believed that AIDS was not curable while 55[24.9%] believed that it was curable. 20[9%] did not know whether it was curable.

Table 10: showing the distribution of information about prevention of mother to child transmission [PMTCT].

n=221

STATUS	FREQUENCY	PERCENTAGE
INFORMED	180	81.4
NOT INFORMED	41	18.6
TOTAL	221	100.0

81.4% of the respondents said that they had been informed about prevention of maternal to child transmission.

Table 11: showing the distribution of information about voluntary and confidential counselling and testing [VCCT] for HIV/AIDS. n=221

STATUS	FREQUENCY	PERCENTAGE
INFORMED	178	80.5
NOT INFORMED	43	19.5
TOTAL	221	100.0

80.5% of the respondents had been informed about VCCT.

Table 12: showing distribution of knowledge of purpose of VCCT among respondents who answered YES. n=178

Purpose of VCCT	Frequency	Percentage
Know your HIV status	136	76.4
Know about HIV test and confidentiality	30	16.9
Counsel on risk of infection	23	12.9
Know about benefits of HIV test	10	5.6
Know about implication of results	15	8.4

Table 13:showing distribution on knowledge of availability of VCT services.
n=221

Availability of VCT services	Frequency	Percentage
Have knowledge	199	90.0
Have no knowledge	22	10.0
Total	221	100.0

90% of respondents had information on the availability of VCT services at the study site.

Table 14: showing distribution of whether informed on the advantages of the test. n=221

Whether informed on advantages of test	Frequency	Percentage
Have knowledge	188	85.1
Have no knowledge	33	14.9
Total	221	100.0

85.1% said that they were informed about the advantages of the test while 14.9% said they were not informed.

Table 15: showing distribution of knowledge of the advantages of the test among those that are informed. n=188

Advantages of test	Frequency
Decision making	92
Modify lifestyle, nutrition and health care	36
Avoid infection	33
Infant feeding options for HIV positive mothers	53

There were multiple responses. 92 said that VCT services informed them on decision-making, 53 said it informed them on infant feeding options for HIV positive mothers, 36 said they were informed on modification of lifestyle, nutrition and health care while 33 said it would help them to avoid infection.

Table 16: showing distribution of respondents' response to fear of AIDS. n=221

STATUS	FREQUENCY	PERCENTAGE
AFRAID	197	89.1
NOT AFRAID	24	10.9
TOTAL	221	100.0

89.1% of the respondents said they were afraid of AIDS while 10.9% said they were not.

Table 17:showing the distribution of respondents on what should be done to/for HIV/AIDS patients. n=221

	FREQUENCY	PERCENTAGE
Hospitalise	97	43.9
Confined/restricted movement	38	17.2
Allow to live freely	110	49.8
Mark the persons	15	6.8
Provide care and support	186	84.1

84.1% of respondents said that care and support should be provided for HIV/AIDS patients. 49.8% said they should be allowed to live freely, 43.9% said they should be hospitalised while 17.2% said the patients' movement should be restricted.

Table 18: showing the distribution of respondents' willingness to be tested for HIV. n=221

Willingness to be tested	Frequency	Percentage
Willing	112	50.7
Not willing	109	49.3
Total	221	100.0

The respondents were almost equally divided on their willingness to be tested with those willing to be tested a little more than those not willing [50.7% and 49.3% respectively].

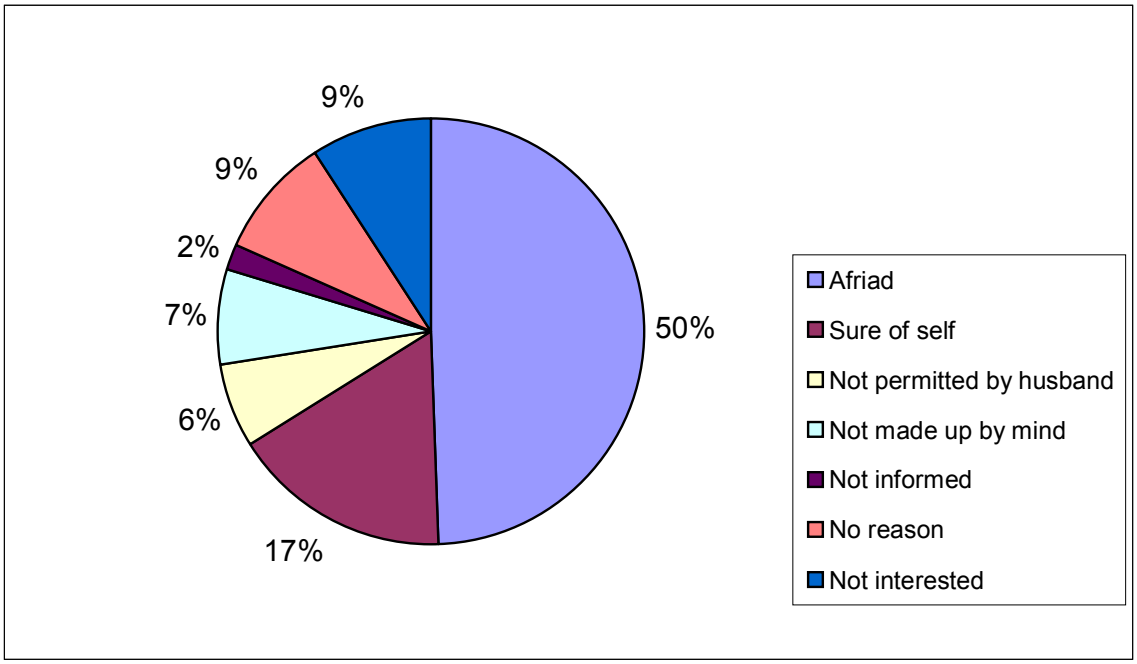


Figure 2: Reasons for not willing to tested.

Table 19:showing the distribution of respondents counselled before test, tested and counselled after test.

Counselling before test	Frequency n=221	Percentage
Counselled	97	43.9
Not counselled	124	56.1
Total	221	100.0
Status	**Frequency n=221**	**Percentage**
Tested	32	14.5
Not tested	189	85.5
Total	221	100.0
Counselling after test	**Frequency n=221**	**Percentage**
Counselled	29	13.1
Not counselled	192	86.9
Total	221	100.0

43.9% of the respondents were counselled before the test and 14.5% of the respondents agreed to be tested. 13.1% of the respondents said they were counselled after test.

Table 20: showing distribution of respondents' willingness to share result if test is positive for HIV/AIDS. n=221

Willingness to share result	Frequency	Percentage
Willing	109	49.3
Not willing	112	50.7
Total	221	100.0

50.7% of the respondents were not willing to share their result if test was positive against 49.3% who said they would share their results.

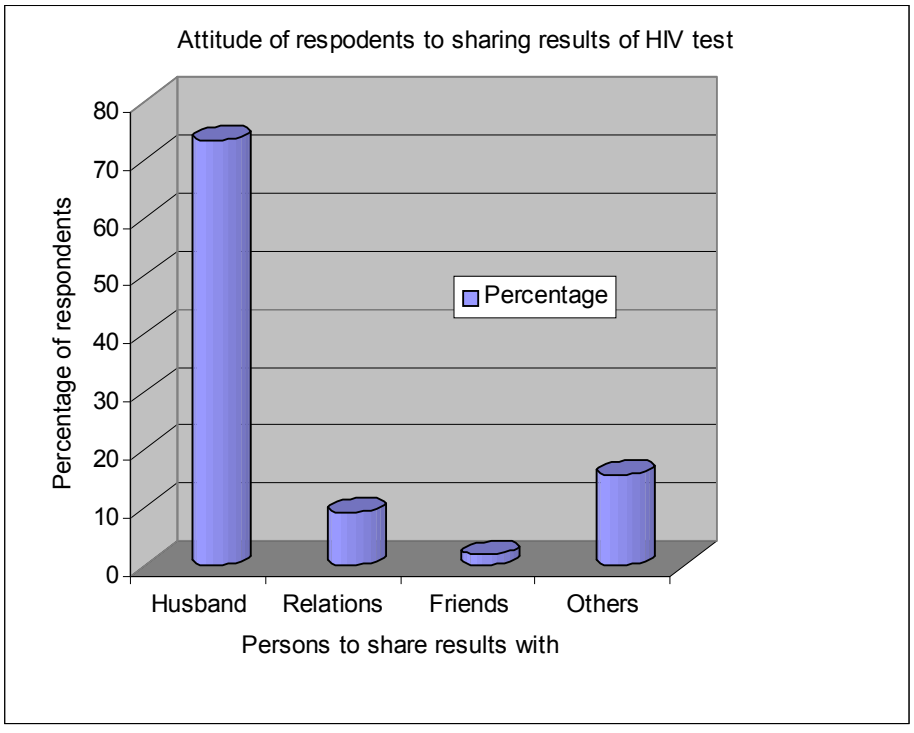


Figure 3:Attitude of respondents to sharing results of HIV test.

73.4% of the respondents said they would want to share their results with their husbands.

Table 21: showing distribution of responses of respondents' to mandatory HIV testing. n=221

Mandatory testing	Frequency	Percentage
Mandatory	119	53.8
Not mandatory	102	46.2
Total	221	100.0

53.8% think the test should be mandatory against 46.2% who think it should be voluntary.

CORRELATION TABLES

Table 22: showing the relationship of respondents' age to willingness to be tested.

AGE	Willing	Not willing	Total
15-19	6[35.3%]	11[64.7%]	17[7.7%]
20-24	33[60%]	22[40%]	55[24.9%]
25-29	35[52.2%]	32[47.8%]	67[30.3%]
30-34	26[45.6%]	31[54.4%]	57[25.8%]
35-39	10[50%]	10[50%]	20[9.0%]
40-44	2[40%]	3[60%]	5[2.3%]
TOTAL	112[50.7%]	109[49.3%]	221[100%]

X^2= 4.412

Critical limits of X^2 at df 5,p= 0.05 is 11.070. There was no relation between age and willingness to be tested.

Table 23: showing the relationship between respondents' educational level and willingness to be tested.

Educational level	Willing	Not willing	Total
None	5[62.5%]	3[37.5%]	8[3.6%]
Quaranic	11[55%]	9[45%]	20[9.0%]
Primary	9[50%]	9[50%]	18[8.1%]
Secondary	34[47.9%]	37[52.1%]	71[32.1%]
Post secondary	53[50.5%]	51[49.5%]	104[47.1%]
Total	112[50.7%]	109[49.3%]	221[100.0%]

$X^2 = 0.814$ $P > 0.05$

Critical limits of X^2 at df 4 ,P= 0.05 is 9.488. There was no relationship between the respondents' educational level and willingness to be tested.

Table 24: showing the relationship between respondents' religion and acceptance to be tested.

Religion	Willing	Not willing	Total
Christianity	42[50.6%]	41[49.4%]	83[37.6%]
Islam	69[50.7%]	67[49.3%]	136[61.5%]
Traditional	1[50%]	1[50%]	2[1.0%]
Total	112[50.7%]	109[49.3%]	221[100.0%]

X^2 =0.0097 $p<0.05$

Critical limits of X^2 at df 2, p=0.05 is 5.991

There was no relationship between respondents' religion and willingness to be tested.

Table 25: showing the relationship between respondents' occupation and willingness to be tested.

Occupation	Willing	Not willing	Total
Civil Servant	12[54.5%]	10[45.5%]	22[10.0%]
Petty Trader	9[52.9%]	8[47.1%]	17[7.7%]
Businesswoman	35[51.5%]	33[48.5%]	68[30.8%]
Hairdressing	2[40%]	3[60%]	5[2.3%]
Teacher	21[44.7%]	26[55.3%]	47[21.3%]
Others	33[53.2%]	29[46.8%]	62[28.1%]
Total	112[50.7%]	109[49.3%]	221[100.0%]

X^2 =1.242 P<0.05

Critical limits of X^2 at df 5 and p=0.05 is 11.070. There was no significant relationship between respondents' occupation and willingness to be tested.

Table 26: showing the relationship between marital status and willingness to be tested.

Marital status	Willing	Not willing	Total
Married	104[49.5%]	106[50.5%]	210[95.0%]
Single	7[77.8%]	2[22.2%]	9[4.1%]
Separated/Divorced	1[50%]	1[50%]	2[0.9%]
Total	112[50.7%]	109[49.3%]	221[100.0%]

$X^2 = 2.78$ $p>0.05$

Critical limits of X^2 at df 2 and p=0.05 is 5.991.

There was also no relationship between respondents' marital status and willing to be tested.

Table 27: showing the relationship between respondents' ethnic group and willingness to be tested.

Ethnic group	Willing	Not willing	Total
Hausa/Fulani	48[50%]	48[50%]	96[43.4%]
Igbo	11[34.4%]	21[65.6%]	32[14.5%]
Yoruba	26[60.5%]	17[39.5%]	43[19.5%]
Others	27[54%]	23[46%]	50[22.6%]
Total	112[50.7%]	109[49.3%]	221[100%]

X^2 =5.31 p>0.05

Critical limits of X^2 at df 3,0.05 =7.815.

There is no relationship between ethnicity of respondents and acceptance to be tested.

Table 28: showing the relationship between respondents' knowledge about HIV transmission, identification of infected person and prevention of HIV transmission.

Knowledge about	Correct	Incorrect	Don't Know	Total
HIV Transmission	164	21	36	221
Identification of Infected person	126	18	77	221
Prevention of HIV transmission	165	16	40	221
Total	455	55	153	663

X^2 =27.265 at df 4 $p< 0.05$

Critical limits of X^2 at df 4, p=0.05 is 9.488.

There was significant relationship between respondents' knowledge of HIV transmission, identification of infected person and prevention of HIV transmission.

Table 29: Demographic characteristics of health workers involved with Prevention of maternal to child transmission of HIV.

Variables	Frequency	Percentage
Age		
40-44	2	20
45-49	3	30
50 and above	5	50
Total	10	100
Religion		
Christianity	7	70
Islam	3	30
Total	10	100
Marital Status		
Married	9	90
Widowed	1	10
Total	10	100
Ethnicity		
Hausa/Fulani	1	-
Igbo	3	30.0
Yoruba	3	30.0
Others	3	30.0
Total	10	100.0

Occupation		
Medical Practitioner	1	10.0
Nurse/Midwife	9	90.0
Total	10	100.0
Duration in current profession		
11-15years	2	20.0
16-25years	5	50.0
> 25years	3	30.0
Total	10	100.0
Duration in hospital		
7-10 years	2	20
>15years	8	80
Total	10	100
Duration in ANC		
1-3 years	3	30
4-6	5	50
7-10	2	20
Total	10	100
Duration of involvement with VCT		
1-3 years	10	100.0
Total	10	100.0

Results also showed that all the health workers received training and also counselled patients on HIV prevention. All responded that they gave routine counselling on HIV/AIDS. 90% said that they promoted condom use and 30% said they requested the ANC attendees for routine screening for STDs and HIV. All responded that they routinely counselled their clients during clinic visit and also encouraged them to go for HIV screening. They all said that they counselled their clients before and after HIV test. They all responded that VCT was provided at the ANC.

The study showed that 90% of the respondents said that the problems encountered were the workload and the time for counselling which was not adequate. 50% said that the room space was not enough. Only 10% complained about privacy and language barrier. Also 90% of the respondents said that they attended PMTCT courses in the past two years. According to the estimation of 80% of them, VCT uptake was low and the two reasons proffered were that the clients were afraid of knowing their status and also afraid of stigmatisation.

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CHAPTER 5

DISCUSSION

Voluntary and confidential counselling and testing for HIV has been found to be a useful tool and also the first step in accessing care and preventing further infection and transmission to the baby. Voluntary counselling and testing among pregnant women is being advocated so that they can know their status and thus be able to access strategies to reduce the risk of mother to child transmission.

The rate of uptake of voluntary counselling and testing at the Ahmadu Bello University Teaching Hospital was found to low (8.1%)[9.] The low rate necessitated this study, to find out the factors that influence the uptake of voluntary counselling and testing for HIV.

The age distribution of the respondents was 15-44yrs. The mean age was 25.5 years. The ages were concentrated in the age 20-34yrs which is the active reproductive age. The largest age group was 25-29(30.3%) and the smallest group 40-44. These compared with the 2003 National HIV sero-prevalence sentinel study of 31.3% and 2.1% respectively. Most of the subjects were married (95%) which also compared with the 2003 HIV sero-prevalence sentinel study of 96.6%. It was not unusual that most of the attendees were married because these were the likely ones who would want to attend ANC.

The respondents who have attained secondary education were 79% and this made it easier to reach and communicate with them and to get useful information. Also 43.4% of the respondents were Hausa/Fulani. This was expected because

of the geographical site of the study where the people are predominantly Hausa/Fulani. 38.5% of the respondents were in one form of trading while 21.3% were teachers. This could be due to them being enlightened enough and could afford the cost of services at the facility. These results compared favourably with the sero-prevalence sentinel studies 2003 of which ABUTH was one of the project sites.61.5% of the respondents are Muslims, which is not unusual since in the general population of the community, where the study work took place there are more Muslims than other religions.

Table 4 showed the level of awareness of HIV/AIDS among the respondents, which was 94.6%. This level of awareness is higher than the findings reported in the NDHS 2003(87%). In a comparative study carried out by Aghoghovbia T, (2002) in two clinics at Lagos she found that 100% of the ANC attendees were aware of HIV/AIDS. In a study in 1996 among ANC attendees Marjan et al reported that 100% of the respondents had heard of HIV/AIDS.A higher level of awareness in expected considering the amount of work done and the study area being a pilot study area and enlightenment has taken place extensively that if a 100% of the respondents were aware it would have been expected.

In the study, 60.2% of respondents received information about HIV/AIDS from the electronic media while 40.2% from the print medium, 23.9% from friends and relations and 10.5% from other sources (figure1). This finding is comparable with finding of Asindi A.A et al where 79-85% got their information through mass media. The electronic medium offers remarkable advantages especially the radio as a medium of information because it is far-reaching and convenient to use.

This study showed that 74.2% of the respondents had correct knowledge of the routes of transmission of HIV While 9.5% had incorrect knowledge and 16.3% did not know about the routes of transmission (tables 4 and 4.1). A slightly higher value (80%) was recorded in the report of the formative research by the FMOH in collaboration with UNICEF country office, Nigeria (April,2002). On MTCT, 82.4% know that AIDS can be transmitted from mother to child and 41.2%, 39.6% & 31.3% know that HIV can be transmitted to child during pregnancy, delivery and breastfeeding respectively. Correct knowledge of routes of transmission is essential to influence behavioural changes and protective measures.

Tables 5 and 5.1 showed the level of knowledge of identification of a person with the virus.57% of the respondents have correct knowledge of the identification of a person with the HIV.74.7% of the respondent in this study had correct knowledge on the mode of prevention of HIV transmission. 18.1% of the respondents have no knowledge of the mode of prevention of HIV transmission (tables 6 and 6.1). This is worrisome because with the level of education one would expect a lower level of ignorance.66.1% of the respondents were aware that HIV/AIDS was not curable, 24.9% believed that it was curable while 9% said they did not know. These findings contrasted with those of the formative research of FMOH, 2002 where 90% were aware that HIV/AIDS was not curable and only 10% believed that it was curable. The knowledge of curability is very important when passing health messages. Some of the respondents still believe that antibiotics and herbal preparation could cure the disease. The knowledge of curability must still be stressed to the community.

This study also showed that 81.4% of respondents said they have been told about PMTCT. Only 18.6% said they were not informed (table 10). 80.5% said they have information of VCCT while 19.5% said they have not (table11). This is surprising, as I had witnessed sessions of talks given to the ANC attendees. It could be that they did not understand the talk given or they were not listening.76.4% of respondents who said they have heard about VCCT said the purpose of VCCT was to know their HIV status; information about HIV test and confidentiality (16.9%); counsel on risk of infection (12.9%); information about benefit of HIV test (5.6%) while 8.4% said they received information about

implication of results (table 12). The other purposes of the VCCT should be stressed to the ANC attendees and it may likely help in their acceptance to be tested.90% of respondents are aware of VCT service in the areas of study. 10% said they were not aware (table13). The attendees that said they were informed about the advantages of the test were 85.1%, 48.9% said it helps in decision making; 19.1% said it modified life style, nutrition and health care; 17.6% said it helps one to avoid infection while 28.2% said it gives the HIV positive mothers infant feeding options (table14). In spite of the high response of the attendees on being informed about the advantages of the test, it did not materialise into acceptance to be tested.

Table 16 showed that 89.1% of respondent were afraid of AIDS. The reasons given were that it was incurable and stigmatised; one was being discriminated as soon as people found out that one had contracted the disease. This finding is similar to studies compiled by WHO/UNAIDS- AIDS Epidemic Update December 2003- from various countries on the attitude of people to people living with AIDS (PLWAS).

This study found out that 84.2% believe that HIV/AIDS patients should be provided with care and support; 43.9% believe that they should be hospitalised; 49.8% believe they should be allowed to live freely with others (table 17). This result is comparable with that of the respondents' in the 2002 formative research on PMTCT where 47.6% of the respondents felt that HIV/AIDS patients should be allowed to live freely in the community and many felt these people should be confined but provided with care and support. This positive attitude of the attendees should be commended.

The study showed that 50.7% were willing to be tested. Those not willing to be tested 49.3% were mainly due to fear of being stigmatised, discriminated and ostracised. Three of the respondents admitted that knowing their status is the beginning of death. Some of them said they were sure of themselves so they did not want to be tested (figure2). 43.9% were counselled before testing. Only 13.1% were counselled post-testing. Though 50.7% were willing to be tested only 14.5% were tested (table19). Three of those that were tested did not receive the results of the test. These findings were comparable with studies compiled by

the NDHS 2003 and those of Pool R et al (2001) on the attitudes to VCT among pregnant women in rural southwest Uganda. It contrasted with the multi-city study carried out by Fernandez M.F et al where 74-95% accepted to be tested and the main reason for accepting was the belief that knowledge of status could be beneficial to both mother and child. Those that refused to be tested in the same study (5-26%) they had no perceived risk.

The tables 22-28 showed that there were no relationships between respondents' age, educational level, religion, occupation, marital status, ethnic group and acceptance to be tested. 49.3% were wiling to share result if test was positive while in principle this could be so but in reality it may not be (table20). In studies carried out in Uganda the women were concerned about sharing their results with their husbands, as they fear domestic violence and separation. For these, the women accept in principle but in reality only few of them do.

Among those that are willing to share results 73.4%of them were willing to share with husband, 9.2% with relations, 1.8% with friends, 15.6% said they would share with others including health workers (figure 3).

Whether the test should be voluntary or mandatory, 53.8% of the respondents thought test should be mandatory (table 21) and 46.2% thought it should be voluntary. This result was lower than that of the pregnant women and health workers in the PMTCT report of the formative reseach, 2002, which was 80% and 82% respectively. Since HIV testing has far reaching consequences for the person being tested, especially in communities where HIV/AIDS is a stigmatising condition, VCT has been advocated and is being implemented.

The role of health workers in the management of PMTCT is not in contention. In the study of demographic characteristics of health workers 50% of the workers are in the age group 50years and above with none below 40years of age similarly 70% are Christians. These are all reflective of the socio-economic characteristic of this environment, which is a predominantly Moslem environment, but with low level of education amongst the natives (Table 29).

A study of the marital status of the workers showed that 90% are married and are predominantly non indigenes .The nature of PMTCT makes it an attraction to married people. This is similar to the character of midwives in this environment where most of the trained health workers are married and non indigenes .It is believed that as the effort of the government to bridge the gap between the North and the South yields good results there could be a reversal of this trend.

Nurses and midwives with over 50% of them having over 16years experience in health care delivery. This is expected as the study was carried out in a tertiary institution that has been in existence for over 30years. However all the workers have less than 4year experience in VCT. This is expected because the concept of VCT in its entirety is a recent innovation in health care delivery.

CHAPTER SIX

CONCLUSION AND RECOMMENDATION

CONCLUSION

The factors influencing the uptake of voluntary counselling and confidential testing for HIV among pregnant women attending the antenatal clinic of ABUTH was studied and it was found out that:

1. There was high literacy level among the respondents and their spouses.
2. The electronic media was the most frequent medium of information and health messages would be very effective using this medium.
3. The attendees had a high knowledge of HIV/AIDS, in terms of awareness, mode of transmission, prevention and so on.
4. There is high level of fear of HIV/AIDS among the respondents, which was related to the incurability, stigma and discrimination surrounding the disease.
5. There was an average willingness to be tested in principle but the numbers that were tested were still low.
6. Fear was the predominant factor in influencing the uptake of VCT.
7. There was no relationship between age and level of education, marital status, religion, ethnic group, and occupation and acceptance to be tested.

The uptake of VCT is low among the ANC attendees and the predominant factor was found to be fear. Fear of knowing their HIV status is based on fear of rejection, discrimination and stigmatisation by spouses, family and the community at large.

RECOMMENDATION

1. To improve the uptake of VCT services private clinics should be involved.
2. Fear of knowing the HIV status and the consequences, which are the causes why the attendees did not accept to be tested, must be attended to by in-depth counselling of the benefits of VCT.
3. All health care providers should recommend VCT to all their pregnant patients pointing out the substantial benefit of knowledge of HIV status for the health of women and their babies.
4. HIV screening should be a routine part of prenatal care for all women.
5. Information about VCT and its benefits should be provided to all pregnant women as part of routine health education.
6. Community sensitisation, education and male involvement will be necessary if VCT services are to be acceptable.
7. There should be training of more health care providers on PMTCT/VCT services so that there will be adequate staffing for counselling.

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APPENDIX

QUESTIONAIRE 1

TOPIC: FACTORS INFLUENCING UPTAKE OF VOLUNTARY COUNCELLING AND TESTING FOR HIV/AIDS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA.

This questionnaire is designed for pregnant women attending antenatal care at Ahmadu Bello University Teaching Hospital Tudun Wada Zaria. Some of the questions are personal but necessary in order to get useful information. Your answer will be completely confidential.

A. <u>Biodata</u>

1. How old were you on your last birthday?_____(Yrs).
   a. 15-19yrs.
   b. 20-24yrs.
   c. 25-29yrs.
   d. 30-34yrs.
   e. 35-39yrs.
   f. 40-44yrs.
   g. 45-49yrs.
2. What tribe are you?
   a. Hausa.
   b. Igbo.
   c. Yoruba.
   d. Others(Specify)_____.
3. What is your religion?
   a. Christian.
   b. Muslim.
   c. Traditional/Indigenous.
   d. Others (specify)_____

4. What is your marital status?

   a. Single.

   b. Married.

   c. Separated.

   d. Divorced.

5. If married, type of marriage?

   a. Polygamy.

   b. Monogamy.

6. What is your level of education?

   a. None.

   b. Quaranic.

   c. Primary completed[ ] uncompleted[ ]

   d. Secondary completed[ ] uncompleted[ ]

   e. Post secondary

   f. Others (specify)_____.

7. What type of work do you mainly do? (Occupation)

   a. Civil servant.

   b. Petty trader.

   c. Businesswoman.

   d. Hairdresser.

   e. Teacher.

   f. Others (specify)_____

8. If married, how long have you been married?

   a. 1-5 years

   b. 6-10 years

   c. 11-15 years

   d. 16-20 years

e. 21-25 years

f. 26 years and above

9. How many children did you have? _____

10. How many of them are living? _____

11. If married, how old is your husband?

a. 15-19 years

b. 20-24 years

c. 25-29 years

d. 30-34 years

e. 35-39 years

f. 40-44 years

g. 45-49 years

h. 50 and above

i. I don't know.

12. What is your husband's level of education?

a. None.

b. Quaranic.

c. Primary completed[ ] uncompleted[ ]

d. Secondary. completed[ ] uncompleted[ ]

e. Post secondary

f. Others (specify)_____-

13. What type of job does your husband do?

a. Civil servant.

b. Petty trader.

c. Businessman.

d. Hairdresser.

e. Teacher.

f. Others (specify)_____

14. How many wives does your husband have?

a. One wife.

b. Two wives.

c. Three wives.

d. Four wives.

e. Others(specify)_____

B. Knowledge about HIV/AIDS

15. Have you heard of HIV/AIDS? YES[ ] NO[ ]

16. If yes, how did you get to know about HIV/AIDS? From;

a. Newspaper/Magazine/Journal.

b. Posters/Billboards.

c. Radio/Television.

d. Friends/Relations.

e. Others(specify)_____

17. Is HIV/AIDS transmitted by:

18. How would you know that a person has the virus that causes AIDS?

a. Progressive weight loss. Yes[ ] No[ ] Don't know[ ]

b. Swelling in the armpit and groin. Yes[ ] No[ ] Don't know[ ]

c. Persistent fever. Yes[ ] No[ ] Don't know[ ]

d. Chronic cough. Yes[ ]No[ ] Don't know[ ]

e. Persistent diarrhoea. Yes[ ] No[ ] Don't know[ ]

f. Voluntary counselling and testing (VCT). Yes[ ] No[ ] Don't know[ ]

g. Others (specify)_____

19. Is it possible that a healthy looking person has the virus that causes AIDS?

Yes[ ] No[ ] I don't know[ ]

20. How can AIDS be prevented?

a. Avoiding more than one sexual partner

Yes[ ] No[ ] Don't know[ ]

b. Use of condom.

Yes[ ] No[ ] Don't know[ ]

c. Avoiding unscreened blood transfusion.

Yes[ ] No[ ] Don't know[ ]

d. Avoiding injection with unsterilized materials

Yes[ ] No[ ] Don't know[ ]

e. By taking antibiotic.

Yes[ ] No[ ] Don't know[ ]

f. By taking herbal preparations

Yes[ ] No[ ] Don't know[ ]

g. Being faithful to one's partner.

Yes[ ] No[ ] Don't know[ ]

h. Advising infected mothers not to breastfeed their babies.

Yes[ ] No[ ] Don't know[ ]

i. Others (specify)_____

21. Can a mother transmit HIV to her child?

a. Yes[ ] No[ ] Don't know[ ]

22. If yes, what are the ways through which a mother can transmit HIV to her child?

a. During pregnancy?

b. During delivery?

c. By breastfeeding

d. Others (specify) _____

e. I don't know.

23. If a woman is discovered to have HIV/AIDS should she go on to breast-feed her baby?

Yes[ ] No[ ] I don't know[ ]

24. If no, what is your reason for this? _____

25. If a pregnant woman is discovered to have HIV/AIDS which of the following actions do you think should be taken?

    a. Continue with the pregnancy and deliver normally.

       Yes[ ] No[ ] I don't know[ ]

    b. Continue with the pregnancy and deliver by caesarean section.

       Yes[ ] No[ ] I don't know[ ]

    c. Terminate the pregnancy.

       Yes[ ] No[ ] I don't know[ ]

    d. Avoid or prevent subsequent pregnancies.

       Yes[ ] No[ ] I don't know[ ]

26. Does AIDS have a cure?

    Yes[ ] No[ ] I don't know[ ]

C <u>Attitudes towards HIV/AIDS</u>

27. Are you afraid of AIDS? Yes[ ] No[ ]

    a. If yes, why? _____

    b. If no, why are you not? _____

28. What should be done to/for HIV/AIDS patients?

    a. Hospitalise? Yes[ ] No[ ]

    b. Confine and not let to move about? Yes[ ] No[ ]

    c. Put a mark on them for people to know? Yes[ ] No[ ]

    d. Allow them to live freely in the community? Yes[ ] No[ ]

    e. Provide care and support for them? Yes[ ] No[ ]

    f. Others (please specify)_____

29. Could you shake hands with an AIDS patient? Yes[ ] No[ ]

30. Would you stay in the room with an HIV\AIDS patient? Yes[ ] No[ ]

ANTENATAL CARE (ANC)

31. How many months pregnant are you? _____

32. At what month of pregnancy did you book? _____

33. How many times have you attended antenatal clinic? _____

34. Since you have been attending ANC did you receive any health talk or advice on HIV/AIDS in this hospital?

    a. Yes[ ]

    b. No[ ]

    c. Can't recall[ ]

35. If yes, what were you told? _____

36. Were you told about mother to child transmission (PMTCT)?

    Yes[ ] No[ ]

37. If yes, what were you told? _____

38. Were you told about voluntary and confidential counselling and testing (VCCT) for HIV/AIDS? Yes[ ] No[ ]

39. If yes, what is the purpose for VCCT?

    a. It helps you to know your HIV status

    b. Informs you about HIV test and confidentiality

    c. Counsels you to assess the risk of infection

    d. Informs you about the benefits of HIV test

    e. Informs you about the implications of the results

40. Were you told whether the services are available here? Yes [ ] No [ ]

41. Were you told the advantages of the test? Yes [ ] No [ ]

42. If yes, what were you told?

    a. If you know your HIV status it will help you to make important decisions.

    b. Help to modify life style, nutrition and health care.

c. Allow HIV negative mothers to avoid infection and allow her to breast feed confidently.

d. Infant feeding options for HIV mothers.

e. Others (specify)

43. Did you accept to be tested? Yes [ ] No [ ]

44. If no, why? _____

45. Have you been tested? Yes [ ] No [ ]

46. If no, why? _____

47. Were you counselled before you went for the test? Yes [ ] No [ ]

48. Were you counselled after the test? Yes [ ] No [ ]

49. In the event that you test positive for HIV, will you be willing to share the result? Yes [ ] No [ ]

50. If yes, with whom?

a. Husband? [ ]

b. Relations? [ ]

c. Friends? [ ]

d. Others? (specify)

51. Do you think HIV testing should be mandatory for all pregnant women?

Yes [ ] No [ ]

QUESTIONNAIRE 2

TOPIC: FACTORS INFLUENCING UPTAKE OF VOLUNTARY COUNSELING AND TESTING FOR HIV/AIDS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CLINIC AT AHMADU BELLO UNIVERSITY TEACHING HOSPITAL ZARIA.

This questionnaire is designed for health workers working in the antenatal clinic of the Ahmadu Bello University teaching hospital Zaria. Some of the questions are personal but necessary in order to get useful information. Your name will not be written on this form and the information you provide will not in any way e linked to you.

BACKGROUND INFORMATION.

1. Please indicate which of the following represents your age group:(in years)

    a. 15-19 years.

    b. 20-24 years.

    c. 25-29 years.

    d. 30-34 years.

    e. 35-39 years.

    f. 40-44 years.

    g. 45-49 years.

    h. 50 and above.

2. Sex of respondent.

    a. Male

    b. Female

3. Which of the following is your religious affiliation?

    a. Christianity

    b. Islam

    c. Traditional

    d. Others (specify)_____

4. What is your marital status?
    a. Married
    b. Single
    c. Separated
    d. Divorced
    e. Widowed
    f. Others (specify)_____
5. To what ethnic group do you belong?
    a. Hausa
    b. Igbo
    c. Yoruba
    d. Others (specify)_____
6. What is your occupation?
    a. Medical practitioner
    b. Nurse/Midwife
    c. Laboratory Scientist
    d. Social Worker
    e. Others (specify)_____
7. How long have you been working in your current profession?
    a. < 5 years
    b. 5-10 years
    c. 11-15 years
    d. 16-25 years
    e. > 25 years
8. How long have you been working in this hospital?
    a. < 1 year
    b. 1-3 years

c. 4-6 years

d. 7-10 years

e. > 15 years

9. How long have been working in the antenatal clinic?

a. < 1 year

b. 1-3 years

c. 4-6 years

d. 7-10 years

e. > 15 years

10. How long have you been involved in voluntary counselling and testing for HIV?

a. <1 year

b. 1-3 years

c. 4-6 years

d. 7-10 years

11. Have you received training in VCT? 1) Yes 2) No

12. Do you counsel (advice) your patient on HIV prevention?

1)Yes 2)No

13. If yes, do you:

a. Request ANC patients to go for routine screening for STDs?

1)Yes 2)No

b. Request ANC patients to go for routine screening for HIV?

1)Yes 2)No

c. Promote condom use among ANC clients? 1)Yes 2)No

d. Routinely counsel ANC patients on HIV/AIDS? 1)Yes 2)No

14. Do you routinely counsel your patients (irrespective of HIV status) on HIV/AIDS during hospital/clinic visit? 1)Yes 2)No

15. Do you encourage/advice your patients to go for HIV screening during their ANC visit? 1)Yes 2)No

16. Do you counsel your patients before the test? 1)Yes 2)No

17. Do you counsel your patients after the test? 1)Yes 2)No

18. Where is the VCT provided?_____

19. What are the problems encountered?

    a. Space

    b. Privacy

    c. Work load

    d. Time

    e. Language

    f. Others (specify)_____

20. Have you attended any course on PMTCT in the last two years?

    1)Yes 2)No

21. What is the level of uptake of testing of clients counselled by staff?

    _____

22. What do you consider reasons for the level of the uptake of the services?

    _____