

Acceptability of Voluntary Counselling and Testing For HIV among Pregnant Women in Western Health Division, the Gambia



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ABSTRACT

Rationale of the Study: The Gambia is a developing country and the majority of the population are women. They need adequate support, information and knowledge to protect themselves from acquiring HIV, and for those already infected from transmitting it to their infants either during pregnancy, delivery or breastfeeding.

The Gambia has a low prevalence of HIV, but despite that the number infected increased yearly among women of childbearing age and among children. The rates of mother-to-child transmission for HIV-1 and HIV-2 were estimated at 25% and 4% respectively in a cohort study of antenatal mothers between 1993 and 1995. In a follow-up study in 2002, 34% of the mothers identified in 1993 to 1995 had died; 69% of HIV-1 infected children also died.

In light of this, the Department of State for Health has decided to integrate Voluntary Counselling and Testing in certain antenatal clinics with free antiretroviral drugs, and for women, the need to know their status is paramount. Many studies on HIV/AIDS have been conducted in the Gambia, but none have specifically investigated factors that influence acceptability of VCT among pregnant women. Little is also known about what women know about HIV/AIDS and their perception of risk.

Objectives: The main objective of this study was to explore and describe factors that influence acceptability of voluntary HIV counselling and testing among pregnant women in Western Health Division of the Gambia.

Materials and methods : A cross-sectional study was conducted among pregnant women in western health division of the Gambia. A quantitative methodology with the aid of a structured questionnaire was used to collect the data. The study design was facility-based and, pregnant women were invited to participate when they came to the antenatal clinics included in the study. Midwives were instructed to invite women of all ages, educational levels, parity and occupation in a convenience-based sample. A total of 246 pregnant women were approached and asked to participate in the interview, out of whom 229 actually participated; (a participation rate of 93%)

Results: The majority of pregnant women (65%) and (51%) had high knowledge on the modes of HIV transmission and on MTCT of HIV respectively. There was a significant difference in level of knowledge on HIV spread between educational groups. Women with formal education seemed to be more knowledgeable than those with no formal

education ($\chi^2 = 6.09$, $df = 1$, $p = 0.01$). Nearly half of the women had low knowledge on specific areas of MTCT such as the transmission of the virus through pregnancy, delivery and breastfeeding. The majority of pregnant women (61%) also had low knowledge on the three basic prevention messages (ABC) of HIV. Some misconceptions relating HIV transmission were also reported in the study and the majority of the pregnant women (55%) perceived themselves as not susceptible to HIV /AIDS.

Nearly all the women, (98%) were aware of the existence of the PMTCT programme. The majority (92%) had gone through the pre-test counselling, but 82% have actually done an HIV test of which 72% had taken the decision independently. Return rates were also found to be very high (91%). The need to know ones serostatus; and if HIV positive, be offered ARVs to protect the child and to prolong own life were factors that motivated or influenced women to accept HIV testing. The majority of the respondents (97%) would like to notify their partners about an HIV seropositive result and two third preferred to seek VCT together as a couple. Neighbours and other community members would never be informed of an HIV positive result and 80% of the respondents would not discuss their HIV serostatus openly if they were positive.

Conclusion: The findings from this study showed that women easily accepted VCT and return rates were equally high. There is an indication that women's acceptance of HIV test seemed to depend on their view that going through the VCT process and the provision of and access to antiretroviral drugs provide benefit for both the child and themselves. We therefore believed that improving the accessibility and affordability of ARVs to HIV positive individuals, and encouraging couple counselling could significantly increase the up take of the VCT services in the Gambia.

Key words: Couple Counselling, HIV Testing, PMTCT Programme, Level of knowledge, Informed Consent, Pregnancy.

DEDICATION

This thesis is specifically dedicated to my late parents (Mum and Dad) whose demise is still a night mare for me. As I reflect back to the words of these two loved parents, and I quote “life is a challenge and people must be ready to go through it with assertion”.

To my family I express my gratefulness and sincere gratitude for the patience you have exercised during my period of stay away from home.

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ACRONYMS

ABC	: Abstain, Be- faithful and Condom use
AIDS	: Acquired Immune Deficiency Syndrome
ANC	: Antenatal Care/ Clinic
ARI	: Accelerated Response Implementation
ARVs	: Antiretrovirals
CDD	: Centre for Disease Control
CHW	: Community Health Worker
CRS	: Catholic Relief Service
DALY	: Disability Adjusted Life Years
DoSH	: Department of State for Health
DHT	: Divisional Health Team
GDP	: Gross Domestic Product
GNP	: Gross National Product
HIV	: Human Immune Deficiency Virus
HIVNET	: HIV-Net Prevention Programme
IEC	: Information Education Communication
IPPF	: International Planned Parenthood Federation
KMC	: Kanifing Municipal Council
MCH	: Maternal and Child Health
MTCT	: Mother to Child Transmission
MRC	: Medical Research Council
NACP	: National Aids Control Programme
NAS	: National Aids Secretariat
NGO	: Non-Governmental Organization
PACTG	: Paediatric Aids Clinical Trial Group
PETRA	: Perinatal Transmission Study
PHC	: Primary Health Care
PI	: Principal Investigator
PLWHAs	: People Living With HIV/AIDs
PMTCT	: Prevention of Mother-to Child Transmission
RPR	: Rapid Plasma Response (A screening Test for syphilis)
RH	: Reproductive Health
SPSS	: Software Package for Social Sciences

STI	: Sexually Transmitted Infection
TBA	: Traditional Birth attendant
TB	: Tuberculosis
TFR	: Total Fertility Rate
UNAIDS	: Joint United Nations Programme on AIDS
UNFPA	: United Nations Fund for Population Affairs
UNICEF	: United Nations Emergency Fund for Children
UNGASS	: United General Assembly Special Session
VCT	: Voluntary Counselling and Testing
VDC	: Village Development Committee
VHS	: Village Health Service
VHW	: Village Health Worker
WHO	: World Health Organization
WEC	: World Evangelism for Christ
ZDV	: Zidovudine

CHAPTER 1: INTRODUCTION

1.1. INTRODUCTION

HIV/AIDS is a global problem whose emergence has introduced new dimensions to health care delivery worldwide. In the year 2000, it was estimated that most of the 37 million people worldwide living with HIV did not know they were carrying the virus (1). In developing countries HIV has now become one of the most common pregnancy complications and this has implications for the management of pregnancy, labour and puerperium (2). Hence it is difficult to eliminate risk during and after pregnancy, it can be minimized through effective, culturally acceptable and affordable maternity care that responds to the needs of women.

Globally, the majority of children with HIV/AIDS are below the age of five years old. They have been infected either during pregnancy, delivery or breast feeding (2). In Africa, due to the high number of women infected with HIV, the number of children infected is very high as the incidence of pregnancy related HIV infection in infants directly depends on the number of pregnant women with HIV/AIDS (2). Thus the most effective intervention to reduce transmission of HIV from mother to child depends on the woman knowing her status, which in turn depends on the availability of information, and voluntary counselling and testing service (3)

Considering the vital role that voluntary counselling and testing (VCT) has to play within a comprehensive range of measures for HIV/AIDS prevention and support, the Joint United Nations Programme on AIDS (UNAIDS) encouraged countries to establish national policies regarding VCT (4). Voluntary HIV counselling and testing is the process whereby an individual undergoes counselling to enable him/her to make an informed decision about being tested for HIV. This information must be entirely the choice of the individual and he/she must be assured that the entire process will be confidential (5). Voluntary counselling and testing would therefore, enable women to determine their HIV sero-status.

Voluntary counselling for HIV has been found to be effective in behaviour change. In a randomised trial in Kenya, Tanzania and Trinidad, more than 40% reduction in unprotected sexual intercourse among individuals who received VCT services, compared to those who received only health information has been reported (6). In another efficacy study this time in Kenya, it has been documented that at-risk individuals and couples

were motivated to accept voluntary counselling testing when VCT services are combined with diagnosis and treatment of Sexually Transmitted Diseases (7).

With the advent of zidovudine (ZDV) and other antiretroviral drugs (ARVs), pregnant mothers diagnosed with HIV can prevent or reduce the transmission to their babies in at least 50% of cases (8). The awareness of the availability of treatment options for HIV has been shown to influence the attitudes of people to HIV testing. One study carried out in Abidjan (Cote d'Ivoire) have shown that those who knew about ZDV therapy for pregnant women were more likely to have had an HIV test than those without such awareness (9)

The challenge of HIV transmission from mother to child, especially the transmission through breast milk is an important challenge not only for health care workers, but also for AIDS researchers and communities, especially women themselves. The low decision-making ability, lack of relevant knowledge and information on HIV transmission and control among most women in developing countries need to be addressed in order to reduce and prevent this escalating problem.

Women who are HIV positive and have infants are in a big dilemma. Should they breast feed and put their babies at risk of HIV infection? What breast feeding alternatives do they have? What information are health care providers giving mothers who are HIV positive and do they (women) have authority over decision for voluntary counselling and testing for HIV?

This study was therefore undertaken to determine the acceptability of voluntary counselling and testing for HIV among pregnant women as a mechanism to prevent or reduce mother-to-child transmission of HIV in the Gambia. It is anticipated that the findings of this study would be vital for managers of reproductive health programmes, policy and decision makers in understanding the positive and limiting factors influencing uptake of VCT. It is also anticipated that it would serve as an important guiding tool by providing base line data needed for scaling up the VCT services to other parts of the country.

1.2. PROBLEM STATEMENT

The Gambia like most countries in West Africa has a low prevalence of HIV, but significant increase has been registered over the last seven years both in clinical cases and

prevalence. In 1998 a population based survey showed a prevalence of HIV-1 and HIV-2 at 0.1% and 1.7% respectively. The prevalence among antenatal women from national sentinel surveys in the last seven years doubled from 0.7% to 1.2% for HIV-1, with a decline from 1.2% to 0.9% for HIV-2 (10). The Gambia currently has an estimated HIV prevalence of 1.6% and more than 7,900 adults and children are living with the HIV-1 virus of which more than half are women within the child - bearing age. (10)

A long term study conducted in 1999 by the National Aids Control Programme (NACP) and the Medical Research Council- Gambia (MRC) revealed that 25% of the babies born to HIV-1 infected mothers were infected, while only 4% born to HIV-2 infected mothers have actually got the virus (11). The same study revealed that 20% of the babies were infected after delivery, probably through breastfeeding. It has been estimated that over 60,000 babies were born in the Gambia by the end of 2002(12). With a prevalence of 1.2% and 25% transmission rate of HIV-1, 180 babies were estimated to be infected by HIV-1 yearly which is now the predominant virus driving the epidemic in the country (12)

Since it was estimated that 10% of all HIV infection occur from mother to child (2), prevention and reduction of mother to child transmission of HIV has become a cause of concern for maternal health and child survival in the Gambia.

1.3. PROFILE OF THE GAMBIA

1.3.1. Geography

The Gambia is a small sovereign country located on the West African coast of the Atlantic Ocean. It has a land area of about 10,680 square kilometres, varying in width between 42 kilometres near the mouth of the river to 24 kilometres further upstream and stretching about 480 kilometres inland. The Gambia shares borders with the republic of Senegal on the north, south and east, and on the west with the Atlantic Ocean.

The country is also divided into two equal halves, namely the (North and South banks), by the River Gambia, which runs from the Futa Jallon highlands in the Republic of Guinea to the Atlantic Ocean. It lies between latitudes 13 and 14 degrees north. The Gambia is further divided into five administrative divisions and municipalities namely: Western Division, Lower River Division, Central River Division, Upper River Division

and North Bank Division; and Banjul City Council and Kanifing Municipal Council. See **Figure 1.**

The Gambia attained full independence in 1965. Maintenance of multi-party democracy, adherence to the rule of law and preservation of fundamental human rights constitute an integral part of the country's political framework. The latest democratic change of government took place in October 2001 after two years of military rule.

The climate in the Gambia is tropical, characterized by a cooler dry season between November to May and a hot rainy season between June to October. However, rainfall dropped considerably over the past thirty years.

1.3.2. Population and Demographic Characteristics

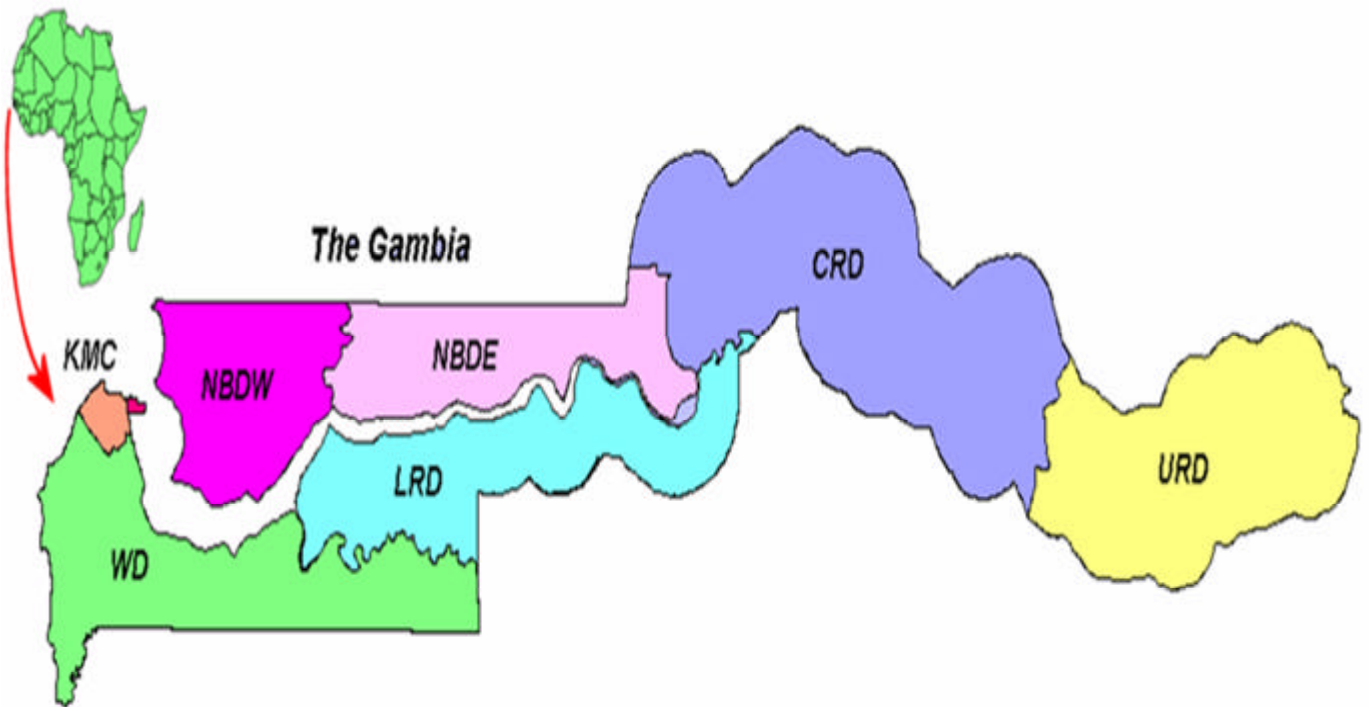
The population of the Gambia according to the 1993 Population and Housing Census was 1,038,145; an increase of 51% from 1983 – 1993. However, recent population projections put the population at 1,567,091 in 2003. It has a population density of 97 persons per square kilometre and 63% of the general population are rural dwellers. Over the years rural-urban migration has steadily increased. The annual population growth rate is 4.2% (2.9% natural increase and 1.3% net migrations) per annum (12). Due to its relative peace in the sub-region, the country has experienced high in migration (refugees and economic migrants) from the West African region.

The population of the Gambia is characterized by its youthful and feminine nature as 44% are below the age of 15 years and females comprises of 51% of the total population. Women of reproductive-age (15 – 49 years) represent 23.3% of the total population or 46.7% of the female population (12, 13).

Life expectancy at birth is pegged at 55 years; 57 and 54 years for females and males respectively. The Total Fertility Rate (TFR) is estimated at 6. Contraceptive prevalence rate is 12%. Mean age at first birth estimated at 16.5 years nationally but lower in rural than urban women (12)

The majority of Gambians (95%) are Muslims. There are nine different ethnic groups and the major ones are Mandinka, Fulla, Wollof, Jola and Sarahulle which accounts for 39.5%, 18.8%, 14.6%, 10.6% and 8.9% of the country's inhabitants respectively (12).

Figure 1: Map of the Gambia



1.3.3. Economy

The Gambia is regarded as one of the least developed countries in the world with an annual population growth rate of 4.2% and a Gross National Product (GNP) per capita of US \$340 (12, 14). She has no important mineral or natural resources but has a liberal market-based economy characterized by traditional subsistence agriculture, with a historic reliance on peanuts or groundnuts for export earnings and re-exports trade and has a significant tourism industry. It is estimated that about 75% of the population depends on crops and livestock for its livelihood.

Agriculture, trade and tourism account for 23%, 16% and 6% of its Gross Domestic Product (GDP) respectively. Despite the annual increase in GDP, per capita GDP has reduced significantly mainly because of high population growth rate (14). The Gambia is a heavily indebted country as 31.6% of the recurrent budget in the year 2003 was spent on debt servicing (15). On the poverty situation, reports have indicated that 69% of the total population were categorized as poor, out of which 51% are extremely poor. Only 31% of the population were classified as not poor (16)

The Government of the Gambia considers health as a key pillar of development. Over the years there has been increased spending on health. The health sector's share of government recurrent expenditure in 1998 and 2001 was 11.5% and 13.6% respectively and in the same period public health expenditure as a proportion of GDP also rose steadily from 1.7% to 3.3% (17).

1.3.4. Health Services

1.3.4.1. Health policy

The National Health Policy 1994-2000, the basis of health initiatives and programmes in the Gambia over the past decade had focused on family health, embracing maternal and child health including family planning, adolescent health, nutrition and immunization among its major thrust. This policy provided the direction for most of the interventions undertaken by the public and private sectors and it calls for the reduction of maternal and infant morbidity and mortality.

In the year September 2001, the Department of State for Health in consultation with all stake holders has reviewed, revised and replaced the National Health Policy with a new policy with the theme 'changing for good'. This health policy aimed at improving access to health care for all the citizens and providing quality health care services within an enabling environment, delivered by appropriately and adequately trained skilled and motivated personnel at all levels of health care with the involvement of all stake holders to ensure a healthy population.

A key component of the health policy is the essential health care package which aimed at addressing the common causes of morbidity and mortality, especially among women, children, the underserved and the marginalized. The policy focused on improving efficiency and effectiveness in the organization and management of the health sector through management reform, creation of popular structures for re-enforcing community participation in decision making and the devolution of responsibilities, authority and resources to hospitals, Divisional Health Teams (DHTs) and Village Development Committees (VDCs).

1.3.4.2. Population Policy and Programme

Faced with the largely unfavourable economic conditions, rapid deforestation aggravated by rapid population growth, the Government of the Gambia decided to adopt a National

Population Policy in 1992. The policy designed to curb the rapid rate of population growth had the overall goal of improving the quality of life and raising the standards of living of all Gambians. For the attainment of the goals, strategic components were identified such as: reproductive / sexual health and family planning, education, family and gender relations, youth, environment, nutrition, population distribution and urbanization, migration, information, education and communication / advocacy, research, capacity building and legislative reforms.

Activities have been identified as an integral part of the national population programme. In view of the cross-cutting nature of some of the activities of the population programme, an attempt had been made to harmonize the population policy and programme with other government initiated policies and programmes. Key among these programmes was the national education policy, the Gambia environmental action plan, and the housing, health and family planning\ reproductive health policy.

A key strategy identified by the policy in achieving these goals was improved access to health services throughout the country and introduction of measures geared towards the improvement of the quality of health services in general. Improvements in the area of maternal and child health services has been particularly singled out for attention.

The challenges faced by the above policies (health and population) are that fertility levels continued to be high and have changed only slightly over the past three decades. Mortality rates, though falling, are still high. Life expectancy has improved but remained low at 55 years for both sexes (12). The high fertility levels have resulted in a very youthful population structure which has unprecedented effects on dependency ratio which is pegged at 92 % (12).

Given the stable and peaceful situation of the country relative to the rest of the sub-region, Gambia has in recent years attracted increasing number of refugees and economic migrants. This influx has implications for the effective implementation of the population and health policies as additional resources needed for social services further strained the available resources.

1.3.4.3. Policies and guidelines on HIV / AIDS

Recognising the devastating effect that the spread of HIV infection might have on the socio-economic advancement of the country, the Government of the Gambia decided to

formulate a National HIV/AIDS policy and guideline in 1987. In line with the Primary Health Care approach, the Department of State for Health integrated the National AIDS Control Programme (NACP) into the existing Primary Health Care structure. The goals of this policy guideline were to design and put in place measures to prevent and control the spread of HIV/AIDS in the Gambia, and to reduce the social and personal consequences on the society. To achieve the above goals, six programme component areas were selected which includes the following: prevention of transmission through sexual intercourse, prevention of MTCT, prevention of transmission through blood, care and support of for the HIV infected person, programme planning and management and HIV/AIDS epidemiological surveillance.

Key in this document is that mandatory testing for HIV shall not be accepted and that HIV testing should not form part of a routine medical examination without the knowledge and consent of the client. It called for informed consent at all times where clients must sign a consent form.

1.3.4.4. Organization and Administration

The Gambia adopted the Primary Health Care (PHC) strategy since its inception in 1979 in the delivery of health services and it formed the basis of the national health policy. The public health service is organized into three-tier system comprising of primary, secondary and tertiary levels.

The primary level or locally called Village Health Services (VHS) is the first point of contact with the health system at community level. Health services in the Primary Health Care (PHC) villages are provided by a Community Health Nurse, community volunteers as Village Health Worker (VHW) and a Traditional Birth Attendant (TBA). They provide continuous health education, treatment of minor ailments and injuries, essential drugs and act as a link between village level PHC services and referral health services available at dispensaries and health facilities. The community health nurse is mobile and he / she supervise the activities of the Community Health Workers (CHW) – Traditional Birth Attendants (TBA) and Village Health Workers (VHW) in a circuit. Maternal and Child Health and family planning services with a vaccination programme are accessible to both PHC and non-PHC villages.

The secondary level or basic health facilities include health facilities such as clinics, dispensaries, minor and major health centres. They are staffed with professional nurses

and midwives, and other health professionals. The services provided are preventive, curative and inpatient services. In this category, the major health centres are the highest level as they provide more advanced care and services particularly the management of obstetric emergencies or complications. They also serve as referral facility for the clinics, dispensaries and minor health centres nearby.

The tertiary level comprised of four hospitals which provide all services including specialist care and/or services. They also serve as referral facility for the secondary level facilities.

In a quest to ensure an effective and efficient management and functioning of the public health sector, The Gambia government through the Department of State for Health (DOSH) in 1993 divided the country into six health divisions (corresponding with the existing administrative divisions) called Divisional Health Teams (DHT). They replaced the then existing three Regional Health Teams. These DHTs are responsible for the day to day administration, management and supervision of the secondary and primary level facilities in their respective health divisions as well as implementing action plans and policies. Within the same period each public hospital had a management board with a semi-autonomous status in managing the affairs of the hospital.

Presently, health services in the public sector is being provided by four hospitals, one of which is a teaching hospital, thirty-six health facilities at the secondary level and four hundred and ninety-two village health posts at the primary level (17). There is also one hospital under construction. The public health system is complemented by thirty-four private and Non- Governmental Organizations' clinics. The public health sector has 1477 beds, 211 doctors and dentist, 8 pharmacists, 261 registered nurses, 250 enrolled nurses, 144 community health nurses and 122 public health officers. Distribution wise, 29.7% of public facilities and 72.9% of private/NGO run facilities are located within the urban area while three of the public hospitals are in the rural Gambia (17).

1.3.4.5. Human Resource for Health

The human resource for health of the Gambia is far from being satisfactory. The ratio between service-providers to the population continues to be unacceptably high. Rapid expansion of the health care delivery services (as a result of increased demand) coupled with the high attrition rate of trained health staff particularly nurses and midwives contributed to this undesirable scenario (17).

The ratio of doctors per population was 1:5679; and that of nurses and midwives per population was 1:1964 and 1:5614 respectively (17). The figures also indicated gross divisional variation as the situation is worse in the rural areas. Out of a total of 263 available midwives in the country, 58.4% are working within the urban or peri-urban area. These have contributed to poor staffing pattern in public health facilities which also have some unprecedented effects on the waiting time at public health facilities. The waiting time is higher in public health facilities than in private or even with the traditional healers (18). Table 1 shows the basic health indicators of The Gambia.

Table 1: Health Indicators

Indicator	Measure	Comment
Maternal mortality Ratio (19)	730 per 100,000 LB	High,
Antenatal Care Coverage(19)	97%	Good
Skilled Birth Attendant (20)	44%	Low
Contraceptive Prevalence Rate (19)	17.5% (all methods)	Low
	13.4% (modern methods)	Low
HIV prevalence (35)	1.6% (among total population)	Not high - but no need for complacency
	1.2% (among pregnant women)	
Infant Mortality Rate (19)	84 per 1000 LB	High/alarming
Under Five Mortality Rate (19)	135 per 1000 LB	High/ alarming
Immunization Coverage (17)	68.6% (less than 1 year of age)	Low- can improve
	76% (up to 2 years of age)	
Total Fertility Rate (19)	6.01	High- needs to be reduced

1.3.4.6. Maternal and Child Health (MCH) Care Services

It was the adoption of PHC in The Gambia that brought about the introduction of an organized maternal health care program in the country. The program included prenatal care, screening for high-risk pregnancies, a referral system for high-risk pregnancies and delivery complications; and identification and training of TBA in each PHC village (with at least 400 inhabitants). Maternal and child health services are provided by both government and non- governmental health centres and clinics at base (fixed) clinics and outreach (mobile) trekking clinics. The main focus of these clinics is on health promotion

and protection; screening for high-risk pregnancies and children, vaccination and family planning service, health education, providing care and treatment of minor ailments and making appropriate referrals.

1.3.4.7. User Fees

In 1988 user fee was introduced in the Gambia's public health sector as a strategy to increase financial performance and to ensure a constant and consistent supply of essential drugs. Currently, all pregnant Gambian women pay a registration fee of fifteen Dalasi (D15.00 or \$ 0.54) to obtain a client held antenatal care record card and the ANC services. This card entitles the owner (pregnant woman) free consultation or medication and laboratory services throughout the pregnancy until six weeks after delivery for all conditions related to pregnancy. However, a delivery fee is charged on all deliveries that take place in public health facilities. The fees for deliveries are D12.50 (\$0.45) and D25.00 (\$0.90) for deliveries conducted at a minor health centre or dispensary and hospital or major health centre level respectively. There are no charges on those deliveries conducted by a Traditional Birth Attendant in the community. Weekly inpatient fee of D25.00 (\$0.90) is charge on maternity cases admitted whilst a fee of D50.00 (\$1.79) is charged for caesarean section. Non-Gambian women pay a much higher fee than those of their Gambian counterparts (21). Thus Gambia has a subsidised MCH system, but not free of charge, neither with equal pay for every pregnant woman.

CHAPTER 2: LITERATURE REVIEW

2.1. EPIDEMIOLOGY OF HIV/AIDS AND MTCT

Mother-to-child-transmission (MTCT) of human immunodeficiency virus (HIV) is the most significant source of HIV infection in children below the age of fifteen years (22). The virus may be transmitted during pregnancy, child birth or breastfeeding. In the absence of preventive measures the risk of the baby being infected by mother ranges from 14% to 25% in developed countries and 21% to 43% in developing countries (22). The AIDS epidemic has so far claimed the lives of nearly three million children while another one million are still living with the virus (23); this implies that infant mortality is likely to double in the worst affected countries.

Many factors are claimed to be associated with MTCT of HIV in Sub-Saharan Africa; maternal viral load (24), viral transmission in the genital tract (25), length of breastfeeding as well as mastitis during breastfeeding (26) and maternal nutritional status (27). In light of the above, knowledge about the possible time of transmission is crucial for the design of intervention strategies. It has been documented that transmission is rare during early pregnancy and relatively frequent in late pregnancy and delivery (28); breastfeeding whilst HIV positive thus contributes a great deal to the overall risk even though it has potential benefits to the child.

It should be noted that the majority of women in Africa who are HIV positive are usually not aware of their HIV status (24). This is a very critical situation for practical implications hence most of the options that aim to reduce MTCT of HIV depends on the woman knowing her HIV status. The HIV infected pregnant woman is therefore faced with two terrible circumstances; her own health status and the possibility of passing an incurable disease to her baby.

2.2. GLOBAL ISSUES OF HIV/AIDS

The HIV/AIDS epidemic has reached a level that poses major challenges to the entire world. Towards the end of 2003 it was estimated to have claimed the lives of more than three million people, and more than thirty-eight million people were living with HIV globally, half of which were women in the reproductive age group (29), with the majority living in developing countries (especially Africa) with two thirds of the adults and 90% of the children infected

In developed countries, HIV positive women are likely to be intravenous drug users, partners of drug users or be involved in sex work (30). In one American study 47% of mothers of HIV- infected infants were intravenous drug users, and 22% reported sex with an intravenous drug user (31). In developing countries heterosexual transmission is the predominant mode of transmission. In southern Africa over 10% of women attending antenatal clinics in Durban were HIV positive (32). Although prevalence rates of HIV in antenatal women have been taken as a good indicator for the infection rate in communities, it may on the other hand underestimate the population prevalence. In one study conducted in the Mwanza district of Tanzania, the prevalence in pregnant women was found to be far below that of the general population by a factor of 0.75 (33).

National prevalence rates differ greatly between countries in Africa. In two southern African countries Botswana and Swaziland, the prevalence in the adult population is now almost 40 % (29). West Africa is relatively less affected by HIV but the prevalence in some countries is creeping up. In Nigeria for example, the rates has grown slowly from 1.9% in 1993 to 5.8% in 2001 (34). In the Gambia, between May 2000 and August 2001, HIV prevalence among 8,054 antenatal clinic attendees at four sites across the country was 1.2%; this implies that HIV prevalence has almost doubled within the last seven years and 1.6% of the adult population are estimated to be infected in the Gambia (35).

2.3. BREASTFEEDING AND HIV INFECTION

For the past decades breastfeeding has been vigorously encouraged in many countries. Now in the era of HIV/AIDS there is continued concern (36). The risk of HIV transmission from mother-to child will continue as long as long as breastfeeding is practiced. It has been documented in some studies that transmission is greater during the first months of the infant's life (37). The inference was that mastitis and other breast infections are more common during the early months and the infants gut is immature and therefore more at risk and permeable to HIV (38). Even though the risk of HIV transmission through breastfeeding may be highest during the first month of life, the cumulative risk of infection from breastfeeding after six months is to be considered. It has been documented that 52- 76% of HIV transmission through breastfeeding in Africa were as a result of continued breastfeeding beyond six months (38). The findings from these studies indicated that stopping breastfeeding at an early age; three to four months as compared to the official recommendation for the general population of breastfeeding

mothers could significantly reduce the risk of HIV transmission from mother to child (38).

MTCT prevention strategies should be seen as part of a wider response to HIV/AIDS which includes expanding access to care and support for HIV infected mothers and their families (36). Studies have indicated that there is an increasing body of knowledge in a variety of strategies in preventing mother-to-child transmission of HIV, yet there is limited information on factors that may influence women's decision making(36).The main benefits of the HIV intervention strategies on safe motherhood and child survival will depend on factors like women's willingness to present for voluntary counselling and testing, return for HIV test results, making appropriate feeding choices as well as compliance with anti-retroviral drugs where available (36). These remained a challenge in many developing countries of which the Gambia is no exemption.

2.4. ANTIRETROVIRAL THERAPY

The HIV pandemic has affected the lives of women of child bearing age as well as their off springs. It is estimated that nearly half of the 30 million adults living with HIV/AIDS globally are women of child bearing age (29). With increasing knowledge concerning the mechanism of mother-to child transmission of HIV, the emphasis now is to come up with interventions to prevent or reduce transmission of which antiretroviral therapy is of paramount importance. The management of HIV infection is rapidly changing even though the perinatal transmission differs in many parts of the world. In March 1998, WHO, UNICEF and UNAIDS adopted a world- wide policy that recommended the use of zidovudine (ZDV/AZT) (39). New drugs are being manufactured and consequently adopted into clinical practice and it is evident that MTCT of HIV can be greatly reduced by short- course single-drug regimen of zidovudine or nevirapine (40). The success of the Paediatric Aids Clinical Trials Group (PACTG) concerning the use of ZDV/AZT in pregnancy has been a major achievement in the prevention of mother to child transmission of HIV and has now become standard care during pregnancy in most developed countries (41).

In a randomized placebo control trial that involved non-breastfeeding population in France and the United States, it was found out that the rate of mother to child transmission of HIV was 25.5% and 8.3% in the placebo and ZDV group respectively (41). The same study further indicated that ZDV was well tolerated in the short term in

both pregnant mothers and neonates and thus a 67.5% reduction in transmission of the HIV virus to the child (41). In West Africa, the efficacy of short-course ZDV was confirmed in breastfeeding HIV infected women (42). A randomized controlled trial in Abidjan, Cote d'Ivoire showed that the same ZDV regimen used in Thailand had a 37% efficacy rate in the new born up to the age of three months (42). In similar trials this time in Abidjan and Burkina Faso, they evaluated a slightly longer regimen of ZDV including one week of postpartum maternal treatment. After six months of birth, it was estimated that the relative efficacy in the latter trial was still 30%, with a transmission risk of 21.5 % (42).

Preliminary results in the Perinatal Transmission Study (PETRA) trial carried out in Uganda, Tanzania and South Africa also indicated that short course of ZDV plus lamivudine may be as effective as ZDV alone in reducing HIV transmission in breastfeeding populations (43). In this study it was indicated that there was 50% reduction in transmission at the age of six weeks when a combination of ZDV and lamivudine was given during the last month of pregnancy, during labour and one week after birth for the mother and the child (43). In the same trial, a shorter course of ZDV plus lamivudine initiated during labour had a relative efficacy of 37% and a residual transmission risk of 10.8% six weeks after birth. Other trials demonstrated that the use of ZDV in the newborn alone, beginning in the first 48 hours of life may decrease transmission by approximately 50% (44).

Nevirapine has also been shown to be effective in preventing perinatal transmission of HIV despite its rapid development of drug resistance(45). In an efficacy study conducted in Uganda, it was demonstrated that a single dose of nevirapine given to the mother at the time of delivery together with a single dose to the newborn was capable of reducing the transmission rate to 13%, which was statistically lower than the 25% transmission rate by the age of 14 to 16 weeks in those mother/infant pairs randomized to receive ZDV (45). Nearly all the infants in this trial were breast-fed and 90% of the mothers breastfed their babies for up to 14 to 16 weeks. It was therefore concluded from this trial that nevirapine lowered the risk of HIV transmission from mother to child during the first four months of life despite active breastfeeding (45). The use of nevirapine in HIV Net Prevention Study (HIVNET) 012 study was found to be highly cost effective; \$4 in cost per case averted and cost per disability- adjusted life year (DALY) (46). In Gambia, all the health facilities

that offer voluntary counselling and testing as part of routine antenatal services, offer nevirapine free of charge to those women who are HIV positive.

2.5. OVER VIEW OF VOLUNTARY HIV COUNSELLING AND TESTING (VCT)

Much has been known about the prevention of mother-to child transmission (PMTCT) of HIV through antiretroviral therapy and other interventions, in addition to primary prevention of HIV infection among women of child bearing age. These interventions rely substantially on the identification of pregnant women who are HIV positive, therefore VCT is an essential component of PMTCT programmes.

The declaration of commitment, which resulted from the United Nations General Assembly Special Session (UNGASS) on HIV/AIDS in June 2001, highlighted the pressing need for countries to either develop or scale up voluntary HIV counselling and testing services (29). It noted that countries ensure that a wide range of prevention programmes are available, including expanded access to voluntary and confidential counselling and testing in an effort to prevent MTCT of HIV and improve maternal and child survival. Voluntary HIV counselling and testing has become an integral part of HIV prevention and care programmes in many countries and it have been introduced in a number of Sub-Saharan countries where about 63% of women have at least one antenatal visit (47, 48).

Pregnant women have been the target of many sero-prevalence studies as they are thought to provide an accessible cohort for testing and a stable sampling frame(49). The introduction of VCT has thus increased the identification of HIV positive women in many centres (49). In relation to HIV in pregnancy, VCT provides the opportunity for the mother to make informed decisions about disclosure of status and access better care during pregnancy, delivery and the postnatal periods including access to antiretroviral drugs (49).

Literature has shown that most women in high sero-prevalence areas do not know their status and have limited access to VCT (50). It is common in most Sub-Saharan countries for mothers to know their HIV status just before or after delivery (50). One major obstacle to VCT in poor resource settings is the inaccessibility and or inadequacy of counselling and testing centres when antenatal and delivery settings are burdened with staff shortage and overwhelming patient load(50).

2.5.1. Stigma and discrimination

HIV/AIDS related stigma and discrimination ranked among the highest and pervasive barriers to effective utilization of voluntary counselling testing services (51). Stigma and discrimination target and harm those who are least able to enjoy their human rights. In fact stigma, discrimination and human right violation form a vicious circle, generating, re-enforcing and perpetuating each other. Stigma and discrimination increases peoples vulnerability by isolating and depriving them of treatment, care and support (52)

A sero-positive woman is often identified as the person who brought HIV infection into the family, despite the fact that in the majority of cases, women have been infected by their partners or husbands (49). To avoid being identified as HIV positive, women may either refuse HIV test, delay antenatal booking or where the test is done they will decline to collect the results, thus limiting their access to antiretroviral treatment. In a mid term evaluation review of the HIV/AIDS care pilot project in the Gambia, VCT in pregnancy accounted for less than a third of the HIV test and women were diagnosed late in pregnancy (53). A few of those mothers who received nevirapine had opted for formula feeding, or practiced mixed feeding in order to avoid stigma and suspicion that they are HIV positive (53). In a similar study also conducted in the Gambia, between 50% to 60% of participants feared they would be isolated if some one knew that they are HIV positive and 40% men and 46% women respondents feared divorce in these circumstances (54).

2.5.2. Uptake of VCT service

Many VCT programmes are monitored by analysing data on uptake of service, number of people being tested following counselling and rates for collecting HIV results (49). Uptake of services has often been regarded as an important measure of VCT service's success, but it varies widely in operational settings (49). A preliminary result from a large PMTCT programme in Botswana showed a relatively low uptake during the first eight months of operation (55). According to the findings from this survey, this low uptake was due to fear of a positive result, lack of facilities where partners can receive counselling and testing, worry about partner's / husbands reaction and lack of effective treatment available for infected mothers themselves (55).

In Zimbabwe, one hundred an eighty-six women attending antenatal clinic in Chitungwisa were offered VCT as part of their antenatal care. Although most women in this study endorsed the multiple benefits of VCT, uptake was low, with only 23% of

women consenting to VCT (56). In contrast to the above, a study in Thailand that involved 24,465 women attending 27 hospital antenatal clinics showed that 99% of women accepted VCT (56).

Voluntary counselling and testing for HIV has been proven effective as a preventive and control strategy, and it has been shown to result to behavioural change and in improving coping strategies of those individuals who tested positive for HIV (57). In one study conducted in Zambia where exit interviews were carried out with one hundred and twelve pregnant women attending antenatal clinic, 94.8% felt the need for an HIV test so that they can plan their lives and know how to maintain health whatever the test result might be (58). Several factors associated with the acceptance of HIV testing have been documented in other studies; these included a woman's perceived risk of infection and routine presentation for counselling and testing for HIV, provider support, perceived benefits and knowledge of mother to child transmission of HIV (57).

In developing countries, the lack of ARVs and medical and social support services available for people with HIV was reported as one of the reasons for the poor uptake of VCT (56). It is also harder to opt for an HIV test if you know that the population prevalence is high, as you have a large likelihood of getting a positive HIV result. It is therefore urgent to promote and provide or improve access to VCT in areas where MTCT interventions are planned.

Often during counselling women give reasons for refusal for HIV testing a need to consult their husbands/partners before taking that test. In a study conducted in Botswana, men (often regarded as decision makers) and families in general were not involved in PMTCT programmes (59). Their advice against participation in the programme was very often cited as the reason for pregnant women not to agree to HIV testing (59). The current study was therefore designed to determine factors that influence the acceptability of voluntary counselling and testing among pregnant women in the Gambia.

2.5.3. VCT in Antenatal Clinic - entry point for comprehensive care for pregnant women

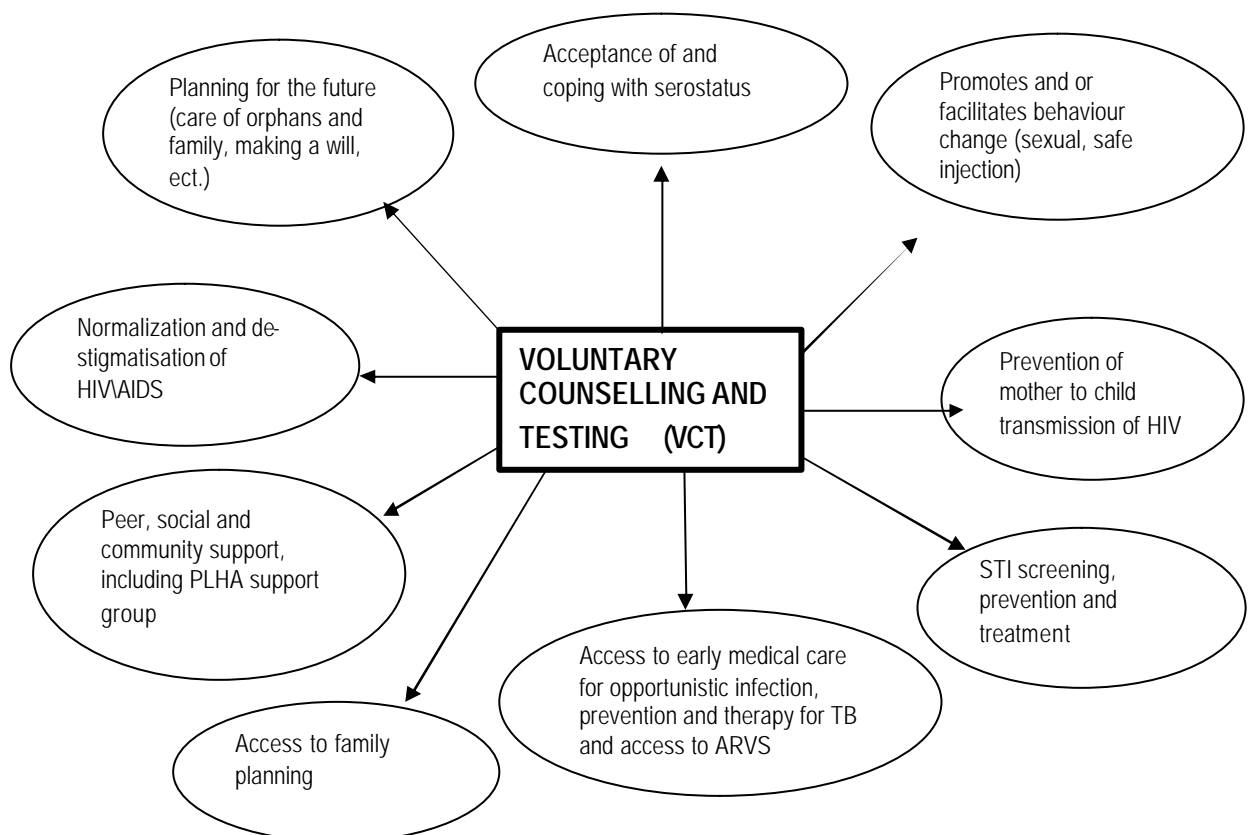
Prevention of mother-to-child transmission of HIV is the major objective of introducing VCT services into the antenatal care setting .Voluntary counselling and testing is the entry point for medical, psychological, legal and sometimes material care and support for all those in need(49).See figure 2

In relation to antenatal setting, it is the entry point for comprehensive, long-term care and support of pregnant women, including clinical care such as treatment and prevention of common HIV related illnesses, including interventions for the prevention of mother to child transmission of HIV, education for prevention of HIV / sexual transmitted infection (STI), and infant feeding support and family planning, including counselling on continuation of current pregnancy and access to safe abortion where this is legal (49).

In order to benefit from the interventions and other advantages of VCT, women must first know and accept their status. Currently most women attending antenatal care in high HIV sero-prevalence areas do not know their status and have no access to voluntary counselling and testing (49). It is therefore prudent to facilitate, promote and provide or improve access to VCT in areas where MTCT interventions are planned. It should be noted that the major objective of introducing VCT services into the antenatal setting is geared towards the prevention of mother to child transmission of HIV (49).

Figure 2: Voluntary Counselling and Testing as entry point for HIV prevention and care

Source: UNAIDS (2002)



2.5.4. Minim conditions for providing VCT in antenatal settings

2.5.4.1. Acceptable, accessible and affordable services

For VCT services to be **acceptable** for women seeking antenatal care, confidentiality must be guaranteed. There should be no coercion, nor even well meaning pressure, to go for testing or to accept MTCT interventions. Informed consent must be the woman's individual decision. VCT services needs to be organised in such a way that stigmatisation is avoided and strict confidentiality maintained. Thus integration into normal mainstream services is important.

For services to be **accessible**, the distance from home to VCT /ANC services and between VCT and ANC services should not be too great; transport needs to be assured when necessary; and opening hours must take into account women's many tasks and duties (49).

For services to be **affordable** to all women in need, they will certainly have to be provided at low cost or even free of charge. In this instance cost effectiveness have to be taken into consideration, hence reducing the number of children born with HIV infection may represent a substantial saving in treatment and care cost whether this has been achieve through ARV treatment, provision of family planning services or termination of pregnancy(49).

2.5.4.2. Additional space to ensure privacy

In many developing countries antenatal care does not take place in privacy (49). However for VCT and MTCT interventions to be executed correctly and effectively, privacy must be ensured. Discussion of the risk factors and sexual relationship is part of VCT for HIV infection, and key information essential to the process will not be elicited unless the woman can discuss these issues in private (49).

2.5.4.3. Adequate numbers of qualified staff

Health care workers in antenatal clinics where VCT services and MTCT interventions are being offered need training on basic information on HIV / AIDS, transmission routes, risk factors, possible and available interventions, as well as the role and processes of pre- and post-test counselling (49). They need to acquire new skills in order to be able to counsel for and administer ARV treatment or other interventions to reduce MTCT as well as infant feeding options. In settings where MTCT intervention is in the infancy stage,

additional staff is required in order to accommodate VCT and ARV interventions. Peer or lay counsellors may also be recruited as this can help reduce pressure on the health staff (49).

2.5.5. Models of HIV Voluntary Counselling and Testing Service Delivery

There are several models of VCT service delivery. The choice of the model(s) depends on the programme's goals, cost, cost-effectiveness, sustainability and affordability, confidentiality and convenience to the clients (49). Models that have been utilized to date include the following: stand-alone models, Public sector / NGO-based model, private sector model, mobile\outreach services and integrated model within existing facilities (49). It is common in any given country to have a combination of these operating to maximize coverage and ensure accessibility, acceptability and affordability of the VCT services to the entire population.

2.5.5.1. Stand-alone (direct sites or free standing model)

In some countries of high sero-prevalence, free-standing sites have been established to provide service to the general community (49). There are many advantages in this kind of services as it represents an official statement of open acceptance, countering stigma and contributing to the "normalization" of HIV (49). There is often maximum coverage and quality and it attracts population groups that would not otherwise attend. Experience from Uganda and Zambia have shown that free-standing sites are more acceptable and popular (49). Literature has also shown that young people and men do not access VCT services when they are located in medical facilities (49).

Challenges associated with free attending sites is that many people may be discouraged from attending because of perceived stigma of visiting a site known to be linked to HIV activities. Another challenge is that if the sites are a distance from Maternal and Child Health services, travelling time and cost may be additional barriers for pregnant women attending antenatal care.

2.5.5.2. Private sector model

In this kind of model HIV testing is readily available in the private sector. It should be noted that women often attend both private and public sector for their health care and as such some attending ANC services will already have been tested at the private and others

may wish to do so. It is not uncommon that counselling and follow-up support may be limited in the private and the services are usually inaccessible to the poor (49).

2.5.5.3. Public sector / NGO-based model: In this model an NGO provides VCT and support services in a public sector health facility where both parties contribute to the management of the VCT services. This type of model may be ideal for women- allowing easy access and cross referrals, and also providing a suitable environment for couple counselling or counselling of partners(49).The “hands on care project” in the Gambia is a good example of an NGO linked with a public health facility in the provision of VCT services.

2.5.5.4. Integrated model within existing facilities

Integrated sites are ones in which VCT is an integral part of ongoing(usually public sector) health care services such as hospitals, sexually transmitted infection(STI) clinics, tuberculosis(TB) clinics, family planning clinics or antenatal care settings(49).

The antenatal care setting has received special focus since it is integral to the prevention of mother-to-child transmission interventions. Before these interventions were developed, the rationale for offering VCT to those pregnant was limited (49) as VCT had not been routinely offered to women attending for antenatal care outside research projects. However, several studies from several developing countries have shown VCT within antenatal care settings to be acceptable. There has been in general, a high up take of VCT when offered in conjunction interventions to prevent mother to child transmission of HIV (60).

Components of integrated model of VCT

Voluntary counselling and testing is part of a continuum between HIV prevention and care. Within this continuum, there are a number of components:-

- The “**classic**” model of VCT offers individual pre-test counselling, testing and individual post-test counselling. Within this component, there are several variations regarding counselling that may be appropriate in different settings. For example, some sites offer group information followed by shortened individual pre-test counselling as an alternative to individual, which can extend the reach of VCT services and can as well reduce cost (61). Some sites offer couples pre and

post-test counselling which is more beneficial because sharing ones HIV status with ones sexual partner is important in changing sexual behaviour for HIV prevention and for preventing re-infection (61).

- The other components are **community education and mobilization:** - These are important because they prepare communities for VCT by increasing awareness on the benefits of VCT, as well as contributing to the reduction of stigma towards People Living with HIV/AIDS (PLWHAs)(61). The success of VCT will rely on challenging the myths and barriers to HIV testing, and gaining the support of the community during the development of the integrated VCT service (61).
- The **support and care component:-** Support and care to those using VCT services must be offered and they include activities such as follow-up counselling, post-test clubs, management of opportunistic infections, social and material support as well as interventions to prevent mother-to-child transmission of HIV(61). It is important to note that VCT is not an end to itself. Integrated VCT services will be most effective within a supportive community environment and along side a range of both medical and social care and support services. Through developing partnerships and networks with other service providers, the sexual and reproductive health provider can develop integrated VCT linked to both HIV prevention and care (61).

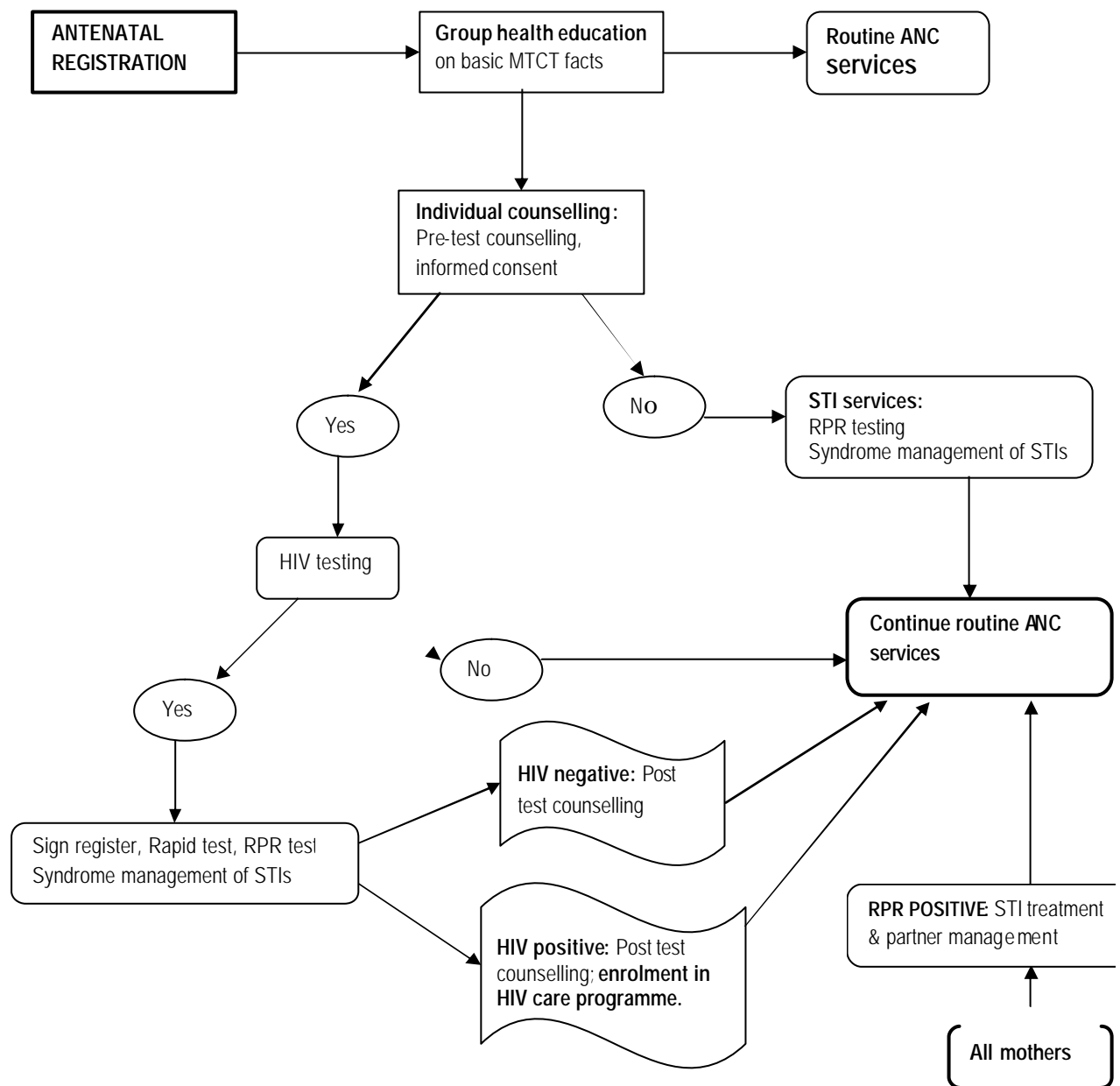
2.5.6. Voluntary Counselling and Testing in the Gambia

The major presumed route of HIV transmission in the Gambia is through heterosexual contact. The transmission of HIV from mother- to- child is the main mode of spread of the infection to children (10). Between 1993 and 1995 the Gambia Government with the Medical Research Council (MRC) initiated a cohort study of antenatal mothers. From this study, the rates of mother to child transmission for HIV-1 and HIV-2 were estimated at 25% and 4% respectively. In a follow up study in 2002, 34% of all mothers identified from 1993 to 1995 had died; 69% of HIV-1 infected children died (10).

Prevention and reduction of mother to child transmission of HIV is a priority area for the government of the Gambia and its partners in development, especially WHO, UNICEF and UNFPA. In a quest to address mother-to-child transmission of HIV in the Gambia, the Department of State for Health decided to include the prevention of mother to child

transmission of HIV into the overall effort to control further spread of HIV infection. Key among these efforts was the integration of VCT in certain antenatal care settings. All pregnant women presenting to antenatal clinics in MTCT facilities are offered VCT services at booking as part of an integrated maternal and child health(MCH) service using an opt in model; see figure 3.

Figure 3: VCT process in the Gambia



Previous experience has indicated the willingness of mothers to request VCT following effective health education (53). In addition to VCT services pregnant women are offered full sexual transmitted infection (STI) services (screening for syphilis and syndromic management for symptomatic STIs). All health facilities that provide MTCT services

have a well trained team of staff consisting of two professional midwives assisted by two or three auxiliaries. They are responsible for providing VCT services, STI care and follow up services for women living with HIV/AIDS (WLWHA). Pregnant Women who opt for VCT are counselled in a private and confidential environment and they are given the option for bringing their husbands or partners for counselling and testing. All the laboratories in the VCT facilities have been up graded and the staff trained in order to facilitate the HIV testing process. The national reference laboratory at the Royal Victoria Teaching Hospital is responsible for the development of quality control measures.

CHAPTER 3: PURPOSE OF STUDY, OBJECTIVES, JUSTIFICATION AND STUDY SETTING/AREA.

3.1. PURPOSE OF THE STUDY

The main objective of this study was to explore and describe factors that influence acceptability of voluntary HIV counselling and testing among pregnant women in Western Health Division of the Gambia.

3.2. SPECIFIC OBJECTIVES

1. To determine knowledge and perception of pregnant women with regard to HIV/AIDS, MTCT of HIV and voluntary HIV counselling and testing.
 - What do pregnant women know about HIV/AIDS and MTCT of HIV including their own risk
 - Is there any difference in knowledge about HIV/AIDS and MTCT of HIV among pregnant women?
2. To determine the proportion of women who have either accepted or refused voluntary counselling and testing during pregnancy.
3. To identify and describe factors associated with acceptability of voluntary HIV counselling and testing among pregnant women in western division.
 - a) What socio-demographic factors are associated with acceptability of voluntary counselling and testing among pregnant women?
 - b) What do pregnant women perceived as barriers\ obstacles, motivators and benefits to effective utilization of VCT services during pregnancy?

3.3. JUSTIFICATION OF THE STUDY

The Gambia is a developing country and the majority of the population are women. These women are the primary care givers of their families. They need adequate information and knowledge to protect themselves from acquiring HIV, and for those

already infected from transmitting it to their infants during pregnancy and the post partum period.

The Gambia has a low prevalence of HIV, but the number of people infected increased yearly among women of child bearing age and among children (10, 11). In light of this, the Department of State for Health has identified promotion of voluntary counselling and testing as an important strategy in preventing or reducing the spread of HIV, especially through vertical transmission. Key among the strategies was the integration of VCT in some antenatal care settings. For women the need to know HIV status is paramount. In a mid-term evaluation report of the HIV/AIDS care pilot project (53), low acceptability of VCT in pregnancy was sited and women were diagnosed late in pregnancy. It is therefore pertinent to conduct such a study in order to explore factors that influence acceptability of the service.

It is also important to note that many studies on HIV/AIDS have been conducted in the Gambia, but none of the authors specifically investigated factors that influenced acceptability of VCT among pregnant women. Also, my personal interest in reproductive health as well as being a midwife ushered me to under take this study.

Another reason is that the Department of State for Health has laid strategies to scale-up VCT services to other regions of the Gambia. It is therefore pertinent to conduct such a study in order to explore factors that influence acceptability of the service.

The information from this study will raise awareness among community members, managers of reproductive health programme and policy makers on those factors that influence women's acceptability of VCT in the Gambia. It is also hoped that the findings will contribute significantly towards the overall strategies designed to prevent or reduce mother to child transmission of HIV in the Gambia and for possible scaling up of the VCT services to other areas of the country.

3.4. STUDY AREA\SETTING

This study was carried out in two districts of Western Health Division of the Gambia (Kombo Central and Kanifing municipality) covering the catchment areas of Brikama and Fajikunda Major Health Centres.

Brikama health centre is a basic comprehensive obstetric care facility located in the Kombo Central District approximately 35 kilometres south from the capital, Banjul. This health facility housed an NGO reproductive health (RH) clinic. The project was a collaborative effort between World Evangelism for Christ (WEC) International, Catholic Relief Services (CRS) and the Department of State for Health of the Gambia. The project is holistic; addressing the problem of HIV not only from a clinical point of view, but the environment of the person leaving with HIV/AIDS (PLHA); - the family and community, including treatment of opportunistic infections, syndromic management of STIs, voluntary counselling and testing, nutrition, home-based care and support through a PLHA support group. It also included community Information Education Communication (IEC) activities involving a cross section of all influential people in the community. Despite the project activities, the Department of State for Health have decided to integrate voluntary counselling and testing services into the existing antenatal care setting of the mother health centre- Brikama Health Centre.

Fajikunda Health Centre on the other hand is located in Kanifing Municipal Council sixteen kilometres south of Banjul, the capital city. This health centre also serves as a basic emergency obstetric care facility and has also integrated voluntary counselling and testing services into the antenatal care setting. Pregnant women from many parts of the division utilise the services of these two health facilities. Thus, the two settings attempted to capture women with diverse educational, ethnical and social characteristics.

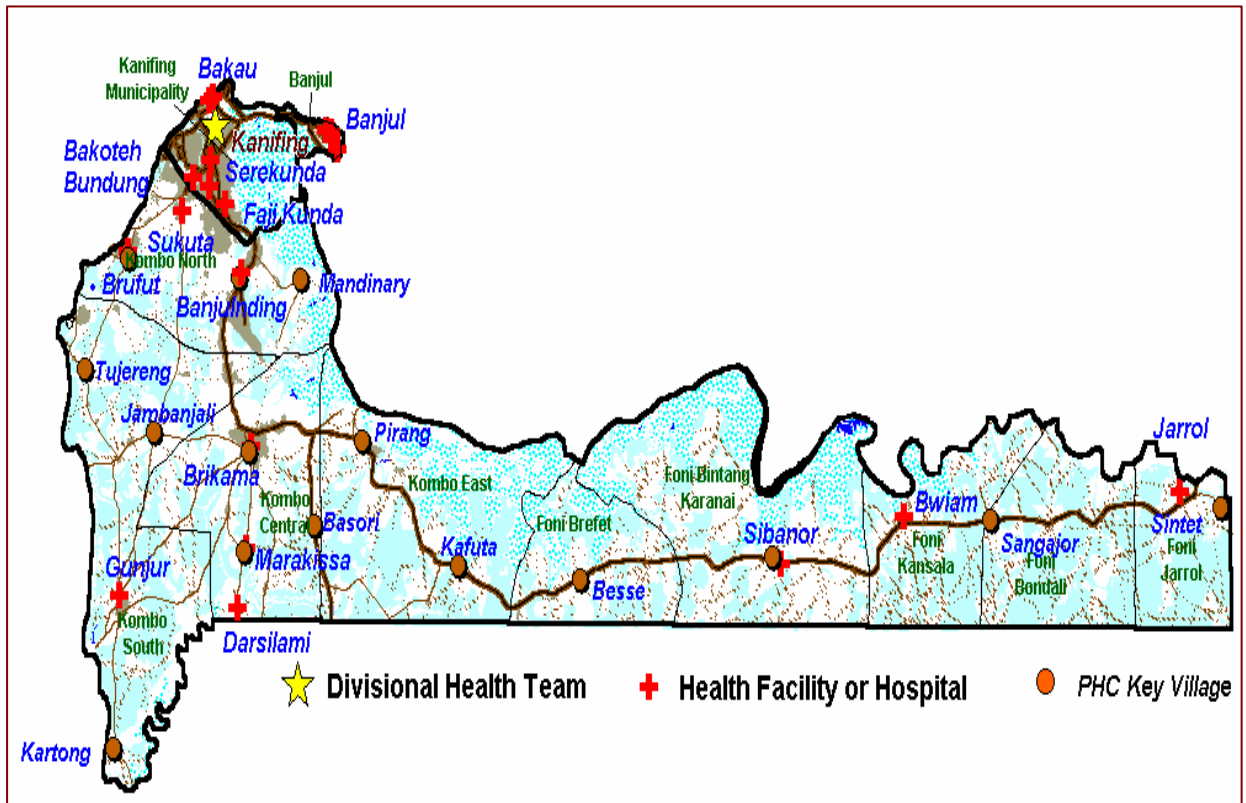
3.4.1. Population and Demographic Characteristics

Western Health Division is the largest division in the Gambia. It comprised of three administrative areas; Banjul City Council, Kanifing Municipality and Brikama Area Council. The division stretches from Denton Bridge towards the capital city to Bruman Bridge at Kalagie in Foni. It is bounded by the River Gambia on the north and Cassamance to the west and south of the country. It is relatively developed and characterized by both urban and semi-urban settings. See figure 4

In 1993 population and housing census, the total population of Western Health Division was 463,131, but current projections estimated the population to be at 902,942 which represents 57% of the country's population with an annual growth rate of 5.9 (12). With reference to the country's poverty situation, about 30% of the population in this health

division are considered very poor (18). Polygamy as in other parts of the country is widely practiced in this division as well.

Figure 4: Map of Western Health Division



CHAPTER 4: STUDY METHODOLOGY

4.1. STUDY DESIGN

A cross-sectional survey was conducted among pregnant women from two health facilities in Western Health Division of the Gambia. The study was facility-based as we interviewed those pregnant women attending clinic for their antenatal care. The advantage of a cross-sectional survey is that all the information is collected at the same time and subjects are contacted once when convenient for them. It also helps to assess variety in the phenomenon under investigation at one specific time (62).

Survey results, especially if a random sampling method is applied, can be generalized to a larger population within known limits of error and is also amenable to rapid statistical analysis (63). A Cross-sectional survey is also suitable for assessing quality of care and determination of knowledge (63). Since one of the specific objectives of this study was to assess knowledge, the use of a cross-sectional survey was well fitting.

One disadvantage of cross-sectional surveys is they cannot assure without further evidence that the sample represent a broader universe. Thus the method of drawing the sample and sample size is critical to the accuracy of the study and its potential for generalizing (63).

There was no previous study in the Gambia about voluntary counselling and testing among pregnant women, therefore a cross-sectional design was also suitable for getting base-line data. The quantitative method was used to help determine the level of knowledge of pregnant women on issues related to HIV / AIDS, MTCT of HIV and to determine women's acceptance of voluntary counselling and testing.

4.2. STUDY POPULATION

The study population were pregnant women attending antenatal services at the time of the study. These women were living within Brikama and Fajikunda areas and they were women of any age or nationality resident in either Kombo Central or Kanifing Municipal Council.

4.2.1. Inclusion Criteria

1. Woman who were pregnant and attending antenatal services at Brikama and Fajikunda Health Centres during the data collection period (August to November 2004)
2. They were pregnant women who have either or not opted for voluntary counselling and testing for HIV.

4.2.2. Exclusion Criteria

1. Women who were not pregnant at the time of the interview.
2. Any woman who declined to participate in the study either before or during the interview process.

4.3. SAMPLE SIZE AND SELECTION

EPI INFO Version 6.04-d was used to determine the sample size, with women of child bearing age in Western Health Division as the sampling frame which is estimated at 312,082 (17). Therefore, by reviewing the report of the Accelerated Response Implementation (ARI) which outlined the status quo of voluntary counselling in the Gambia documented that 80% of pregnant women in Western Division do opt for VCT. The calculation for the anticipated sample size was as below:

		Alpha risk	
Size of population (women within child bearing age)	312,082	()	10%
Desired precision (%)	5.0	(x)	5%
Expected prevalence (%)	80.0	()	1%
Design effect	1.00	()	0.1%
Desired precision (%)		:	5.0
Expected prevalence (%)		:	80.0
Design effect		:	1.0
Confidence level		:	95.0%
Sample size		:	246

Convenient sampling was used to recruit the study participants. Pregnant women were invited to participate when they came to the antenatal clinics included in the study. They were recruited in close consultation with the midwives. The midwives were instructed to invite women of all ages, educational levels, parity and occupation. A total of 246

pregnant women were approached and asked to participate in the interview. Out of the number that were invited, 229 actually participated; (a participation rate of 93%)

4.4. DATA COLLECTION PROCEDURE

4.4.1. Preparation for data collection

a) Securing ethical clearance from the Joint Gambia Government and Medical Research Council Ethical Committee. For this purpose an electronic copy and two hard copies of the research proposal and the curriculum vitae of the principal investigator (PI) were submitted to the chairman of the ethical committee. After all these the (PI) was invited to defend the proposal and comments from the panel thereafter incorporated. Three weeks latter an approval to carry out the study was granted by the committee .

b) Recruitment and training of research assistants. Two midwives and one public health officer were recruited as research assistants. All three had some experience in data collection and one of the midwives had a lot of experience on maternal and child health issues. Another important issue was that all the research assistants had sufficient knowledge on general issues related to HIV/AIDS, MTCT of HIV and the prevention of mother to child transmission programme (PMTCT).

The research assistants were trained in interview techniques for three days prior to pilot testing of the research tools. The training included discussions of the research topic and its purpose, translation of the questions which was in English language into the local languages. Each research assistant was given the chance to explain each question in the way he understood, after which the most appropriate interpretation was adopted by the research team in the three dominant local languages (Mandinka, Wollof and Fulla) in which the questions were asked.

During the time of training, research assistants were instructed to be supportive and to refrain from influencing the responses of the participants through their own opinion. They were also instructed to step away from their roles as health workers during the entire data collection period.

c) Piloting of the questionnaire. The research tool (questionnaire) was piloted on ten pregnant women presenting for antenatal care services at one of health centres in western health division. This health facility is among the three health centres that have integrated voluntary counselling and testing in antenatal care setting. This exercise was essential in

order to check for clarity, the applicability and acceptability of the tool in the local context as well as the time it may take to administer. After the piloting a discussion was held between the research assistants and the principal investigator. Based on the observations made the original questionnaire was slightly modified. The tool was also discussed with key local health authorities of the Department of State for Health before the commencement of data collection.

d) Familiarization visit: Five days before the commencement of data collection, the principal investigator and two of the research assistants made a familiarization visit to the two health centres in which the study was conducted. The officers in charge and midwives at the antenatal clinics were informed about the purpose and objectives of the study. At both health centres permission was granted to carry out the study.

4.4.2. Data collection

Approach used and instrument /tool

The study employed a cross-sectional design. Therefore a quantitative methodology was used to collect data. A face-to-face interview was conducted to collect information from women during their antenatal clinic visits through exit interviews.

A pre-tested structured questionnaire was used to collect data and was administered in the three dominant local languages (Mandinka, Wollof and Fulla). The questionnaire contained both open and close-ended questions and consisted of the following sections (annex 3):

- Socio-demographic information of the respondents.
- HIV/AIDS and MTCT related questions which looked at general knowledge about HIV transmission, prevention and risk perception of the respondents.
- General issues on voluntary counselling and testing
- Breast feeding history and ARV availability and or use.

The reason for using a structured questionnaire was to learn about the distribution of characteristics, understanding the perception and knowledge of respondents with regard to HIV/AIDS, MTCT of HIV and voluntary counselling and testing.

Literature has shown that questionnaires are usually checked for issues related to clarity in pre-testing with a similar group to determine the usefulness and, perhaps the reliability.

It also entailed data collection in a standardized format and is a preferred method of obtaining small amount of information from large numbers of subjects (63). Questionnaires are also easy to administer, manage and can be quickly analysed statistically.

However, there are weaknesses related to this method as little is known about what people actually do and how they experience, perceive and evaluate things. Important information may also be missed, because spontaneous remarks made by the respondents are not recorded or probed (63).

4.4.3. Data handling

All collected data were checked at the end of each interview and cross-checked at the end of the day by the research team. A final cross-checking was always done at night by the principal investigator. The rationale for checking and cross-checking was to see if all information needed have actually been collected as well checking for accuracy and consistency in recording. Each completed questionnaire was assigned a number bearing the name of the person who conducted the interview. This was done in order to seek clarification from interviewer in case of any missing information.

All the data collection forms were handled by the principal investigator. They were kept in a locked cupboard and made accessible only to members of the research team.

4.4.4. Operational definitions

1) Level of knowledge ways HIV can be spread

In this study, this was defined according to the three common ways the respondents thought HIV can be spread. The level of knowledge was assessed through one question and the respondents were asked to mention the three common ways HIV can be spread. After data collection three alternative answers were used for categorizing the level of knowledge. This categorization was done according to the ways respondents thought HIV can be spread. Each correct answer was given one point except don't know which was equal to zero point. Respondents were then scored from zero to three points and level of knowledge was categorized as follows:

- Low knowledge: respondents who scored 0-1 point
- High knowledge: respondents who scored 2- 3 points

2) Level of knowledge on MTCT of HIV

Here again the level of knowledge was defined according to the ways respondents thought are the ways HIV can be transmitted from mother to child. The level of knowledge on MTCT of HIV was examined through one question in the questionnaire and the respondents were asked to state the three ways this can occur.

After data collection three alternative answers were used to for the categorization of the level of knowledge according to the answers given respondents. Each correct answer was given one point except don't which equalled to zero point. The level of knowledge was then categorized as follows:-

- Low knowledge: respondents who scored 0-1 point
- High knowledge respondents who scored 2-3 points.

3) Level of knowledge on HIV prevention

Again in this study, it was defined according to the ways respondents thought HIV spread can be prevented. Also the level of knowledge was examined through one question in the questionnaire and respondents were asked to mention the three basic ways (the ABC) of preventing the spread of HIV. After data collection three alternative answers were used for the categorization of the level of knowledge. Here also each correct answer was given one point except don't know that equalled to zero point and the respondents were then scored from zero to three points. The level of knowledge was then categorized as follows:

- Low knowledge: respondents who scored 0-1 point
- High knowledge: respondents who scored 2-3 points.

4) Level of knowledge on reducing or avoiding MTCT

This was defined as the ways respondents thought one can avoid or reduce MTCT of HIV. Here also one question was used to determine the level of knowledge and the respondents were asked to mention **three** ways of reducing MTCT.

Each correct answer was given one point except don't know which equalled to zero point and the level of knowledge was finally categorized as follows:

- Low knowledge: respondents who scored 0-1 point

- High knowledge: respondents who scored 2- 3 points.

5) Level of education

The respondents were asked to state the highest level of education they have attained and the responses given ranged from no education to university education. After data collection these responses were categorized into two; formal education and no formal education:

- **Formal education:** In this study it was defined as those respondents who attended western type of education; that is those respondents who attended primary, secondary (junior/ senior), technical institutions, college/ university.
- **No formal education:** This was defined as those respondents who never went to school or those who have madarassa (Arabic) education.

6) Voluntary counselling and testing

Voluntary HIV counselling and testing is the process whereby an individual undergoes counselling to enable him/her to make an informed decision about being tested for HIV.

7) Waiting time:

In this study, we defined this as the time from which the pregnant woman entered the clinic until the time she was attended to by the nurse or counsellor.

8) Stigma:

This is the term that signifies social disapproval that may have economic, social and psychological consequences, such as discrimination, social isolation as well as negative effect on the individual's self-image and expectation.

9) Informed consent:

This is a voluntary consent given by an individual to participate in an investigation / research after being informed of the purpose, methods, benefits and or alternatives.

4.4.5. Data analysis

After the data collection process was successfully completed, all the data was entered into the computer and routine checking and data cleaning performed. The data was analysed with the Software Package for Social Sciences (SPSS) version 11.0. Percentages and or proportions were calculated to show the distribution of the study population by socio-

demographic characteristics. Percentages were also used to describe acceptability and non- acceptability of pre-test counselling and HIV testing among the participants.

Chi-square, Kruskal- Wallis and Mann Whitney tests were done depending on the number of groups used for the statistical analysis. The statistical significant level was set at p- value less than α equal to 0.05. These non-parametric test methods were used to identify the statistical difference in the level of knowledge on HIV and MTCT against some socio-demographic variables. To elicit the association between “being tested for HIV” and socio-demographic variables, a binary logistic regression was used. The odds ratio and 95% confidence intervals (CI) were calculated. All the socio-demographic variables identified were entered once in the model and ran simultaneously.

4.4.6. Ethical consideration

The project proposal was evaluated by the Ethical Review Committee in Norway and the Joint Gambia Government and Medical Research Council Ethical Committee. Both committees have ethically cleared the project.

HIV/AIDS is a very sensitive issue anywhere, therefore real information about individual HIV status which some of the women would know was not obtained in this study. Prior to the interview, the purpose and objectives of the study were explained to every participant in a language that she understood. Their decision to participate in the study was on the basis of informed consent.

Participation in this study was voluntary, free from coercion and participants were told that they have the right to refuse or provide information as well as to withdraw at any period of the investigation. They were assured that no penalty will be attached to such decisions. The participants were assured that the information to be collected would be treated in confidentiality and it would not be linked to anyone; that it would be presented in such a way that it could not be traced to a specific person.

Oral consent was sought from all the participants as they were not keen to sign or thumb-print the consent form. This is often the case in Gambia where majority of people are sceptical about signing or thumb printing a consent form during research.

After the interview was completed, the questionnaires were kept in a locked cupboard and only the research team had access to them. The entire interview process was conducted in private rooms in the health care facility. All the pregnant women recruited in the study volunteered to participate.

CHAPTER 5: FINDINGS

In this chapter three main parts are discussed; description of the socio-demographic characteristics of respondents; knowledge about HIV and MTCT and issues related to voluntary counselling and testing. Analysis of responses on breast feeding and awareness of ARVs was done even though they were not part of the objectives of the study.

5.1. SOCIO-DEMOGRAPHIC CHARACTERISTICS

A total of 229 pregnant women presenting for their antenatal care service from two health centres in Western Health Division were involved in this study. The mean age for the respondents was 25.0 with standard deviation (SD) 5.7 and a minimum and maximum age of 15 and 43 years respectively with a range of 28 years.

The married group, two hundred and fifteen persons, constituted the highest proportion (94%) and two thirds (63%) are in monogamous marriage. The majority of the respondents (68%) are also house wives. 83 out of 229 respondents (40%) belonged to the Mandinka ethnic group, Jola 25% while Fulla and Wollof accounted for 15% and 13% respectively. Islam being the predominant religion in the Gambia, 95% of the women affiliated to this religion. The majority of the respondents (44%) had no formal education and only 3% had either college or university education (annex 1).

5.2. KNOWLEDGE ABOUT HIV / AIDS and MTCT

5.2.1. Level of knowledge on three common ways HIV is spread (n =228)

All the respondents in this study were aware of the existence of HIV/AIDS, but we do not know to what extent this awareness represents a real deep knowledge. In order to determine their level of knowledge the respondents were scored according to the answers they gave concerning the question about the three common ways HIV can be spread. Two categories were used to categorize the level of knowledge of respondents on how HIV is spread. See section 4.4.4.

The majority of the respondents (65%) were categorized with high knowledge on the three common ways HIV can be transmitted. The level of knowledge on the three common ways HIV can be spread was further compared among women of different educational level, residence status and parity using the chi-square test. There was a significant difference in level of knowledge between women with no formal education

and those who had formal education ($X^2 = 6.019$, $df = 1$, $p = 0.01$). There was no significant difference in level of knowledge on the ways HIV can be spread between women who reside in Konbo Central and those in Kanifing Municipal Council ($X^2 = 2.43$, $df = 1$, $p = 0.11$), although (70%) of the women in Kanifing Municipal Council were categorized with high knowledge compared to 59% of those who live in Kombo Central.

However, when level of knowledge on ways HIV can be spread was compared between different parities, 72 % of the respondents of parity four and above; 65 % within parity 2-3 and 62 % within parity 0-1 were categorized with high knowledge. Again the observed difference was not statistically significant ($X^2 = 1.609$, $df = 2$, $p = 0.44$). Table 2

5.2.2. Level of knowledge on three ways HIV can be transmitted from mother to child (n = 224)

The majority of the respondents (98%) knew that an HIV infected mother can transmit the virus to her baby. Based on this, a score was attributed to each respondent according to the responses they gave on the question about the three common ways HIV can be transmitted from mother to child. 51% of them were categorized with high knowledge on the three ways HIV can be transmitted from mother to child while 49% were categorized with low knowledge.

The level of knowledge on ways HIV can be transmitted from mother-child was then compared among women of different marital status and ethnic groups using chi-square and the Mann-Whitney tests. The Mandingo ethnic group have a higher level of knowledge on MTCT than their Jolla counterparts ($z = -2.00$, $p = \text{value } 0.05$). No significant difference in level of knowledge on MTCT was observed between the single and married women ($X^2 = 0.868$, $df = 1$, $p = 0.35$), although a higher percentage of the married women (52%) were categorized with high knowledge when compared to 36% of the single respondent.

Table 2: Level of knowledge on three ways HIV can be spread according to socio-demographic variables

Characteristics of respondents	Level of knowledge				Total		P-value
	High knowledge No	%	Low knowledge N	%	N	%	
District of residence							
Kombo Central	64	59%	44	41%	108	100%	0.11
KMC	84	70%	36	30%	120	100%	
Sub-total	148	65%	80	35%	228	100%	
Parity of respondent							
0-1	69	62%	43	38%	112	100%	0.44
2-3	41	65%	22	35%	63	100%	
4+	38	72%	15	28%	53	100%	
Sub-total	148	65%	80	35%	228	100%	
Education of respondent							
No formal education	55	56%	44	44%	99	100%	0.01
Formal education	93	72%	36	28%	129	100%	
Sub-total	148	65%	80	35%	228	100%	

5.2.3 Level of knowledge on three basic ways HIV can be prevented-ABC messages (n = 228)

Respondents were asked to state the three basic ways HIV transmission can be prevented. Again two categories were used to determine their level of knowledge on this issue. The majority of them (61%) were categorized with low knowledge.

The level of knowledge on HIV prevention was afterwards compared among respondents of different educational level, marital union (polygamous or monogamous), and age groups using the chi-square test while the Mann-Whitney test was done for differences in occupation. From the chi-square analysis, no significant difference in level of knowledge was observed among the groups that were compared. On the other hand, house wives were less knowledgeable than the civil servants on the three basic ways can be prevented ($z = -2.09, p = 0.04$).

5.2.4 Misconception relating to HIV transmission (n = 227)

To determine their knowledge on misconceptions about HIV transmission, respondents were asked during the interview to either agree or disagree with the statement that 'HIV virus can be transmitted through mosquito bite'. 45% of the respondents agreed with the statement that HIV can be transmitted through mosquito bite. Other misconceptions that respondents believed could transmit HIV included transmission through sharing food 15% and kissing (39%).

5.2.5 Perceived susceptibility to HIV infection (n = 228)

The Majority of the respondents (55%) did not perceive themselves to be at risk of being infected with HIV. Perceived susceptibility was not significantly related to age of the respondents, although respondents aged 35 years and above had the highest proportion of those who perceived themselves as being susceptible. Concerning marital status and type of marital union, no statistical difference was observed in all these groups, but respondents who are married and those in polygamous relationship have the highest percentage of those who perceived themselves susceptible. (Table 3)

Table 3: Perceived susceptibility to HIV according to demographic variables

Variable	Risk of getting HIV		P-value
	Yes (%)	No (%)	
Parity of respondent			
0-1	47/111 (42%)	64/111 (68%)	
2-3	28/63 (44%)	35/63 (56%)	0.51
4+	28/54 (52%)	26/54 (48%)	
Marital status			
Single	6/14 (43%)	8/14 (57%)	1.0
Married	97/214 (45%)	117/214 (55%)	
Marital Union **			
Polygamy	36/78 (46%)	42/78 (54%)	0.97
Monogamy	61/136 (45%)	75/136 (55%)	
Age of respondent			
15 – 24	51/113 (45%)	62/113 (55%)	0.48
25- 34	40/94 (43%)	54/84 (57%)	
35+	12/21 (57%)	9/21 (43%)	

** 14 of the respondents who are single were excluded from the analysis

5.3. ISSUES ON VOLUNTARY HIV COUNSELLING & TESTING

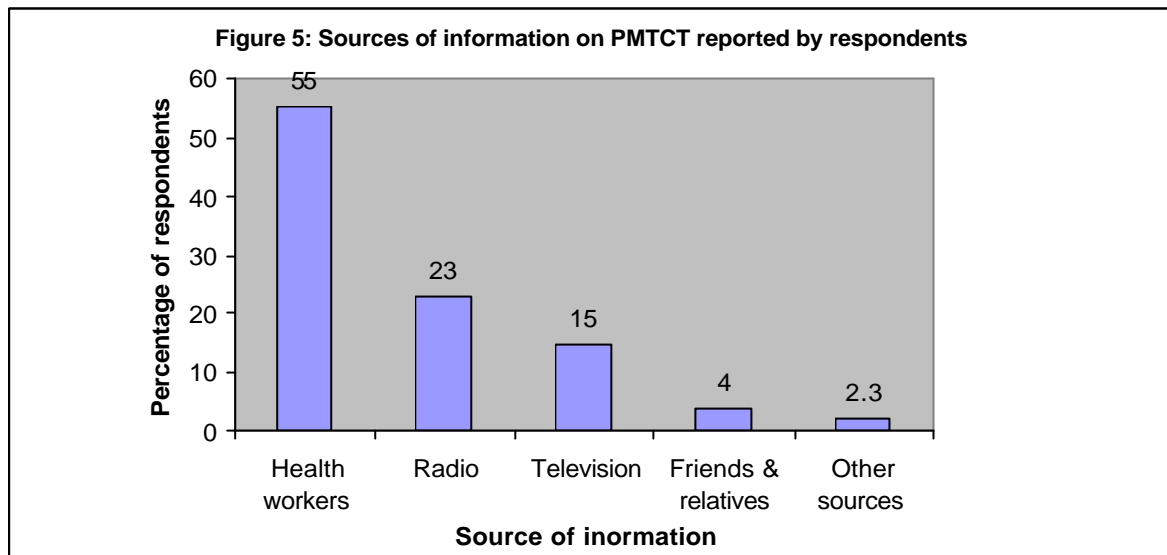
5.3.1. Awareness of PMTCT programme (n = 229)

Most of the respondents have heard of the PMTCT programme. Of the 229 respondents, only (2%) have never heard of the programme before. Of those who have heard about the PMTCT programme, 67% received the information in their current pregnancy while 34% received it before they became pregnant.

5.3.2. Source of information on PMTCT programme (n =225)

Respondents who received information regarding PMTCT either before or during the current pregnancy were asked to specify the most frequent source of the information. Health workers, radio, television, friends/ relatives were ranked first, second, third and

fourth respectively as sources of information. More than half of the respondents mentioned health workers as the most common source of information. 23% and 15 % cited radio and television respectively as the source of information on PMTCT programme. However, few respondents mentioned channels such as friends/relatives, workshops and or seminars. See figure 5



5.3.3. Voluntary Counselling and Testing

Respondents were asked whether they have gone through the process of pre-test counselling during their antenatal clinic visit which is the basis toward decision for an HIV test. Out of 229 respondents, 92 % have done pre-test counselling while 8 % declined to go through the process .

5.3.3.1. Uptake of service (HIV testing n= 211)

Of the 211 women that were offered pre-test counselling, (184; 87%) have actually done an HIV test. More than half of the respondents stated confirming ones HIV sero-status and getting ARVs to protect the child; and to prolong own life as the main reason or motivation for taking the test. Others were compelled by health workers to go to the laboratory for a blood test (table 4).

However, for those who did not consent to HIV testing the main reasons were; fear of divorce if result is positive 37 %(10/27), a need to consult husband/ partner 33 %(9/27), fear of being rejected or abandoned by family members 19% and fear of knowing status 11%.

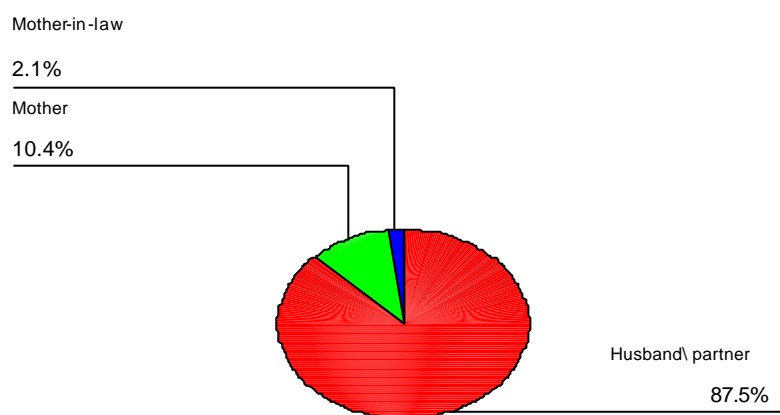
Table 4: Reasons for taking an HIV test as reported by respondents.

Reasons for taking HIV test	Number	%
<ul style="list-style-type: none"> To know my HIV status and get ARV drug to protect my child in case I am found to be HIV positive 	106	57.6
<ul style="list-style-type: none"> To know my status and get medication prolong my life 	69	37.5
<ul style="list-style-type: none"> Was told by the nurse to go the laboratory blood test 	8	4.3
<ul style="list-style-type: none"> Because other pregnant women are doing the test 	1	.5
Total	184	100.0

5.3.3.2. Decision making toward HIV testing (n= 184)

Concerning the question as to whether the decision for the HIV test was made independently, 74% of the participating women made the decision for the HIV test on their own, while 26 % have consulted somebody before taking the test. Of those who did not make the decision for the test on their own, 88 % (42/48) have first consulted their husbands / partners while 10 % (5/48) have first consulted their mothers. Mother in-laws were also consulted by some of the respondents (**figure: 6**)

Figure 6: Whom respondent first consulted before being tested for HIV



Respondents were asked to mention only one person

Ability to make own decision concerning HIV testing was compared among women with different parity, marital status, age groups and marital union to elaborate difference response patterns. There was no significant difference in decision making toward taking an HIV test among respondents of different socio-demographic variables, but respondents of high parity (parity four and above), those who are single and respondents within the age group of 25-34 years has a high percentage of those who have decided HIV testing on their own (table 5).

Table 5: Decision- making on HIV test according to: age, marital status, parity and type of marital union of respondents.

Variable	Decision for HIV test mad by self		Total (%)	P-value
	Yes (%)	No (%)		
Parity of respondent				
0-1	61 (68%)	29 (32%)	90(100%)	0.10
2-3	40(75%)	13(25%)	53(100%)	
4+	38(85%)	6(15%)	41(100%)	
Marital status				
Single	8(80%)	2(10%)	10(100%)	0.65
Married	128(74%)	46(26%)	174(100%)	
Marital Union *				
Polygamy	49(75%)	16(25%)	65(100%)	0.80
Monogamy	79(72.5%)	30(72.5%)	109(100%)	
Age of respondent				
15 – 24	61(68.5%)	28(31.5%)	89(100%)	0.60
25- 34	65(80%)	16(20%)	81(100%)	
35+	10(71%)	4(29%)	14(100)	

*10 respondents who are single are excluded from the analysis

5.3.3.3. Association between actual HIV testing and some socio-demographic variables

The socio-demographic factors found to be significantly associated with HIV testing was place of residence of the respondent (semi-urban or urban) and type of marital union (polygamous or monogamous). Those respondents residing in urban setting and those in polygamous marriages were more likely to accept HIV testing than their semi-urban and monogamous counter parts respectively. Although actual HIV testing was not found to be significantly associated with marital status, the married have a slightly higher percentage of those who accepted HIV testing (table 6).

Table 6: Association between socio-demographic characteristics and HIV testing

Characteristics	no	% accepted HIV test	OR	95% CI	P- value
Marital status					
Single	12	10(83.3)	1.39	0.29- 6.72	0.68
Married	199	174(87.4)			
Marital union #					
Polygamy	71	65(91.5)	3.29	1.07-10.10	0.04
Monogamy	128	109(85.2)			
Residence					
Kombo Central	97	77(79.4)	0.14	0.05- 0.41	0.000
K M C	114	107(93.9)			

▫ Single respondents excluded from analysis

5.3.3.4. Return for HIV test result (n=184).

The respondents were asked if they have collected their HIV test result after they have tested. In this question the individual HIV status was not asked for. Also they were asked to state the reasons that motivated them to collect the result and reasons preventing them. These were open-ended questions and the responses were categorized after data collection. The respondents were further asked whether the results were given the same day they were tested. Out of 184 respondents tested for HIV, 91 % have already collected the test result as at the time of interview, while 9 % have not. Only one respondent did not answer this question. None of the respondents who were tested received their result the same day.

For those who collected the HIV test result, the need to know HIV status and be offered ARVs if they are found positive and being told by nurses to go and collect the result were some of the main reasons. On the other hand, the main reasons for failing to collect result were; waiting for the appointment date, fear of positive result, and shortage of test reagents (table 7)

Table 7: Respondent's reasons for and not collecting HIV test result

1: Reasons for collecting HIV test results	Number (n)	Percentage (%)
<ul style="list-style-type: none"> Want to know my status and be offered drugs if Result is positive 	149	89.8%
<ul style="list-style-type: none"> I was told by the nurse to do so 	12	7.2%
<ul style="list-style-type: none"> Confident that I don't have HIV 	5	3.2%
Total	166	100%
2: Reasons for not collecting HIV test results	Number (n)	Percentage (%)
<ul style="list-style-type: none"> Waiting for the appointment date given to me 	8	47.1%
<ul style="list-style-type: none"> Fear of a positive result 	5	29.4%
<ul style="list-style-type: none"> The result is not ready due to shortage of reagents 	3	17.6%
<ul style="list-style-type: none"> Was not told to come for the result 	1	5.9%
Total	17	100%

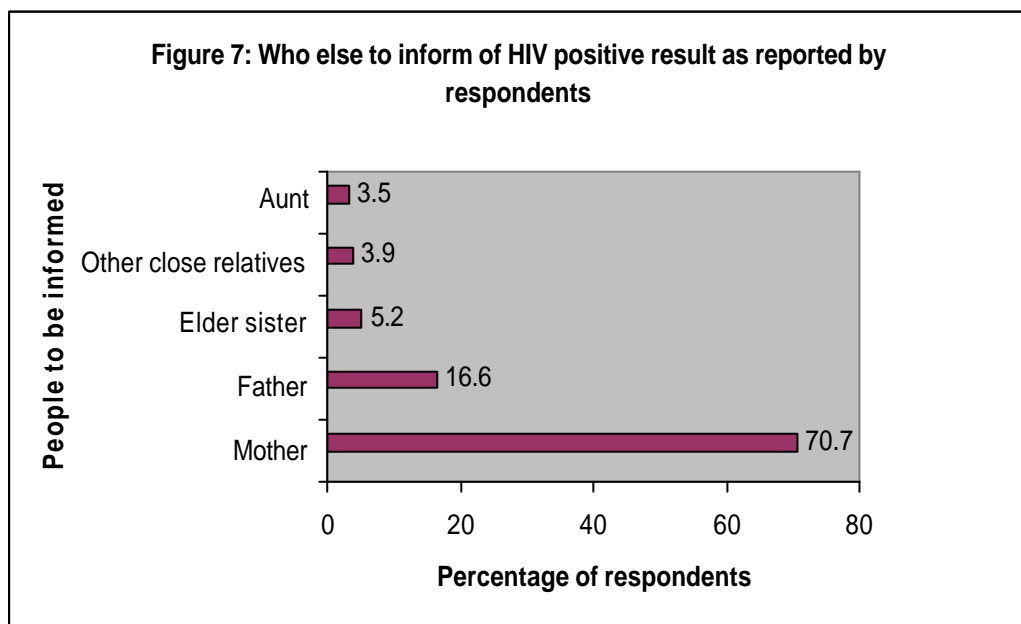
5.3.3.5. Intend disclosure of sero-status (n= 225)

Breaking the news or sharing ones sero-positive status is usually associated with different emotional reactions; thus, HIV positive individuals are encouraged to share their result with someone they trust and who can provide support to them.

Respondents were asked the hypothetical question as to whether they will tell their husbands or partners the result if they were found to be HIV positive. The majority (97 %) would inform the husband or partner, about 2 % will not and 1% said they don't know.

For those who will not reveal the result to their husband/ partner, half of them feared that they might be blamed for being HIV positive while the other half feared they might be divorced

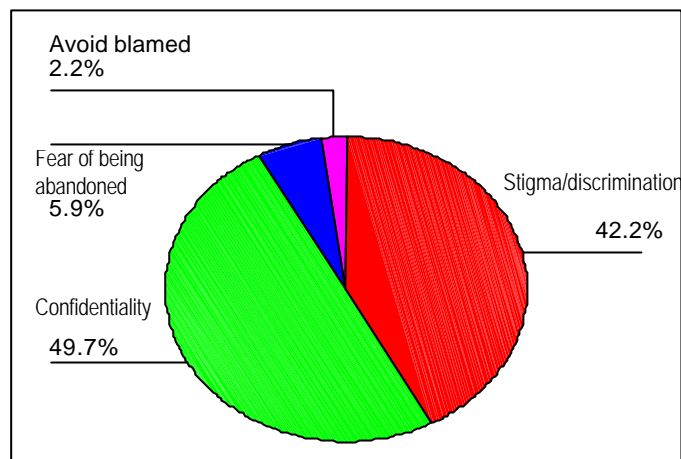
Further more, respondents were asked to state who else they would share the result with apart from the husband or partner, and who they would never tell. An overwhelming majority would inform their mothers, while others intended to inform the fathers and elder sisters in case of a positive result (Figure 7). However, a little over two thirds of the respondents (71%) would never inform their neighbours about an HIV positive result while 17% would not share the results with their co-wives.



The respondents were further asked another hypothetical question as to whether they will discuss their status openly in the community if they were found to be HIV positive. The majority of them 80 % (185/229) would not, 16% said they would and 4% don't know.

Of those who will not discuss their HIV positive sero-status openly in the community, confidentiality, fear of being stigmatized/discriminated; fear of being abandoned/rejected and fear of being blamed were some of the reasons given (figure 8)

Figure 8 : Reasons for not discussing HIV sero-positive status openly in community (n = 185)



5.3.3.6. Introduction of HIV testing in antenatal clinics (n = 229)

Introduction of HIV testing as a routine in antenatal clinic is an entry point for comprehensive, long-term care and support of pregnant women, including clinical care such as treatment and prevention of common HIV related illnesses, including interventions for the prevention of mother to child transmission of HIV (49). On that note, respondents were asked whether every woman should be given the opportunity to undergo voluntary counselling and testing during pregnancy.

The majority of the respondents, (76 %) felt that VCT is important so every pregnant woman should get the opportunity. Concerning VCT being offered to husbands/partners, 75% shared the opinion that their husbands/partners should also go through the VCT process, and 14 % said they should not, while 11% of the respondents don't know.

Further more, respondents were asked to state whether it would be easier for them to undergo VCT as a couple. Nearly two thirds of the respondents (74%) responded in the positive, 22 % said this would be difficult for them while 4 % were not sure. Further analysis was done to compare the responses of those respondents in polygamous and monogamous marriage regarding couple counselling. 81 % of respondents in monogamous and 61 % of those in polygamous marriage believed that it would be easier for them to undergo VCT as a couple than as a single person. The difference was statistically significant ($X^2 = 11.466$, $df = 2$, $p = 0.003$). Table 8

Table 8: Respondents opinion of couple counselling for HIV testing according to type of marital union

Type of marital union **	VCT as a couple			Total
	Yes	No	Not sure	
Polygamous	48 60.8%	27 34.2%	4 5.1%	79 100.0%
Monogamous	110 80.9%	20 14.7%	6 4.4%	136 100.0%
Total	158 73.5%	47 21.9%	10 4.7%	215 100.0%

** 14 respondents who are single are excluded from the analysis

5.3.3.7. Agreement and disagreement on statements on the Impact of HIV testing on the quality of care offered to women (n=229)

The respondents were asked about their agreement and disagreement on two statements in relation to the impact of HIV testing on pregnant women. Nearly all the respondents (94%) were of the opinion that women would receive better care or services once their status is known. Stigmatization was an issue raised by half the respondents, while 45% felt that it was not an issue to worry about (table 9).

Table 9: Degree of agreement on statements about the impact of HIV testing on women

Statement	Degree of agreement										Total	
	Strongly agree		Agree		Strongly disagree		Disagree		Not sure		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Introducing HIV testing as part of Routine antenatal care could result to Better Care for the mother if her HIV status is Known	136	59%	80	35%	3	1%	7	3%	3	1%	229	100%
Introducing HIV testing as routine antenatal care could result to stigmatization of the woman if she is HIV positive **	51	22%	69	29%	45	20%	57	25%	8	4%	228	100%

** One respondent did give her opinion to the statement

5.3.3.8. Views of respondents concerning the pre-test counselling process (n = 211)

About two third of the respondents said the time taken by the counsellor was adequate. One quarter felt it was a very long discussion, but 11% of the women still wanted more time with their counsellor.

Concerning their agreement on some statements related to the pre-test counselling process, the majority of the respondents shared the statement that the information given during pre-test counselling was adequate and understandable enough for them to make a decision about being tested for HIV.

They also agreed that their decision for the test was based on informed consent, with options given as to whether or not to take an HIV test. On the issue of whether health workers/counsellors have time to answer questions during counselling process, two third of the respondents felt that their questions were answered, but 31% still wanted more improvement on this area as most their questions remained unanswered (table 10)

Table 10: Degree of agreement on some statements about pre-test counselling

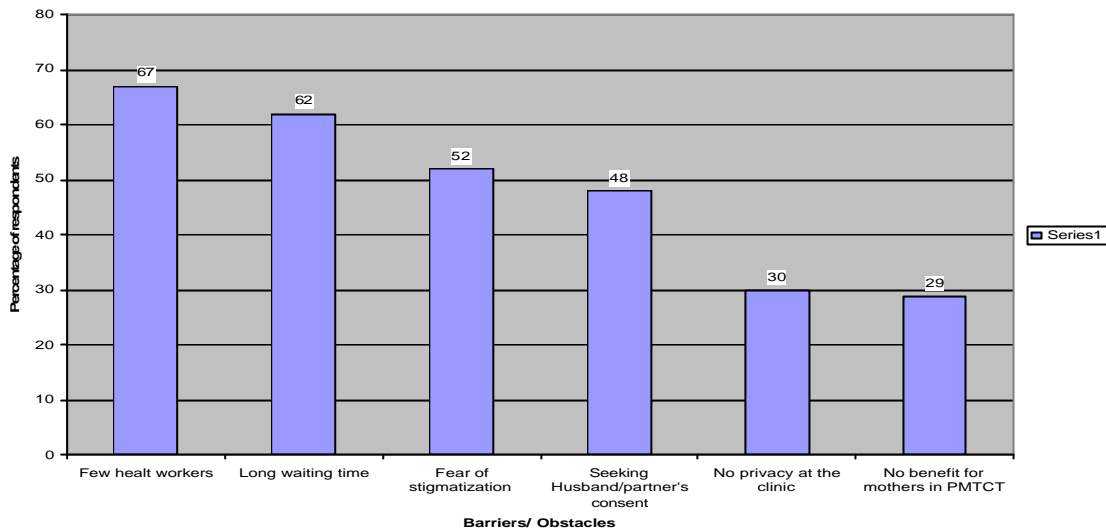
Statement	Degree of agreement										Total	
	Strongly agree		Agree		Strongly disagree		Disagree		Not sure			
	N	%	N	%	N	%	N	%	N	%	N	%
The information given is adequate enough for you to make a decision as to whether to take an HIV test or not	110	52%	89	42%	5	2%	7	3%	0	0	211	100%
You were given enough time to make an informed decision as to whether to take an HIV test or not.	109	52%	81	38%	13	6%	6	3%	2	1%	211	100%
You were given options and allowed to make your own decision about an HIV test	0	0	193	91%	0	0	18	9%	0	0	211	100%
Health workers (counsellors) have time to answer questions you asked during counselling	0	0	146	69%	0	0	63	31%	0	0	221	100%

5.3.3.9. Perceive Barriers / obstacles to effective utilization of VCT service (n = 229)

The respondents were asked to give their opinion about the statements they perceived as barriers and or obstacles to effective utilization of VCT services. Acute staff shortage especially counsellors, long waiting time at the antenatal clinic, and fear of being stigmatized were highlighted by many respondents as potential barriers. Seeking consent from partners and the lack of perceived benefit for mothers in the PMTCT programme

were also considered as potential barriers by 48% and 29% of the respondents respectively (figure 9).

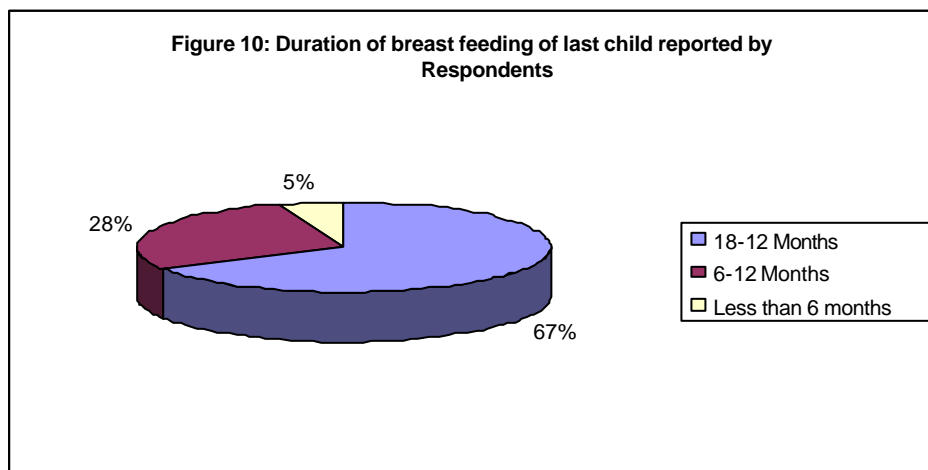
Figure 9: Perceived barriers /obstacles to effective utilization of VCT services as reported by respondents



5.3.4. Breast Feeding History and Infant Feeding Options for HIV Positive Mothers

5.3.4.1. Breastfeeding history (n= 169)

The majority of respondents breastfed their last child up to two years while 28% breastfed for a period of 6-12 months. Only 5% of the women interviewed breastfed their last living child for less than six months. We did not probe to establish the reasons for stopping breastfeeding at less than six months (Figure 10).



5.3.4.2. Infant Feeding Options for HIV Positive Mothers (n = 229)

The respondents were asked a hypothetical question; “What infant feeding method they would adopt if they were found to be HIV positive?”. About half of the respondents interviewed would prefer to use breast milk substitutes rather than adopting breastfeeding if they were found to be HIV positive. However, 22% would breast feed normally, 18% mixed feeding, whereas 11% would breastfeed for only six months and then wean the child.

5.3.5. Awareness of Antiretroviral Drugs: One hundred and thirty-four (59%) of the respondents were aware of the existence of antiretroviral drugs. Awareness of the existence of these drugs was not significantly related to level of education of the respondent, even though those with formal education have a high percentage of awareness (64%). However, the majority of the respondents, 65% don't know where they can access the antiretroviral drugs in case they were found to be HIV positive.

CHAPTER 6: DISCUSSION (METHODOLOGICAL ISSUES; FINDINGS), CONCLUSIONS, RECOMMENDATIONS and RESEARCH

6.1. METHODOLOGICAL ISSUES

Some methodological issues related to the present study will be discussed in this section as they could be potential threats to the validity of this thesis. The methodological concerns that were singled out in this thesis are as follows: - the adoption of a health facility based study design, the use of multiple interviewers, selection criteria of participants for inclusion in the study and data collection method and instrument used.

6.1.1. Health facility-based study:

Health facility-based studies may be easy to carry out, but it should be noted that the results generated from such studies may not be representative of the entire population. There may be a group of people in the community that does not utilize the various services provided by the health facility for a specific reason. These groups of people may be different from those who utilize the services, therefore limiting our ability to generalizing the findings to the entire female population of the Gambia.

6.1.2. Multiple interviewers:

The use of multiple interviewers could bring interviewer-induced inconsistency and variability in answers reported by respondents. The interviewers may have influenced the responses of the women, and they may even apply different strategies in the way they probe into open-ended questions as well as in interpreting the meanings of some of the words in the local languages.

As all the interviewers were male health workers (two midwives and a public health officer) who had sufficient knowledge on general issues related to HIV/AIDS, MTCT of HIV and the prevention of mother-to-child transmission programme (PMTCT), they may have developed strong opinion to some of the questions, thus influencing the responses of the women. It has been documented that health care workers; nurses, doctors or social workers are usually not good at interviews in research situations. They have been trained as providers of care to patients and clients, thus they often have problems in assuming the task of collecting standardized data (64).

To minimise this interviewer effect, research assistants were instructed to step away from their roles as health care providers and to refrain from influencing the responses of the participants from their opinion. On that note, it would be of great benefit if future research in this area could utilize interviewers with no medical background and put more emphasis on general interview technique during training.

The use of one main interviewer tends to ensure consistency in data collection, thus improves reliability but one person cannot cover very many respondents. Also to reduce variability among the interviewers and ensure consistency in data collection, proponents argued that quality training is one of the most critical components to bear in mind (65).

6.1.3. Representativeness

Another methodological concern in this study was the way participants were recruited. Mothers were recruited and invited to participate while attending antenatal clinics, and convenient sampling process was employed.

Due to logistics and practical situations at the clinics included in the study, we were not able to randomly select pregnant women as they came, but they were recruited in close collaboration with the midwives. These midwives were instructed to invite women of all ages, parity, educational and economic levels in order to ensure a wide range of representation of pregnant women in the community. We do feel that this method of recruitment process (convenient sampling) might have resulted in a selection bias; therefore the results of this study cannot be generalized to whole female population of Gambia, but it reflects a variety of responses.

6.1.4. Data collection approach / tool

“Reliability” is the term used in social sciences in assessing the extent to which a measurement yields the same results each time it is repeated (63). It should be noted that the present study had employed only one data collection approach which does not allow for testing the reliability of the data. A structured questionnaire was used to collect the data. Literature has shown that important information is usually missed with structure questionnaires because spontaneous remarks by respondents are not recorded or probed (63). The pre-testing of the questionnaire before the data collection could to some extent increased the validity and reliability of the results.

To further increase the validity of the results, the researcher could have utilized more than one data collection approach in this study. Observation, especially during the pre-test counselling process could be an effective approach when combined other methods such as interviews. However, repeated interviews with the same data collection tool or method yield same results, thus you can “trust” your scale. In light of the above observations and or limitations that have been discussed, it would be worth mentioning for one to exercise a bit of caution when quoting or interpreting the results of this study. However, this information may serve as useful baseline data that could guide subsequent or even more elaborate studies addressing the same issues.

6.2 DISCUSSION OF FINDINGS

6.2.1. Knowledge about HIV / AIDS and MTCT

Public awareness of HIV / AIDS is an important prerequisite for behavioural change. Levels of public awareness provide a measure of impact of past information campaigns carried out by governments, non-governmental organizations and mass media. In our study, awareness was examined by asking respondents whether they have ever heard of HIV/AIDS; those who answered ‘yes’ were considered to be aware. All of them answered ‘yes’ which could probably be due to the high exposure to information campaign in the area where they live. Thus we concluded that all the respondents in the sample population were aware of the existence of HIV/AIDS, but we do not know to what extent this awareness represents a real deep knowledge.

Knowledge of routes through which HIV can be transmitted is essential to adopting attitudes and or behaviours that prevent infection. In this study we found that the majority of pregnant women (65%) had high knowledge on the common modes of HIV transmission. Many respondents were aware that having multiple sex partners increased the chance of getting HIV. This high knowledge was probably the reflection of the health education that the general population has received since the inception of the HIV epidemic. This relates well with findings of a formative research conducted in Chipita, Zambia where 58% of the participating pregnant women reflected sexual contact as the common mode of HIV transmission (58).

The respondents were further rated on their level of knowledge about routes of HIV transmission according to their education. 72% and 56% of them with formal and no formal education respectively were categorized with high knowledge. The observed

difference was found to be statistically significant between their own education and the level of knowledge they score ($p = 0.01$). One possible explanation could be that women with formal education might have more access to HIV information especially from print media or from schools, even though HIV / AIDS education has not been formally integrated into the school curriculum.

The most preventable form of HIV transmission is from mother-to child, either through interventions during breastfeeding, during pregnancy or at delivery (49). This can be achieved only if the pregnant woman is aware that she is infected with HIV and if antiretroviral drugs are available (49). Even though some knowledge was registered on MTCT half of the women still had low knowledge on specific areas of MTCT such as the transmission of the virus through pregnancy, delivery and breastfeeding even if they enrolled in health faculties that specifically aimed at addressing this. It might be argued MTCT of HIV and PMTCT is still relatively a new issue in the Gambia. Similar findings were reported else where in a regional hospital in Hong Kong among antenatal attendees (66).

The result also showed that majority of the pregnant women (61%) had low knowledge on the three basic prevention messages (ABC) of HIV. Abstaining from sex completely and the use of condom in order to avoid getting HIV were mentioned by a relatively small number of respondents as a way to prevent HIV transmission. This is consistent with the results of the behavioural sentinel surveillance on HIV conducted in the Gambia among the adult population aged 15-49 where nearly half of the female respondents knew only one of the ABC preventive methods of HIV transmission (67).

6.2.2. Myths and misconceptions relating to HIV transmission

One interesting finding was that some misconceptions on HIV transmission were noted despite the high level of knowledge that was reported. 45% of the respondents believed that HIV virus can be transmitted through mosquito bite. Other misconceptions that respondents strongly believed could also transmit HIV include transmission through sharing of food with an infected person (15%) and kissing (39%). The findings of this study are in line with other studies carried out in Gambia (67) and in Nigeria (68) that reported similar misconceptions among respondents regarding HIV transmission.

Therefore, the issue surrounding HIV transmission, especially transmission from mother-to child and the three basic prevention messages represents an area where more

awareness creation is needed for the successful scaling up of the MTCT programme in other health divisions in Gambia. There is an obvious need to send correct messages to the community about the timing of MTCT of HIV because prevention of mother-to-child transmission of HIV do involve more than testing pregnant women for HIV and administering antiretroviral drugs.

6.2.3. Perceived susceptibility to HIV infection

Even though public awareness of HIV is regarded as a prerequisite for behavioural change, it should be noted that actual behaviour change depend to a large extent on the following: The perceived severity of a disease, knowledge about contracting and preventing HIV as well as the individual's perception of becoming infected with the disease. Surprisingly, majority of the pregnant women in our study (55%) believed that they were not at risk of getting HIV /AIDS. No statistical difference was observed within the various socio-demographic variables, although single respondents (57%), those in monogamous marriage (55%) and respondents within the age group of 25-34 years (57%) have the highest percentage of women who considered themselves as not susceptible to getting HIV infection.

Our findings are consistent with the results of a similar study in Nigeria where 82% of the pregnant women believed that they are at no risk of contracting HIV infection. In this Nigerian study, pregnant women aged 30-34years were the ones who perceived themselves to be at risk of HIV infection (68). In another study in Hong Kong, two third of participating pregnant women believed that there was no chance that they could contract HIV (66); in this study significant difference in perceived susceptibility was observed between respondents in terms of levels of education attained.

In the current study, those who perceived themselves as not susceptible to HIV infection might probably consider themselves faithful to their partners and vice versa. Another plausible explanation might possibly be attributed to the fact that individuals tend to distance themselves from HIV /AIDS when responding specific questions. Risk denial might also provide an explanation for the fact that, even where most of the respondents knew how HIV is transmitted, a vast majority of them still expressed the view that they are not at risk. It could also be argued that questions addressing individual's perception of sexuality and death are unlikely to produce much insight into societies where long established taboos govern communication about vital notions. Finally, the low prevalence of HIV/AIDS in the Gambia might also serve as a possible explanation where many

people haven't really seen relatives sick or even dying of HIV / AIDS. It could also be due to the fact that most of these women have already been tested and found to be HIV negative.

6.2.4. Issues on voluntary HIV counselling and testing

6.2.4.1. Awareness of PMTCT programme

The majority of the respondents (225/229) were aware of the PMTCT programme. Out of this number 67% received the information during their current pregnancy while 34% received it even before they became pregnant.

Health workers were by far the most often cited source of information about the PMTCT programme. More than half of the respondents have heard about the PMTCT programme from health workers. The reason for this could be that PMTCT was recently integrated into the existing antenatal services in the health facilities involved in this study. In these health facilities, face-to-face group health education is being offered to pregnant women when they present for the routine antenatal care services. They addressed general issues related to HIV/ AIDS with special emphasis on Prevention of Mother- to- Child Transmission.

Other sources of information regarding the PMTCT programme were the radio, television, friends and relatives. Although radio and television are widely available in the Gambia, not every body have access to them. The majority of the respondents (68%) are house wives who are usually pre-occupied with multiple household chores; they tend to listen to the radio less and do not watch television frequently as most of the television programmes are broadcast in the night and many television sets are found outside people's own homes. This is again consistent with the findings of the behavioural sentinel survey on HIV / AIDS where 46% of the female respondents have not watched a television four consecutive weeks (67).

6.2.4.2. Voluntary counselling and HIV testing

Respondents were asked whether they have gone through the process of pre-test counselling during their antenatal clinic visit which is the basis toward decision for an HIV test. 8% have not, but the majority (92%) have gone through the process. It is worth noting that low acceptability of VCT by pregnant women may hinder uptake and the public health benefits of interventions such as antiretroviral therapy.

Of the two hundred and eleven women that were offered pre-test counselling, 87% have actually done an HIV test. This is in contrast with findings in one Tanzanian study where only 33% of the respondents showed the willingness to be tested for HIV (69). It must be reiterated that the present study was based on actual HIV testing and not just intention to undergo testing. The most important factor that was found to influence these participating women in our study to take an HIV test was the desire to confirm their sero-status and to get ARVs to protect the child in case they are HIV positive; about 58%. This agrees well with the results of other studies carried out in the African region among participating women who have either been tested for HIV in the past or have shown expressed willingness to be tested (9; 68; 70).

Further more, 38% of the pregnant women also opted for an HIV test in order to know their status and to get medication (ARVs) to prolong their own lives. This clearly indicates that the women's acceptance of HIV testing seemed to depend on their view that going through the process of VCT and the provision of and access to antiretroviral drugs yields benefits for both the child and themselves. These conflicts with the findings of a similar study conducted in Northern Tanzania where women's acceptance of VCT seemed to depend upon their perception that VCT and other alternative feeding strategies provide clear benefit; primarily for the child (70).

The socio-demographic factors found to be significantly associated with HIV testing was place of residence of the respondent (semi-urban or urban) and type of marital union (polygamous or monogamous). Respondents who reside in Kanifing Municipal Council and those in polygamous married relationship were more likely to accept HIV testing than their counterparts. This might be a confirmation that these groups of pregnant women, especially those in polygamous marriage, considered themselves as at risk taking into consideration the co-wives they have. In the study that was conducted in Northern Tanzania, religion of the woman was the only socio-demographic that was associated with willingness to accept an HIV test. Other factors such as perceived high susceptibility to HIV/AIDS, necessity of partner involvement and expressed need for guaranteed confidentiality were all shown to be associated with willingness to accept VCT in the same study (70).

The fact that a great majority of the pregnant women have consented to HIV testing in this study is viewed as a step forward for the scaling up of the PMTCT programme in other health divisions of the Gambia. Thus, the need to recruit more counsellors, up-

grade the existing laboratories and ensuring that ARVs are available and accessible to all HIV positive individuals is a pre-requisite toward successful implementation.

It has been documented that the lack of ARVs, medical and social support services available for people with HIV/AIDS in developing countries are reasons for the poor uptake of VCT services (56). However, in our study, for those who did not consent to HIV testing the main reasons were; fear of being divorced, rejected and abandoned if results were positive. Some women needed to consult husband/ partner first while others feared the out-come of the test. Similar findings were reported elsewhere in PMTCT programmes in Botswana (55) and Zimbabwe (56).

6.2.4.3. Decision making toward HIV testing

Before going into the field, we had a pre-conceived feeling that pregnant women in Western health division cannot make decision for an HIV test without the husband's or partner's influence. This was found to be not true. An overwhelming majority of the participating women (74%) have actually taken the decision for HIV testing independently.

Although no significant difference was observed between decision making toward taking an HIV test and the socio-demographic variables listed, women of high parity (parity four and above) and women within the age group of 25-34 years has a high percentage of those who have decided HIV testing on their own. This may of course be due to that fact pregnant women in the Gambia are usually subjected to various routine laboratory investigations such as, screening for syphilis, haemoglobin estimation as well as urine analysis where they make their decisions independent of either the husband or partner. Another plausible explanation might be that as women get old in Gambia they become more independent in making choice toward their health status. In light of this argument, one should not be surprise to see that male dominance in reproductive health matters may not be so stringent on older women as compared to their younger counter parts in relation to decision making.

Any way a bit of caution should be exercised when disseminating these findings as the results of this study only reflected opinions of pregnant women in western health division, which may not be the case in other areas of the Gambia where husbands could still be key decision makers. Thus future studies should endeavour to capture as many

health facilities as possible and also apply triangulation of methods through a qualitative approach to generate in-depth information.

Despite the above sentiments, it should be noted that societal influence in Gambia still plays a role in matters relating to reproductive health care and decision making. In Gambian culture, pregnancy and child birth are usually regarded as women's entity, but most of the time men are actively involved in decision-making. In our study, 26 % (48/184) of the participating women have consulted somebody before taking the test. Of these, (42/48; 88 %) have first consulted their husbands or partners, (5/48; 10 %) first consulted their mothers while 2% seek consent from the mother-in-law. One possible explanation why women may consult their husbands or partners could be an anticipation of maintaining the relationship through openness and dialogue. Also consulting the partner in such a major decision, they may gain his confidence, thus averts matrimonial disharmony.

6.2.4.4. Return for HIV test results

In Industrialized countries, acceptance rates reported in prenatal care VCT session before the introduction of zidovudine were generally high, and failure to return for the result was rarely mentioned in most of the settings (71). Results from one international survey conducted in developing countries also showed that pregnant women easily accepted VCT but return rates were low in general(61) and in the Ivory Coast, women at high risk HIV infection were found to be less likely to return to the clinic to collect their test results(9). It is imperative to note that the main benefits of the HIV intervention strategies on Safe Motherhood and child survival will depend on factors like women's willingness to present for VCT and return for HIV test results (36).

In this study, an over whelming majority of pregnant women (91%), have collected their HIV test result at the time of the interview. The rationale for collecting the result includes; the desire to know HIV status and be offered ARVs if found HIV positive (90%), while 7% received instructions from the nurses to go and collect the result. This high return rate in our study may be a confirmation that the Gambia being a low prevalence area for HIV, the women has low risk perception, thus more eager to know their status. However, it is important to note that finding out about the results of an HIV test is still considered stressful irrespective of whether one resides in a high or low prevalence area.

Although the percentage of women instructed to collect the result was low, the implications cannot be underestimated, thus one may wonder whether the entire counselling process (pre-and post-test) were actually based on informed consent and voluntarism. None of the participating pregnant women received the HIV test results the very day that they were tested.

It is imperative to acknowledge that not all those who are tested will collect their results due to various circumstances. In total, 10 % (17/166) of the women did not turn in for their HIV result. Waiting for the appointment date (47%), fear of positive result (29%) and shortage of reagents (18%) were the main reasons given. In light of above sentiments, serious consideration should be given to the possibility of exploring alternative HIV testing procedures, such as rapid test algorithms where results are provided the same day before the woman leaves the clinic. It is argued that a VCT programme with the same day test results could represent a possible option to avoid logistic and psychological problems of having to return for the test result (72); it was shown to result to high overall acceptability rate in Lusaka, Zambia.

6.2.4.5. Intend disclosure of HIV seropositivity

Breaking the news or sharing ones sero-status is usually associated with different emotional reactions. Therefore, the woman should be encouraged to involve her partner or a reliable person who might accompany her to the clinic.

Interestingly, an overwhelming majority (97%) of the participating women in the present study would like to notify their husbands and or partners about their result should they be HIV positive. One reason for informing husbands about a positive test results was that women considered them as their sexual partner, thus disclosing their sero-status to him is vital as one of them might be the index case especially in polygamous marriages. This might also serve as a catalyst and further encourage the man to go for an HIV test in order to confirm his own status. On the other hand, women recognized the dual responsibilities of the spouses as not only a provider of basic requirements in the home, but also as a primary source of psycho-social support in difficult issues like this, thus the importance of sharing an HIV positive result with them.

However, 2% of the participating women were not willing to disclose their sero-status to their spouses in case they are HIV positive. The perceived fear of being blamed and fear of being divorced were some of the reasons highlighted. The finding of this study is

consistent with other literatures where HIV sero positive women were identified as the ones who brought HIV infection into families which subsequently resulted to abuse and abandonment (49). Several studies from various countries have also indicated that many HIV positive women who revealed their status to their partners have suffered grave consequences (73). In another study carried out in Mombassa, only one third of the women in a stable relationship disclosed their HIV seropositivity to their partners (74); 10% of these women experienced disruption of relationship and or violence.

Apart from the spouses, parents were next in line as to who else will be informed of the HIV seropositivity. 71% of the women have confidence in their mothers while 17% would disclose the sero-status to their fathers. One may argue that the family might be seen as a source of support especially in the areas of care of HIV/AIDS patients and the supply of nutrition.

We found that neighbours and other community members would never be told the results of the HIV test especially if it is positive and as such, the majority of the participating pregnant women (80%) would not discuss their HIV seropositivity openly. One possible explanation to this could be that this kind of information may generate awful gossips and the tendency of breach of confidentiality and the lack of trust cannot be over-ruled. In the Gambia and else where, HIV/AIDS is still a highly stigmatized condition thus, HIV positive women could suffer discrimination, blame, abandonment and or rejection.

6.2.4.6. Introduction of HIV testing in antenatal clinics

Introduction of HIV testing as a routine in antenatal care is regarded as an entry point for comprehensive, long-term care and support of pregnant women, including clinical care such as treatment and prevention of common HIV related illnesses, including interventions for the prevention of mother to child transmission of HIV (49). The question of whether every pregnant woman should be given the opportunity to undergo voluntary counselling and testing during pregnancy was viewed positively by the women. 76% felt that VCT is very important so every pregnant woman should utilize this opportunity as a means of averting transmission of HIV to their children as one can access other interventions if the HIV status is known. The majority of respondents were also with the opinion that women would receive better care or services once their status is known.

The family and partner of the pregnant women are usually discussed during pre-test counselling, but there is virtually no active involvement of either party. A large proportion of the respondents (75%) felt that more needed to be done; that their partners should also go through the VCT process. Surprisingly, two third of the respondents again preferred to seek voluntary counselling and testing together as a couple. Similar sentiments were raised by participating pregnant women in Hong Kong (66). One plausible explanation to this could be that it may be easier to accept a positive test result when counselling is given to the partners together and in the end they may work well together to better plan. But we are not sure to what extent this argument might be true.

6.2.4.7. Views of respondents concerning the pre-test counselling process

Most of the participating women had some information about PMTCT either before or during the current pregnancy. Even though the decision to test and collect HIV test result should always be informed consent and completely voluntary, some women reported that they were compelled to collect their test result. Despite that, majority of the women interviewed (94%) had been given adequate information to make a decision about HIV testing. About two third of the respondents also said they had enough time with their counsellor to get all the information they needed to know about HIV/AIDS, PMTCT and HIV testing and it's implications. However, 11% of the women felt they needed more time than was given during the counselling process.

Concerning the issues of answering questions and giving clarifications, 65% of the women were satisfied with their counsellor and shared the opinion that enough time was devoted by the counsellor to answer questions during and after pre-test counselling. However, 31% disagree with the above statement as many of their questions remained un-answered.

6.2.4.8. Perceive barriers / obstacles to effective utilization of VCT service

In addition to benefits of VCT, there are also barriers that may act as an impediment to the effective utilization of the PMTCT programme by pregnant women. Although the majority of the participating women consented to HIV testing, potential barriers still existed among which included the following: - Long waiting time at the clinic and inadequate personnel to deliver VCT services. Staff shortage was really an issue because during the period of the data collection two senior nurse midwives in charge of the

counselling service resigned from the civil service. These nurses or counsellors were all from the same health facility.

Fear of being stigmatized was also perceived by 52% of the women as a potential barrier to the effective utilization of the services. It is known that HIV is stigmatized in many countries resulting to those with the virus experiencing discrimination and or rejection. Literature has shown fear of being stigmatized or rejected as common reasons for people not wanting to enrol in PMTCT programmes or even not wanting to know their status (49). Although Gambia has a low HIV prevalence, stigma and discrimination exist. Findings from the behavioural sentinel surveillance indicated that a little over half of the respondents were not willing to share meals with an HIV/AIDS infected person (67). In the same study, over half of the female respondents in two semi-urban centres said students with HIV should not be allowed to attend classes. There is therefore an urgent need to intensify community education to develop a better understanding of issues surrounding HIV; this might help reduce or normalized stigma especially when more people are tested and know their sero-status.

Lack of privacy at the clinics and the need to consult partners was also perceived by the participating women as barriers. The other factor pregnant women considered as a potential barrier/ obstacle to the effective utilization of the VCT services was the lack of perceived benefit for the mother in the PMTCT programme (29%). For people living in areas with few resources, there may be a perception that little support will be available to them if they learn they are HIV positive(61), thus linking VCT with care and support services will help reduce this barrier to testing. Offering interventions to reduce mother-to child transmission once a woman is known to have HIV is a benefit that many people may not be aware of until VCT is well established (61).

6.3. CONCLUSION

The majority of pregnant women had high knowledge on the modes of HIV transmission but, nearly half of them still had low knowledge on specific areas of MTCT such as the transmission of the virus through pregnancy, delivery and breastfeeding. The result also showed that a majority of the pregnant women had low knowledge on the three basic prevention messages (ABC) of HIV, even if they were recruited from sites where PMTCT programme had been introduced. Some misconceptions relating to HIV transmission were also noted

Women easily accepted VCT and return rates were equally high. The majority of them have taken the decision to take an HIV test independently, but have equally acknowledged the importance of partner involvement in the VCT process.

Our findings indicated that despite many obstacles to VCT and issues surrounding HIV seropositivity, gradual scaling up of voluntary counselling and testing service as an integral part of reproductive health care could be feasible and acceptable for pregnant women aiming to prevent or reduce the transmission of HIV to their children. Therefore, a more general counselling and education programme for HIV testing for both men and women should address HIV testing, MTCT of HIV and its prevention through out child-bearing years.

Again it should be reiterated that the findings of this study reflected the opinion of only those pregnant women who were interviewed during their antenatal clinic visit in two health facilities in Western Division. Therefore, one should exercise caution when interpreting the results because the women interviewed might be different from others elsewhere who did not utilize these health facilities.

6.4. RECOMMENDATIONS

- 1-** Counselling sessions must be monitored and there should be ongoing support and supervision to ensure that counsellors give good-quality counselling. It should be re-emphasized during pre-test counselling that testing is voluntary and confidential and that a woman can still choose not to be tested even if she had indicated earlier on that she was interested. Some of these women may first want to consult their partner. It is therefore important for nurses and or counsellors to accept the woman's choice for not to collect her results and not exert undue pressure on her even if it is sometimes difficult.
- 2-** The need to retrain and or recruit more health workers or counsellors cannot be overemphasized. The Department of State for Health (DoSH) in collaboration with the National Aids Secretariat (NAS) should conduct continuous training and offer refresher courses to health workers dealing with antenatal women, including training in basic counselling skills. This will increase their knowledge and capacity to better respond to the care and support needs of the growing numbers of pregnant women who may wish to enrol in the programme. To minimize job

- turn over, better enumeration and motivation of health workers should be a top priority of the government.
- 3- Rapid HIV test algorithms should be made available in all PMTCT health facilities where women receive the test result before leaving the clinic. This will in no small way reduce the psychological stress that women might go through if they are to wait for several days to receive the HIV test results. This may also increase the uptake of VCT and return rates for the test results.
 - 4- The Department of State for Health in collaboration with National Aids Secretariat must at all times ensure the availability and timely supply of test reagents in all health facilities implementing the PMTCT programme for efficient, effective and quality service delivery in the context of reproductive health.
 - 5- Innovative ways of scaling up PMTCT services to other parts of the country should be explored in order to make the services more accessible and available. From a public health perspective, pre-test group health education or information is easy to implement. It can reduce the number of resources, time and man power needed for voluntary counselling and testing. Individual pre-test counselling must still be available as it forms the core toward decision for an HIV test. All efforts should be made to seek the active involvement of partners by encouraging and or promoting couple counselling.
 - 6- Finally, there is need to develop tools for supervising, monitoring and evaluating the content and quality of counselling services (pre-and post-test counselling) in the Gambia.

6.5. CALL FOR FUTURE RESEARCH

- 1- Further qualitative research is required to evaluate and understand the psychological stress of acceptability of HIV testing in context within the current MTCT programme where women have to wait for HIV results for several days or weeks.
- 2- Further research into the lived experience of pregnant women with HIV should be carried out to determine the dilemmas they face in relation to infant feeding.
- 3- We need to know more about the perspectives of counsellors about HIV/AIDS and PMTCT programmes as well as their training needs. One issue is that

counsellors tend to wear out after a long period involvement in counselling services.

- 4- As willingness to be tested for HIV is a predictor of acceptance of testing, it would be necessary to carryout a study to explore factors that influence willingness to be tested among non- pregnant youths in health facilities or regions where HIV sentinel surveys are being carried out.

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APPENDICES

Appendix 1:

Socio- demographic characteristics of respondents (n = 229)

Characteristics	Number (n)	Percentage (%)
Age		
15-24	114	49.8
25-34	94	41.0
35-43	21	9.2
Marital Status		
Single	14	6.1
Married	215	93.9
Religion		
Muslim	218	95.2
Christian	11	4.8
Occupation		
House wife	156	68.1
Farmer	9	3.9
Civil servant	14	6.1
Petty trader	34	14.8
Student	6	2.6
No occupation	3	1.3
Others	7	3.1
Type of Marital Union **		
Polygamy	79	36.7
Monogamy	136	63.3
Ethnicity		
Mandinka	83	36.2
Wollof	29	12.7
Jolla	57	24.9
Fulla	34	14.8
Sarahulleh	11	4.8
Others	15	6.6
Parity		
0-1	112	48.9
2-3	63	27.5
4+	54	23.6
Number of living children		
0	81	35.4
1-2	81	35.4
3+	67	29.2
Education		
Non formal	100	43.7
Primary	72	31.4
Secondary	50	21.8
College/University	7	3.1
District		
Kombo Central	108	47.2
Kanifing Municipal Council	121	52.8

** 14 respondents who are single have been excluded from the analysis.

Appendix 2:

Information for consent to participate in research (exit interviews)

Good morning / afternoon Madam,

We came from the Dept. of state for Health and are here to conduct a study to find out the acceptability of voluntary HIV counselling and testing among pregnant women in the Gambia. We would be very grateful if you could kindly volunteer to answer the questions in this booklet. You might be aware that HIV is a serious disease and some women of child bearing age in the Gambia carry the disease. In light of the above, the Department of State for Health has identified promotion of voluntary counselling and testing for HIV as an important strategy in reducing or preventing the spread of HIV, especially through mother to child.

Information about your HIV status will not be obtained. Let me assure you that if you agree to be interviewed, the information you provide will be treated in confidence and will not be given to anyone else in a form that can be linked to you, your name or your family. Not even the staff here at the clinic will get to know what you say. Your participation in this study is voluntary and you are free to refuse or decline to give information at any time of the study period. There will be no negative consequences for you if you refuse or decline. .

Finally, be also assured that the information cannot and would not be used for any purpose other than for the study purpose and to help put in place strategies to improve voluntary counselling service in the Gambia which is aim at preventing or reducing mother to child transmission of HIV. On that note we would be very grateful if you agree to be interviewed.

Thank you.

Appendix 3: Questionnaire for Mothers (Exit Interviews)
Identification number ()

- Q01. Date of interview
- Q02. Time of interview
- Q03 Name of interviewer.....
- Q04. District: Kombo Central 1 KMC 2
- Q05. Health Institution: Brikama 1 Fajikunda 2
- Q06. Completed questionnaire checked Date:

(A) DEMOGRAPHIC CHARACTERISTICS

No.	Questions and filters	Coding categories	Skip to
Q101	Age of respondent	Complete in years:	
Q102	Marital status now	Single → 1 Married → 2 Separated → 3 Divorced → 4 Widowed → 5 Others 6 No response 99	104 103 104 104 104
Q103	Type of marital union at the time of interview	Polygamous 1 Monogamous 2 No response 99	
Q104	Parity of informant	Write the in the box <input type="text"/>	
Q105	Ethnicity of respondent <i>If "other", specify.....</i>	Mandinka 1 Wollof 2 Jola 3 Fula 4 others 5 No response 99	
Q106	Religious affiliation of respondent	Islam 1 Christianity 2 Others(specify) 3	
Q107	What is the highest level of education you attained?	None 1 Madarassa 2 Primary 3 Secondary 4 College 5 University 6 No response 99	
Q108	What is your main occupation	Farmer 1 House wife 2 Civil servant 3 Petty trader 4 Student 5 Other 6 No response 99	

(B) KNOWLEDGE AND PERCEPTION OF HIV/AIDS AND MTCT

No	Questions and filters	Coding Categories	Skip to
Q201	Have you ever heard about the disease called HIV/ AIDS?	Yes 1 No 2	→202 → End
Q202	Tell me three common ways through which HIV is spread.	Don't read out options - Having unprotected sex with somebody already infected with HIV Y N - Infected blood especially through blood transfusion Y N - From mother to child Y N - Having sex using a condom Y N - Don't know 8	
Q203	In your opinion, do you think a woman infected with the HIV virus can transmit it to baby?	Yes 1 No 2 Not sure 3	
Q204	In what ways can a woman infected with this disease (HIV) transmit it to her baby?	Do not read out options - During Pregnancy Y N - During child birth \ delivery Y N - During Breastfeeding Y N - Don't know 8 - No response 99	
Q205	How can an infected mother avoid or reduce the risk of transmitting HIV to her baby?	Don't read out - Take ARV drugs during pregnancy, labour and postpartum period Y N - Using formula feeding only Y N - Using mixed feeding Y N - Breastfeed for six then abruptly wean Y N - Don't know 8 - No response 99	
Q206	Tell me three basic ways in the prevention of HIV	Don't read out responses - Abstinence from sexual intercourse; Y N - Be faithful to one uninfected partner; Y N - Always use condom correctly during sex Y N - Don't know 8 - No response 99	
Q207	In your opinion do you think you at risk of getting HIV infection?	Yes 1 No 2 Not sure 3	
Q208	You may agree or disagree with the following statements Some people belief that HIV positive women should not have children at all	Agree 1 Disagree 2 Not sure 5 No response 99	
Q209	HIV virus can be transmi tted through mosquito bites	Agree 1	

		Disagree 2 Not sure 3 No response 99	
Q210	HIV virus can also be transmitted by sharing a meal or eating with somebody infected with HIV.	Agree 1 Disagree 2 Not sure 3 No response 99	
Q211	Can one get HIV by kissing a person who has HIV/AIDS?	Yes 1 No 2 Not sure 3	

(C) GENERAL ISSUES ON VOLUNTARY HIV COUNSELLIN & TESTING

No	Questions and filters	Coding categories	Skip to
Q301	Have you heard about this PMTCT programme before?	Yes 1 No 2	→ 304
Q302	When did you first receive information about PMTCT	Tick response Before this pregnancy 1 During this pregnancy 2 Never before 3 Don't remember 4	
Q303	Where did you receive information about PMTCT programme most of the time?	Tick response Friends and relatives 1 Radio 2 Television 3 Health workers 4 Others 5(specify)	
Q304	Have you been counselled on HIV testing(pre -test counselling)	Yes 1 No 2	→ 305 → 306
Q305	What motivated you to go for counselling for HIV testing?	Record all response (s)	
Q306	What is preventing you from not going for counselling for HIV testing?	- Fear of HIV testing 1 - I have not yet discuss with my husband 2 - Waiting for my husband's consent 3 - Not much privacy at the clinic 4 - I don't have time 5 Others (specify)6 - No response 99	
Q307	If yes to Q 304, Have you been tested for HIV?	Yes 1 No 2	→ 314

Q308	If yes to Q 307 answer Q 308 – 313 Under what circumstance have you make a decision to get an HIV test?	Record and probe for responses	
Q309	Have you made the decision for HIV test by yourself?	Yes 1 No 2 Don't know 8	→ 310
Q310	If no to ques 309 Who have you consulted consult FIRST before deciding whether or not to take an HIV test?	Don't read out(tick the response) Husband/ partner 1 Mother 2 Mother-in-law 3 Aunt 4 Father 5 No one 6	
Q311 a)	Have you collected your HIV test results after you got tested?	Yes 1 No 2 No response 99	→ 311 b Go QUE 313
Q311 b)	Did you receive your HIV test results the same day you did the test?	Yes 1 No 2	
Q312	If yes to Que 311 What influence you to collect the test result?	Probe for reasons	
Q313	What is the main reason preventing you from collecting the results?	Probe for reasons	
Q314	What is the main reason that is preventing you from being tested?	Don't read - Fear of divorce if result is positive 1 - Fear of rejection and abandonment by family 2 - Fear of knowing that I am HIV positive 3 - Would need to consult my husband/ partner 4 - My husband/partner don't want me to 5 - Others (specify)..... 6 - No response 99	
Q315	Imagine that you have tested and the results were positive, what would be your reaction?	don't read out(Tick response(s)) - Anxiety that the pregnancy may lead to death 1 - Depression 2 - Think of abortion 3 - Think of Suicide 4 - Relief that I know my status 5 - Others	
Q316	Who would you FIRST turn for advice and assistance in case you were HIV positive	Don't read out(tick response) Husband/partner 1 Mother 2	

		Mother-in-law 3 Aunt 4 Father 5 No one 6 Others (specify)	
Q317	Will you care for an HIV/AIDS infected relative in your household?	Yes 1 No 2 No response 99	
Q318	Imagine that you were HIV positive would you discuss your status openly within community?	Yes 1 No 2 Don't know 6	
Q319 a.	Why will you not discuss your status openly?	Probe for reasons	
Q319 b.	Why will you discuss your status openly?	
Q320	In your opinion do you think your husband/partner should also under go voluntary counselling and testing for HIV?	Yes No 2 Don't know 3 No response 99.	
Q321	In your opinion do you think it would be easier for you to undergo voluntary counselling and testing for HIV as a couple than as a single person?	Yes 1 No 2 Not sure 3	
Q322	Do you think every woman should be given the opportunity to undergo VCT during pregnancy?	Yes 1 No 2	
Q323	How will you Husband/partner re act if he is not consulted and finds out about the test? What will he say or do?	Probe for response.	
Q324	If you were tested and the results were positive, would you tell your husband/partner?	Yes 1 No 2 Don't know 8 No response 99	
Q325	Why or why not? Explain	Record reasons	
Q326	Who else are you willing to tell about the results of your HIV test? First priority	Don't read out Mother 1 Mother-in-law 2 Aunt 3 Father 4 Friend 5 Others (specify) 6 No response 99	

Q327	Who would you not tell the result if found to be HIV infected?	<p style="text-align: right;">Don't read out(tick response)</p> <p style="text-align: right;">Husband/partner 1</p> <p style="text-align: right;">Mother 2</p> <p style="text-align: right;">Mother-in-law 3</p> <p style="text-align: right;">Aunt 4</p> <p style="text-align: right;">Father 5</p> <p style="text-align: right;">.....Others (specify) 6</p> <p style="text-align: right;">No response 99</p>	
Q328	Why not?	<p style="text-align: right;">Don't read out(tick response)</p> <p>- Fear of being abandoned or rejected 1</p> <p>- Fear of being blame 2</p> <p>- I may be divorce 3</p> <p>- My status will be revealed to others 4</p> <p>- Others (specify)..... 5</p> <p>- No response 99</p>	
Q329	If yes to question 304, answer Q 329- 339 What do think about the time taken during the pre-test counselling process?	<p style="text-align: right;">Too short 1</p> <p style="text-align: right;">Too long 2</p> <p style="text-align: right;">Adequate 3</p> <p style="text-align: right;">Don't know 6</p> <p style="text-align: right;">No response 99</p>	
Q330	The information given by health workers (counsellors) is adequate and understandable enough for you to make a decision as to whether or not to go for an HIV test.	<p style="text-align: right;">Strogly agree 1</p> <p style="text-align: right;">Agree 2</p> <p style="text-align: right;">Strogly disagree 3</p> <p style="text-align: right;">Disagree 4</p> <p style="text-align: right;">Not sure 5</p>	
Q331	During counselling, the health workers gave you enough time to make an informed decision as to whether to go for an HIV test or not.	<p style="text-align: right;">Strogly agree 1</p> <p style="text-align: right;">Agree 2</p> <p style="text-align: right;">Strongly disagree 3</p> <p style="text-align: right;">Disagree 4</p> <p style="text-align: right;">Not sure 5</p>	
Q332	You may again either agree or disagree with the following statements about the way counselling is done?		
	<ul style="list-style-type: none"> You are given options and allowed to make your own decision 	1 agree 2 Disagree	
Q333	<ul style="list-style-type: none"> Health workers don't have time to answer questions you ask during counselling 	1 Agree 2 Disagree	
Q334	You are given lots of information and told to an immediate decision	1 Agree 2 Disagree	
Q335	The following are perceived or seen as obstacles/barriers to effective utilization/ acceptability of VCT service? (agree or disagree)		
	<ul style="list-style-type: none"> Long waiting time at the antenatal clinic and before pre-test counselling commences 	1 Agree 2 Disagree	

Q336	<ul style="list-style-type: none"> Few health workers to deliver VCT services 	1 Agree 2 Disagree	
Q337	<ul style="list-style-type: none"> No benefit for mothers in the PMTCT programme 	1 Agree 2 Disagree	
Q338	<ul style="list-style-type: none"> No privacy during the entire counselling process 	1 Agree 2 Disagree	
Q339	<ul style="list-style-type: none"> Seeking the consent of the male partner Stigmatization, rejection and or divorce 	1 Agree 2 Disagree 1 Agree 2 Disagree	
Q340	<p>Some people believe that the consequences of introducing HIV testing as part of routine antenatal care could be:</p> <ul style="list-style-type: none"> Better care for the mother if her HIV status is known. 	Strongly agree 1 Agree 2 Strongly disagree 3 Disagree 4 Not sure 5	
Q341	<ul style="list-style-type: none"> Stigmatization of the mother if she is HIV positive 	Strongly agree 1 Agree 2 Strongly disagree 3 Disagree 4 Not sure 5	
Q401	<p><u>(D) BREASTFEEDIN HISTORY</u> Ask this question if the woman ever have a child and breast fed before How long did you breast feed your last child?</p>	Record responses	
403	What do you think about a woman who does not want to breastfeed her baby	Probe	
Q404	<p>In your opinion, do you think a woman infected with HIV should breastfeed her child? A women infected with HIV should not breastfeed her child</p>	Agree 1 Disagree 2 Not sure 3	Go to 406
Q405	Why do you agree or disagree	Record responses	
Q406	Imagine that you are HIV positive how would you feed your baby?	Record responses	Go to 408

(E) AWARENESS OF ARVS			
Q407	Do you know that there is kind of medicine that can be taken by HIV positive individuals?	Yes 1 No 2	Go to 409 Go to 410
Q408	Do you know where these drugs are available?	Yes 1 No 2	
Q409	Now imagine that you are HIV positive, would you consider taking this medicine for yourself and your child?	Yes 1 No 2	
Q410	If "yes" or "no" give reasons	Record reasons	

Time interview completed

PLEASE THANK THE RESPONDENT