

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES

DEPARTMENT OF COMMUNITY HEALTH



**HIV STATUS DISCLOSURE AMONG PEOPLE LIVING WITH HIV/AIDS IN
THE TANO NORTH DISTRICT**

**A DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES,
(KNUST), IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
AWARD OF MPH (POPULATION AND REPRODUCTIVE HEALTH)**

BY

KUUPIEL DESMOND

SEPTEMBER, 2014

DECLARATION

I hereby declare that this is my own work undertaken in partial fulfilment of the requirement for the award of MPH (Population and Reproductive Health) at the Kwame Nkrumah University of Science and Technology. This work has not been presented for any award in this University or elsewhere.

Desmond Kuupiel (PG7908212)

KNUST

(Name of Student & ID)

Signature

Date

Certified by:

Dr. Ellis Owusu-Dabo

(Supervisor's Name)

Signature

Date

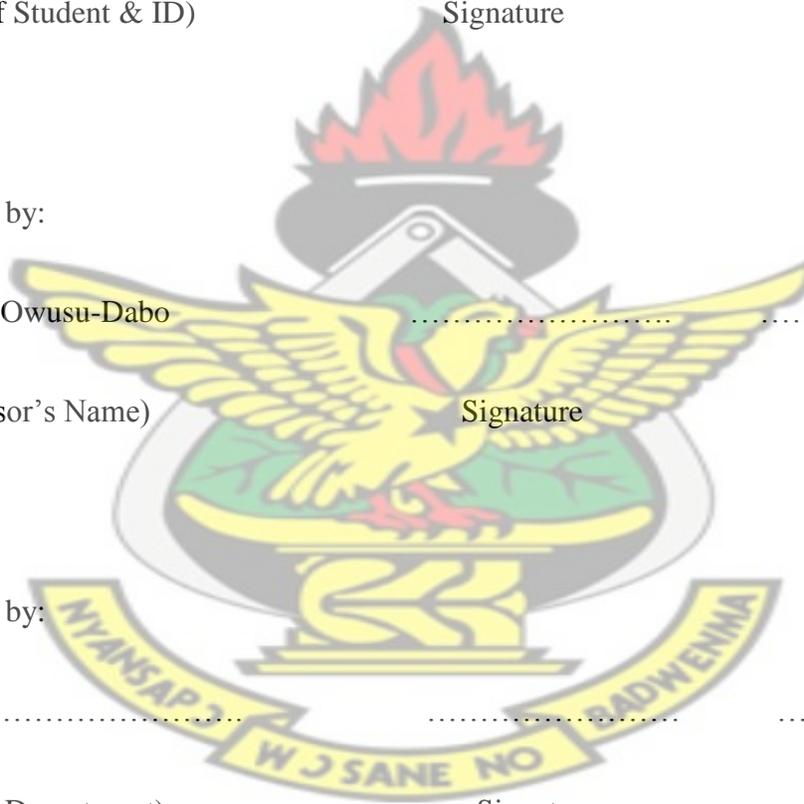
Certified by:

.....

(Head of Department)

Signature

Date



ABSTRACT

Despite the numerous benefits of HIV- positive status disclosure, studies have shown that the rates of disclosure among developing world are notably lower ranging from 16.7% to 86% compared to rates reported from the developed world (42% to 100%) (WHO, 2004). This research was a cross sectional study designed to determine the proportion of people living with HIV/AIDS who have disclosed their HIV-positive status to their sexual partners/family members and the reasons for non-disclosure in the Tano North District.

Systematic random sampling method was used to draw 228 PLWHA for the study. The data collection tool was a structured questionnaire. Cross tabulations were done to determine the relationship between specific outcome variables and their predictors of disclosure. Chi-square tests were calculated and p-values of less than 0.05 were accepted as being statistical significant for all associations.

The findings revealed that the proportion of HIV positive status disclosure to sexual partner(s)/family members was between 49.9% to 51.9%. Almost half (49.1%), of all persons interviewed during the study who had tested positive for HIV failed to disclose their HIV status. The major reasons for non-disclosure were: fear of rejection/discrimination/stigmatization (54.5%), fear of accusation of being unfaithful by partners (33.0%), fear of withdrawal of support (32.1%), minor reasons for non-disclosure were; denial (8.3%) and difficulty in initiating the process of disclosure (6.1%). The socio-demographic factors that were found to be independently associated with HIV positive status disclosure to sexual partner(s)/family members were monthly income ($p<0.006$), knowledge of HIV status of partner/family member ($p<0.000$), number of sexual partners ($p<0.023$), and place of diagnosis ($p<0.000$). That is, PLWHA who were diagnosed at the VCT center were more likely to disclose their HIV positive status.

The study recommends that a community based programme should be designed to educate the general population on the importance of HIV positive status disclosure and attempt to reduce the barriers of HIV positive status disclosure and Couple counselling.

TABLE OF CONTENT

DECLARATION	i
ABSTRACT.....	ii
TABLE OF CONTENT	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
ABBREVIATIONS/ACRONYMS.....	viii
ACKNOWLEDGEMENT	ix
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 Background of the Study	1
1.2 Problem Statement	4
1.3 Justification for the study.....	6
1.4 Conceptual framework of the Study	7
1.5 Research Questions.....	8
1.6 Objectives of the Study.....	8
1.6.1 General Objective of the Study.....	8
1.6.2 Specific Objectives of the Study.....	9
1.7 Significance of the Study	9
1.8 Operational Definitions.....	10
CHAPTER TWO	11
2.0 LITERATURE REVIEW	11
Introduction.....	11
2.1 Impact of HIV Globally, Africa and in Ghana	11
2.1.1 Global Impact of HIV/AIDS.....	11
2.1.2 Impact of HIV/AIDS in Sub-Sahara Africa.....	14
2.1.3 Impact of HIV/AIDS in Ghana	22
2.2 Proportion of HIV Status Disclosure	27
2.3 The preferred audience for HIV status disclosure	30
2.4 Factors which may influence HIV status disclosure.....	31

2.4.1 Socio-demographic factors	31
2.4.1.1 Age.....	31
2.4.1.2 Gender.....	31
2.4.1.3 Relationship status	32
2.4.1.4 Religion and culture.....	33
2.4.1.5 Educational level.....	34
2.4.1.6 Knowledge of partner’s status	35
2.4.2 Theories of Disclosure	36
2.4.2.1 Disease progression theory	36
2.4.2.2 The consequence theory.....	37
2.5 Barriers to HIV status disclosure	37
2.5.1 Fear of abandonment.....	37
2.5.2 Fear of rejection/discrimination.....	38
2.5.3 Fear of violence.....	39
2.5.4 Fear of upsetting family members	40
2.5.5 Severity of illness.....	40
2.6 Counseling and HIV status Disclosure	41
2.7 HIV status disclosure and the law.....	44
CHAPTER THREE	46
3.0 RESEARCH METHODOLOGY.....	46
3.1 Study type and design.....	46
3.2 Profile of the study area	46
3.2.1 Economic Activities.....	47
3.2.2 Health Facilities	48
3.3 Data Collection Techniques and Tools	49
3.4 Study Population.....	50
3.5 Inclusion Criteria	50
3.6 Exclusion Criteria	50
3.7 Study Variables.....	51
3.8 Sampling Techniques and Sample Size	52
3.8.1 Sample Size calculation	52
3.9 Pre-testing	53
3.10 Data handling.....	54

3.11 Data Analysis	54
3.12 Ethical consideration.....	54
3.13 Limitations of Study	55
CHAPTER FOUR.....	56
4.0 RESULTS	56
4.1 Data Analysis	56
4.1.1 Socio-demographic Information	56
4.1.2 Proportion of HIV status disclosure.....	62
4.1.3 Barriers of HIV status disclosure.....	66
4.1.4 Socio-demographic factors independently associated with HIV status	69
CHAPTER FIVE	78
5.0 DISCUSSION	78
5.1 Introduction.....	78
5.2. General information	78
5.3 Proportion of HIV Status Disclosure	80
5.4 Barriers to HIV positive status disclosure to partners/ family members	82
5.5 Socio-demographic factors influencing disclosure of HIV positive status.....	83
5.6 The quality of counseling (client perspective) given to facilitate disclosure.....	83
CHAPTER 6	85
6.0 CONCLUSIONS AND RECOMMENDATIONS	85
Introduction.....	85
6.1 Conclusions.....	85
6.2 Recommendations.....	86
6.2.1 Tano North District Health Directorate	86
6.2.2 HIV Counselors and Clinicians	87
6.2.3 Further Research	87
References.....	88
Appendix A.....	102
Appendix B: Map of Tano North District.....	110

LIST OF TABLES

Table 3.1: Top ten common causes of morbidity in the District for 2012.....	48
Table 3.2: Top ten common causes of death in the District.....	49
Table 3.3: Logical framework for the study variables	51
Table 4.1: Socio-demographic Information.....	57
Table 4.2: Reasons for non-disclosure of HIV status by respondents	67
Table 4.3: Reasons for disclosure of HIV status.....	69
Table 4.4: Socio-demographic Factors Independently Associated with HIV Status Disclosure	71
Table 4.5: Quality of counselling (pre and post-test) given to respondents	74



LIST OF FIGURES

Figure 1.1: Barriers to HIV Sero-status disclosure	7
Figure 2.1: Prevalence Rate of HIV in Ghana	23
Figure 4.1: Number of sexual partners of respondents	59
Figure 4.2: Place of diagnosis of HIV	60
Figure 4.3: Place of diagnosis and disclosure of HIV status cross tabulation	61
Figure 4.4: Disclosure of HIV status by respondents	62
Figure 4.5: Disclosure of HIV status by Age group	63
Figure 4.6: Disclosure of HIV status by gender	64
Figure 4.7: Person respondents disclosed their HIV status to	65
Figure 4.8: Condom usage among respondents	66
Figure 4.9: Other reasons for non-disclosure of HIV status	68
Figure 4.10: Attitude of counsellor during the counselling session.....	75
Figure 4.11: Respondents opinion on adequacy of pre-test counselling and disclosure cross tabulation	76
Figure 4.12: Respondents satisfaction with post-test counselling and disclosure cross tabulation.....	77

ABBREVIATIONS/ACRONYMS



ANC	Antenatal Clinic
AIDS	Acquired Immuno-deficiency Syndrome
ART	Antiretroviral Treatment
CDC	Centre for Disease Control
CHPS	Community Health Planning and Services
FCH	Family and Community Health
GDHS	Ghana Demographic and Health Survey
GDP	Gross Domestic Product
GWH	Gender and Women Health
HIV	Human Immuno-deficiency Virus
NACP	National AIDS Control Programme
NGO	Non-Governmental Organisation
NTCP	National Technical Committee on AIDS
OPD	Out Patient Department
PMTCT	Prevention of Mother to Child Transmission
PLWHA	People Living with HIV/AIDS
STI	Sexually Transmitted Infection
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Education Fund
UNDP	United Nations Development Programme
UNESCO	United Nations Education, Scientific, and Cultural Organisation
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

ACKNOWLEDGEMENT

I thank the Almighty God for a successful completion of this piece amidst the difficulties I went through especially during the period of this study.

I am most grateful to my supervisor Dr. Ellis Owusu-Dabo for his guidance, constructive criticism and constant encouragement throughout the period of this study.

My sincerest gratitude to all the lecturers and staff of the Department of Community Health for the knowledge impacted on me.

I would also like to express my heart-felt appreciation to Dr. Yakubu – the District Director of Health Services and his staff for the enormous support during my fieldwork and also granting me permission to carry out this study in the Tano North District.

Moreover, I specially thank the management and staff of St. John of God Hospital for the invaluable support accorded me towards the success of this study. I am heavily indebted to you Nana Sarfo for your immense support especially during the data collection stage of this study.

I wish to thank all PLWHA who consented to participate in this study, without whom, this work would not have been possible. My profound gratitude goes to my research assistants and any other person who contributed to the successful birth of this study especially my colleague students.

Lastly, but not the least, I deeply appreciate the marvelous care and love expressed by my wife, Mrs. Veronica Kuupiel, my lovely son, Divine, for the patience, understanding and support throughout my studies. Praise and Glory be to the Almighty God.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

The Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) showed its ugly face on the world scene in the early 1980s in San Francisco. Since then millions of infected persons have died and are still dying every passing day. Its devastating and destructive impact are felt much in Sub-Saharan Africa which has approximately 70% of all People Living with HIV/AIDS (PLWHA) worldwide with majority of these among 15 – 49 year olds, and nearly 50% occurring among 15–24 year olds globally. The estimated number of persons living with HIV/AIDS worldwide in 2007 was 33.2 million (WHO, 2007). In every 18 seconds, someone in the world becomes infected with HIV– the virus that causes the AIDS. In Africa around 3,000 new cases of infection occur every day (UNAIDS/WHO, 2007 and 2009).

The Republic of Ghana has not been spared the global HIV/AIDS pandemic. The HIV epidemic in Ghana since its first detection in 1986 continues to be a generalised epidemic with a prevalence of more than 1% in the general population. According to the annual HIV sentinel surveys conducted among antenatal attendants, the HIV prevalence in the country seemed to be on a downward trend from 3.6% in 2003, to 2.7% in 2005, increased to 3.2% in 2006, reduced to 2.2% in 2008 and increased to 2.9% in 2009 (National AIDS/ STI Control Programme, 2008, 2009, and 2010). The HIV prevalence

from the sentinel survey was 2.0% and 2.1% in 2010 and 2011 respectively. Using the EPP modelling for HIV the National HIV prevalence in 2009 was 1.9%, this dropped further to 1.5% in 2010 and also for 2011 (Ghana AIDS Commission, 2012).

In 2008, it was estimated that there were 236,151 adults and children living with HIV/AIDS (20,808 children) and there were a total of 22,541 new infections, while in 2009, there were 267,069 adults and children living with HIV/AIDS (25,666 children). It was also estimated that in 2008 63,137 adults and 6,086 children needed ART and in 2009 64,978 adults and 6,010 children were in need of ART. The estimated annual AIDS deaths for 2008 and 2009 were 18,082 and 17,058 respectively (National AIDS/ STI Control Programme, 2009).

In 2010 it was estimated that there were 230,348 adults and children living with HIV/AIDS (32,057) and there were a total of 14,165 new infections, while in 2011 there were 225,478 adults and children living with HIV/AIDS (30,401 children) and there were 12,077 new infections out of which 1,707 were children . The estimated annual AIDS deaths for 2010 and 2011 were 17,230 and 15,263 respectively and for children in the same period 2,472 and 2080 respectively. In 2011, Ante Natal Care (ANC) HIV prevalence rose to 2.1% from 2.0% in 2010. It was estimated that of the 225,478 people who were living with HIV/AIDS in 2011, 100,336 were males and 125,141 were females (Ghana AIDS Commission, 2012). Currently, the prevalence of HIV/AIDS in Ghana is 2.1 among pregnant women and 1.37 in the general population (National AIDS/ STI Control Programme, 2013).

The continuing spread of HIV in Ghana may have resulted from those who know their HIV-sero-positive status but engage in risky sexual behaviour (Crepaz and Marks,

2002). Generally, most of the efforts to prevent the spread of HIV have been directed to the HIV-negative rather than to the HIV-positive populations (King-Spooner, 1999). A study conducted by Ncube *et al.* (2012) in Kumasi indicated that 44% of the sample (267) reported having sex after testing positive for HIV. Of the 175 participants with regular sex partners, 24% had HIV-positive partners. Majority (67%) had HIV-negative partners (sero-discordant couples) or partners of unknown status. More than half (51%) of the study population with regular sex partners reported that they had unprotected anal or vaginal sex. Disclosures of HIV positive status to partner(s) and or family members has been identified as one of the factors associated with better adherence to ART and also help reduce the spread of HIV infection (Bikaako-Kajura *et al.*, 2006).

Despite the numerous benefits of HIV- positive status disclosure, studies have shown that the rates of disclosure in the developing world are notably lower than rates reported from the developed world. Among the studies that reported disclosure rates to current and/or steady partners the average rate of disclosure was 49% in developing countries, considerably less than the average rate reported from studies conducted in the developed world (79%) according to the World Health Organisation in 2004. It is in view of these findings that, this study seeks to assess the disclosure of HIV status among People Living with HIV/AIDS to their sexual partner (s) or family members and the reasons for non-disclosure in the Tano North District since such a study has never been conducted in the District.

1.2 Problem Statement

In Ghana, people living with HIV/AIDS (PLWHA) are encouraged to disclose their status to partners and or family members after they have used the Voluntary Counseling and Testing (VCT) services. This is also emphasised by UNAIDS/WHO (2000) and CDC (2002) in their guidelines for HIV testing and counseling. Within HIV counseling and testing programmes emphasis is placed on the importance of HIV status disclosure among HIV positive clients, particularly to their sexual partners. Disclosure is an important public health goal for a number of different reasons.

First, disclosure may motivate sexual partners to seek testing, change behaviour and ultimately decrease transmission of HIV. In addition, disclosure may facilitate other health behaviours that may improve the management of HIV. For example, women who disclose their status to partners may be more likely to participate in programmes for prevention of HIV transmission from mothers to their infants. Through disclosure the client may receive support from his or her partner, family or others in his/her social network and may also be able to access available support services and adhere to treatment. By adequately addressing the emotional, social, and practical sequelae of her positive status a woman may be more willing to adopt and maintain health behaviours such as adherence to treatment regimens.

In addition according to Paxton (2002), disclosure liberates PLWHA from the burden of secrecy and shame. This in turn facilitates the initiation of HIV treatment and medications (Klitzman *et al.*, 2004 in UCSF, 2007) and leads to greater acceptance and adherence to HIV treatment (Waddell & Messeri, 2006; Stirratt *et al.*, 2006 in UCSF, 2007).

From the perspective of public health, it is assumed that disclosure could reduce the spread of HIV infection, by creating awareness of risk to untested partners (Kalichman & Nachimson, 1999 in Sowell *et al.*, 2003; Simbayi *et al.*, 2007). That is, following disclosure some people may opt not to have sex with an HIV-positive partner or may agree only to engage in very low-risk sexual activities (such as using condoms after learning that their partner is HIV positive). The usefulness of HIV positive status disclosure as an HIV risk reduction strategy is also demonstrated in a recent mathematical modeling analysis by Pinkerton & Galletly (2007). It is suggested that an intervention that increases HIV positive status disclosure could result in reductions in HIV transmission risk by between 17.9 % and 40.6% (Pinkerton & Galletly, 2007).

However, because of some barriers, disclosure can be seen by PLWHA as a difficult decision to make – and one which might mean PLWHA opt to keep their HIV positive status as a secret. This (non-disclosure) may ultimately result in a lack of access to important sources of family and social support, and to the loss of opportunities for the prevention of new infections. The 2003 Ghana DHS found that the number of PLWHA in discordant relationships was twice the number living with partners who were also positive (GDHS, 2003).

Statistics available at the Tano North District Health Directorate indicate that, the total number of PLWHA as at the end of the year 2012 were one thousand, one hundred and nine (1109). That is, 212 in 2007, 129 in 2008, 91 in 2009, 188 in 2010, 212 in 2011 and 277 in 2012. A total of seven- five (75) mortalities due to HIV/AIDS have been reported from 2007 to the end of 2012.

Studies have shown that there are a number of reasons that HIV positive clients face when sharing their test results with friends, family and, most importantly, sexual partners. Therefore, an investigation to assess the disclosure of HIV status among PLWHA to their sexual partner (s) or family members and the reasons for non-disclosure in the Tano North District which is the main objective of this study is of considerable interest in finding strategies to encourage disclosure because of the public health benefits of HIV positive status disclosure to the District and Ghana as a whole.

1.3 Justification for the study

In recent years, voluntary HIV Counseling and Testing (VCT), has become increasingly important in national and international prevention and care efforts. Knowledge of sero-status through VCT can be a motivating force for HIV-positive and negative people alike to adopt safer sexual behaviour, which enables sero-positive people to prevent their sexual partners from getting infected and those who test sero-negative to remain negative. Also, those found to be positive get counselling and treatment. This is an important reason since it helps to prolong and improve the quality of life for those infected with HIV.

Studies have shown that disclosure of HIV- positive status could be a pivotal factor in reducing the behaviours that continue to transmit the virus (Marks, Richardson & Maldonado, 1991, Serovich, 2001). It is also acknowledged that disclosure of HIV-positive status is important for the acquisition of social support (especially from family members) necessary for patients' adherence to treatment (Matthews *et al.*, 1999; Waddell & Messeri, 2006). Although disclosure of HIV- positive status is important and PLWHA in Ghana are often counseled to disclose their status to their partners or family members,

1.5 Research Questions

The research sought to address the following questions:

1. What is the proportion of PLWHA who have disclosed their HIV status to their sexual partner(s)/family members in the Tano North District?
2. What are the barriers to HIV positive status disclosure to partners/ family members among PLWHA in the Tano North District?
3. What is the association between HIV sero- status disclosure and socio-demographic factors (Gender, Age, Education, Religion, Occupation, Monthly income, Marital status, Number of sexual partners, Place of diagnosis, Knowledge of HIV status of sexual partner(s)/family member and Attitude of counsellors) among PLWHA in the Tano North District.?
4. What is the quality of counseling (client perspective) given to PLWHA to enable them disclose their sero-status in the Tano North District?

1.6 Objectives of the Study

1.6.1 General Objective of the Study

The general objective of this study was:

To assess the disclosure of HIV status among People Living with HIV/AIDS to their sexual partner (s) or family members and the reasons for non-disclosure in the Tano North District.

1.6.2 Specific Objectives of the Study

The specific objectives of this study were:

1. To determine the proportion of PLWHA who disclosed their HIV status to sexual partner(s)/family members in the Tano North District.
2. To investigate the barriers to HIV positive status disclosure to sexual partners/family members among PLWHA in the Tano North District.
3. To determine the association between HIV sero- status disclosure and socio-demographic factors (Gender, Age, Education, Religion, Occupation, Monthly income, Marital status, Number of sexual partners, Place of diagnosis, Knowledge of HIV status of sexual partner(s)/family member and Attitude of counsellors) among PLWHA in the Tano North District.
4. To assess the quality of counseling (client perspective) given to PLWHA to facilitate disclosure in the Tano North District.

1.7 Significance of the Study

The findings of this study would serve as very essential baseline information for the local health authorities, health care practitioners, decision makers, future researchers, students and teachers, and the general public who would be interested in this study. The local health authorities can use this as a guide to develop a programme aim to address the issue of non-disclosure of HIV status in the Tano North District of Ghana and hence help control the incessant spread of HIV infection.

Also, the results from this study would provide scientific evidence regarding the factors which influence a person's decision to disclose his/her HIV positive status to others, particularly the sexual partner. This information may assist health care professionals in understanding the complex elements of disclosure. Disclosure is an important prevention goal emphasised by the WHO in their protocols for HIV testing and counseling (Medley *et al.*, 2004).

KNUST

1.8 Operational Definitions

Disclosure - Disclosure is the process of making known to others the seropositive or seronegative status with specific regard to HIV infection (Zunniga, van Cutsem & Saranchuk, 2010).

Sexual partner - Sexual partner as referred to in this study is taken to mean a person with whom there is engagement in acts of sexual nature including voluntary sexual intercourse within or outside of a committed relationship.

Family member – Family member in this study referred to both nuclear and extended relatives of the person living with HIV/AIDS such as husband, wife, son, daughter, father, mother, uncles, aunts, brother and sisters.

CHAPTER TWO

2.0 LITERATURE REVIEW

Introduction

In this chapter, the literature was obtained through Internet searches using search engines like “Google scholar”, “Pub-Med” and “Medscape”. Over sixty articles relevant to the topic on different web sites were reviewed which yielded very essential information. Key words used were “Disclosure of HIV status to Sexual partner(s)/Family members”, “Impact of HIV”, “Rate of HIV disclosure”, “Barriers of HIV status disclosure”, “Legal and Ethical Issues AND “HIV status disclosure”, and “Counseling AND HIV status disclosure”.

2.1 Impact of HIV Globally, Africa and in Ghana

2.1.1 Global Impact of HIV/AIDS

Since the beginning of the epidemic, almost 70 million people have been infected with the HIV virus and about 35 million people have died of AIDS (WHO, 2013). Globally, 34.0 million [31.4–35.9 million] people were living with HIV at the end of 2011 (UNAIDS, 2012). 1.7 million People also died of AIDS-related illnesses worldwide in 2011, a 24% decrease since 2005. Deaths have declined due in part to antiretroviral treatment (ART) scale-up. HIV is a leading cause of death worldwide and the number one cause of death in Africa (UNAIDS, 2012). New HIV infections overall have declined by more than 20% since 2001 and, in 25 low- and middle-income countries, new

infections have declined by more than 50%. Still, there were about 2.5 million new infections in 2011 or more than 7,000 new HIV infections per day (UNAIDS, 2011). An estimated 0.8% of adults aged 15-49 years worldwide are living with HIV, although the burden of the epidemic continues to vary considerably between countries and regions (UNAIDS, 2012). Sub-Saharan Africa remains most severely affected, with nearly 1 in every 20 adults (4.9%) living with HIV and accounting for 69% of the people living with HIV worldwide (WHO, 2013). HIV has led to a resurgence of tuberculosis (TB), particularly in Africa, and TB is a leading cause of death for people with HIV worldwide. In 2011, approximately 13% of new TB cases occurred in people living with HIV. However, between 2004 and 2011 TB deaths in people living with HIV declined by 25%, largely due to the scale up of joint HIV/TB services (WHO, 2013)

Women form about half of all people living with HIV worldwide and more than half (58%) in sub-Saharan Africa. HIV is the leading cause of death among women of reproductive age. Gender inequalities, differential access to services, and sexual violence increase women's vulnerability to HIV, and women, especially younger women, are biologically more susceptible to HIV. Young people, ages 15-24, account for approximately 40% of new HIV infections (among those 15 and over) (UNAIDS, 2012). Globally, young women are twice more likely to become infected with HIV than their male counterparts. In some areas, young women are more heavily impacted than young men. Globally, there were 3.3 million children living with HIV in 2011, 330,000 new infections among children (a decrease of 24% from 2009-2011), 230,000 AIDS deaths, and approximately 17.3 million AIDS orphans (children who have lost one or both parents to HIV), most of whom live in sub-Saharan Africa (88%) (UNAIDS, 2012). The

scale of the human immunodeficiency virus (HIV)/AIDS epidemic has exceeded all expectations since its identification 20 years ago. But just as the spread of HIV has been greater than predicted, so too has been its impact on social capital, population structure and economic growth (Piot et al., 2001).

Elaborating on the multi-sectoral impact of HIV/AIDS in depth, The Henry J Kaiser family foundation (2007) discusses the socioeconomic impact of HIV/AIDS from different perspectives and explains why the impact of diminished productivity is felt in many sub Saharan countries on a national scale. HIV/AIDS causes debilitating illness and premature death in people during the prime years of life and has devastated families and communities. Further, it has complicated efforts to fight poverty, improve health, and promote development by diminishing a person's ability to work and provide for his or her family. At the same time, treatment and health-care costs related to HIV/AIDS consume household incomes. The combined effect of reduced income and increased costs impoverishes individuals and households. It also deepens socioeconomic and gender disparities. Women are at high risk of infection and have few options for providing for their families. Children affected by HIV/AIDS are less likely to receive an education due to their illness or the need to leave school to care for ailing parents and orphaned younger siblings. Community resources are strained – hospitals, social services, schools and businesses. Health care workers, teachers, and business and government leaders have been lost to HIV/AIDS.

2.1.2 Impact of HIV/AIDS in Sub-Saharan Africa

Two-thirds of all people infected with HIV live in sub-Saharan Africa, although this region contains little more than 12 percent of the world's population (WHO/UNAIDS/UNICEF, 2011). HIV/AIDS has caused immense human suffering in the continent. The most obvious effect of this crisis has been illness and death, but the impact of the epidemic has certainly not been confined to the health sector; households, schools, workplaces and economies have also been badly affected. During 2010 alone, an estimated 1.2 million adults and children died as a result of AIDS-related illnesses in sub-Saharan Africa (UNAIDS, 2011). Since the beginning of the epidemic more than 15 million Africans have died from AIDS-related illnesses (WHO, 2009).

In all seriously affected countries, the HIV and AIDS epidemic is adding additional pressure on the health sector. As the epidemic matures, the demand for care for those living with HIV rises, as does the toll of AIDS on health workers. As the HIV prevalence of a country rises, the strain placed on its hospitals is likely to increase. In sub-Saharan Africa, people with HIV-related diseases occupy more than half of all hospital beds (WHO, 2006). Government-funded research in South Africa has suggested that, on average, HIV-positive patients stay in hospital four times longer than other patients (Inter Press Service News Agency, May 2006). Hospitals are struggling to cope, especially in poorer African countries where there are often too few beds available. This shortage results in people being admitted only in the later stages of illness, reducing their chances of recovery.

Whilst HIV/AIDS is causing an increased demand for health services, large numbers of healthcare professionals are being directly affected by the epidemic. Botswana, for example, lost 17% of its healthcare workforce due to AIDS between 1999 and 2005. A study in one region of Zambia found that 40% of midwives were HIV-positive (UNAIDS, 2006). Healthcare workers are already scarce in most African countries. Excessive workloads, poor pay and migration to richer countries are among the factors contributing to this shortage (Mills, 2011). Although the recent increase in the provision of antiretroviral drugs (which significantly delay the progression from HIV to AIDS) has brought hope to many in Africa, it has also put increased strain on healthcare workers. Providing antiretroviral treatment to everyone who needs it requires more time and training than is currently available in most countries.

The toll of HIV and AIDS on households can be extremely severe. Although no part of the population is unaffected by HIV, it is often the poorest sectors of society that are most vulnerable to the epidemic and for whom the consequences are most severe. In many cases, the presence of AIDS causes the household to dissolve, as parents die and children are sent to relatives for care and upbringing. A study in rural South Africa suggested that households in which an adult had died from AIDS were four times more likely to dissolve than those in which no deaths had occurred (Hosegood, 2004). Much happens before this dissolution takes place: AIDS strips families of their assets and income earners, further impoverishing the poor. In Botswana it is estimated that, on average, every income earner is likely to acquire one additional dependent over the next ten years due to the AIDS epidemic. A dramatic increase in destitute households – those with no income earners – is also expected (UNAIDS, 2006).

Other countries in the region are experiencing the same difficulty, as persons who would otherwise provide a household with income are prevented from working – either because they are ill with AIDS themselves or because they are caring for another sick family member. Such circumstance is likely to have repercussions for every member of the family. Children may be compelled to stop their education and in some cases women may be forced to turn to sex work ('prostitution'). This can lead to a higher risk of HIV transmission, which further exacerbates the situation. A study in South Africa found that poor households coping with members who are sick from HIV or AIDS were reducing spending on necessities even further. The most likely expenses to be cut were clothing (21%), electricity (16%) and other services (9%). Falling incomes forced about 6% of households to reduce the amount they spent on food and almost half of households reported having insufficient food at times (The Henry J. Kaiser Family Foundation, 2002).

The HIV and AIDS epidemic adds to food insecurity in many areas, as agricultural work is abandoned due to household illness. In Malawi, where food shortages have had a devastating effect, it has been recognised that HIV/AIDS has diminished the country's agricultural output (bbc.co.uk, October 2005). It was calculated in 2006 that by 2020, Malawi's agricultural workforce will be 14% smaller than it would have been without HIV and AIDS. In other countries, such as Mozambique, Botswana, Namibia and Zimbabwe, the reduction is likely to be over 20% (UNAIDS, 2006).

Taking care of an individual ill with AIDS is not only an emotional strain for household members, but also a key strain on household resources. Loss of income,

additional care-related expenses, the reduced ability of caregivers to work, and increasing medical fees push affected households deeper into poverty. It is estimated that, on average, HIV-related care can absorb one-third of a household's monthly income (The Henry J. Kaiser Family Foundation, 2002). The financial burden of death can also be considerable, with some families in South Africa easily spending seven times their total household monthly income on a funeral. Furthermore, although many South Africans contribute to some sort of funeral insurance plan, many of these are inadequately funded, and it is arguable that such financial arrangements detract from other savings plans or health insurance (Collins and Leibbrandt, 2007). Aside from the financial burden, providing home based care can impose demands on the physical, mental and general health of carers – usually family and friends of the sick person.

It is difficult to explain the trauma and hardship that children affected by HIV and AIDS are forced to bear. The epidemic not only causes children to lose their parents or guardians, but sometimes their childhood as well. As parents and family members become ill, children take on more responsibility to earn an income, produce food, and care for family members. It is harder for these children to access adequate nutrition, basic health care, housing and clothing. Because AIDS claims the lives of people at an age when most already have young children, more children have been orphaned by AIDS in Africa than anywhere else. Many children are now raised by their extended families and some are even left on their own in child-headed households. As projections of the number of AIDS orphans rise, some have called for an increase in institutional care for children.

The relationship between HIV/AIDS and the education sector is circular – as the epidemic worsens, the education sector is damaged, which in turn is likely to increase the incidence of HIV transmission. There are numerous ways in which HIV and AIDS can affect education, but equally there are many ways in which education can help the fight against HIV and AIDS. The extent to which schools and other education institutions are able to continue functioning will influence how well societies eventually recover from the epidemic. According to the World Bank/UNESCO/UNAIDS Press release (2002) "Without education, AIDS will continue its rampant spread. With AIDS out of control, education will be out of reach."

HIV and AIDS are having a devastating effect on the already inadequate supply of teachers in African countries; for example, a study in South Africa found that 21% of teachers aged 25-34 were living with HIV (UNAIDS, 2006). Teachers who are affected by HIV and AIDS are likely to take periods of time off work. Those with sick families may also take time off to attend funerals or to care for sick or dying relatives, and further absenteeism may result from the psychological effects of the epidemic (The World Bank, 2002). When a teacher falls ill, the class may be taken on by another teacher, may be combined with another class, or may be left untaught. Even when there is a sufficient supply of teachers to replace losses, there can be a significant impact on the students. This is particularly concerning given the important role that teachers can play in the fight against HIV and AIDS. The illness or death of teachers is especially devastating in rural areas where schools depend heavily on one or two teachers. Moreover, skilled teachers are not easily replaced. The impact of HIV and AIDS in Tanzania for example means that in 2006 it was estimated that around 45,000 additional teachers were needed to make up

for those who had died or left work because of HIV and AIDS. The greatest proportion of staff that have been lost, according to the Tanzania Teacher's Union, were experienced staff between the ages of 41 and 50 (UNAIDS, 2006).

HIV and AIDS significantly affect labour, setting back economic and social progress. The vast majority of people living with HIV in Africa are between the ages of 15 and 49 - in the prime of their working lives. AIDS damages businesses by squeezing productivity, adding costs, diverting productive resources, and depleting skills. Company costs for health-care, funeral benefits and pension fund commitments are likely to rise as the number of people taking early retirement or dying increases.

Also, as the impact of the epidemic on households grows sterner, market demand for products and services can reduce. The epidemic hits productivity through increased absenteeism. Comparative studies of East African businesses have shown that absenteeism can account for as much as 25-54% of company costs (UNAIDS, 2003). A study in several Southern African countries has estimated that the combined impact of AIDS-related absenteeism, productivity declines, health-care expenditures, and recruitment and training expenses could cut profits by at least 6-8% (UNAIDS, 2003). Another study of a thousand companies in Southern Africa found that 9% had suffered a significant negative impact due to AIDS. In areas that have been hit hardest by the epidemic, it found that up to 40% of companies reported that HIV and AIDS were having a negative effect on profits (UNAIDS, 2003).

Additionally, a cost-benefit analysis of providing treatment to HIV-positive employees in a large mining company in South Africa, found a projected financial saving

of 17 percent between 2003 and 2022 (Vickerman, 2012). In Swaziland, an employers' anti-AIDS coalition has been set up to promote voluntary counselling and testing. The coalition not only includes larger companies but also small and medium sized enterprises (IRINnews.org, April 2005). In Botswana, the Debswana diamond company offers all employees HIV testing, and provides antiretroviral drugs to HIV positive workers and their spouses (News From Africa, 2003). This policy was introduced in 1999 when the company found that many of their workforces were HIV positive. With a skilled workforce, it is financially worth their while to protect the health and therefore the productivity of their workers. Nevertheless, workplace programmes for HIV treatment and prevention remain scarce in Africa (UNAIDS, 2008).

In many countries of sub-Saharan Africa, AIDS is erasing decades of progress in extending life expectancy. In the worst affected countries, average life expectancy has fallen by twenty years because of the epidemic (UNAIDS, 2008). Life expectancy at birth in Swaziland, which has the highest HIV prevalence in the world, is just 48.7 years (UNDP, 2011). The impact that AIDS has had on average life expectancy is partly attributed to child mortality, as increasing numbers of babies are born with HIV infections acquired from their mothers. The biggest increase in deaths, however, has been among adults aged between 20 and 49 years. This group now accounts for 60% of all deaths in sub-Saharan Africa, compared to 20% between 1985 and 1990, when the epidemic was in its early stages (UNAIDS, 2006). By affecting this age group so heavily, AIDS is hitting adults in their most economically productive years and removing the very people who could be responding to the crisis.

Through its impacts on the labour force, households and enterprises, AIDS has played a significant role in the reversal of human development in Africa (UNDP, 2005). One aspect of this development reversal has been the damage that the epidemic has done to the economy, which, in turn, has made it more difficult for countries to respond to the crisis. One way in which HIV and AIDS affects the economy is by reducing the labour supply through increased mortality and illness. Amongst those who are able to work, productivity is likely to decline as a result of HIV-related illness. Government income also declines, as tax revenues fall and governments are pressured to increase their spending to deal with the expanding HIV epidemic. The abilities of African countries to diversify their industrial base, expand exports and attract foreign investment are integral to economic progress in the region. By making labour more expensive and reducing profits, AIDS limits the ability of African countries to attract industries that depend on low-cost labour and makes investments in African businesses less desirable (Rosen et al., 2004).

The impact that HIV and AIDS has had on the economies of African countries is difficult to measure. The economies of the worst affected countries were already struggling with development challenges, debt and declining trade before the epidemic started to affect the continent. HIV and AIDS has combined with these factors to further aggravate the situation. It is thought that the impact of HIV and AIDS on the gross domestic product (GDP) of the worst affected countries is a loss of around 1.5% per year; this means that after 25 years the economy would be 31% smaller than it would otherwise have been (Greener et al, 2004).

2.1.3 Impact of HIV/AIDS in Ghana

The first cases of HIV/AIDS were reported in Ghana in March, 1986. By the end of 1986, a total of 42 cases had been reported to the health authorities (Nabila et al., 2001). The number of reported cases has been increasing steadily over the years with a cumulative total of 43,587 as at the end of December, 2000. This means that in the year 2000 alone 6,289 cases were added to the 1999 figure. This may in part be due to improvements in the case reporting of AIDS cases country wide. The increase may also be a result of increasing spread of infection (Nabila et al., 2001).

The national response began in 1985 with the setting up of The National Technical Committee on AIDS (NTCA). This was replaced with The National AIDS/STD Control Programme (NACP) based at the Ministry of Health in 1987. NACP has been the coordinating body of the national response even though it is situated in the Ministry of Health until September, 2000 when the Ghana AIDS Commission was inaugurated. The objectives of the plans have been to reduce further transmission of infection and to mitigate the effects of HIV/AIDS on the infected and affected. Priority interventions have focused on promotion of safe sex, condom promotion, improved management of STDs, safe blood, infection control, nursing/clinical care and counseling and home based care. The context of the response has been multisectoral, multidisciplinary and expanded. Stakeholders have included government sectors, NGOs, traditional healers, PLWHA and civil society. This response has chalked much success and has led to a steady reduction of the prevalence of HIV/AIDS in Ghana. This is shown below.

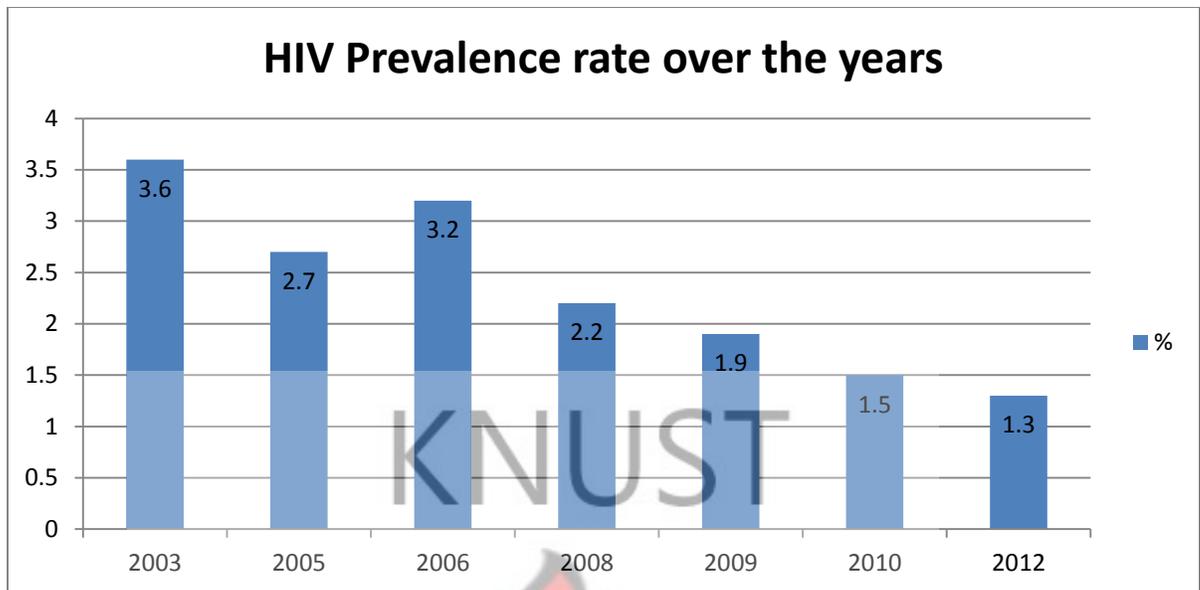


Figure 2.1: Prevalence Rate of HIV in Ghana

Source: *National AIDS/STIs Control Programme, 2012*

However, since the emergence of HIV/AIDS in Ghana it has had a very severe impact not only on the health sector, but all sector including: education, labour force, economy/finance, transport, agriculture among others similar to other African countries.

It is obvious that the cost of AIDS care will have a key impact on the distribution of health resources. Analysis of the costs of HIV/AIDS care will vary depending on whether one is considering only the essential drugs for opportunistic infections or the full cost of anti-retroviral treatment. An HIV/AIDS Economic Impact Study in Ghana done in June 2001 found the cost of out-patient care including drugs and laboratory services for opportunistic infections for an AIDS patient ranges between 36,308 Cedis (US\$5.19) and 380,350 (US\$54.34) per episode of illness. With the total cost for treating an AIDS patient for opportunistic infections for one year is approximately 4.2 million Cedis

(US\$594.98). This same study examined several businesses in Ghana and found that the total cost for full anti-retroviral treatment, for the few patients for whom this was available, amounted to 45 million Cedis per patient per year (Nabila et al., 2001).

Skilled teachers are a valuable commodity in all countries. But in some parts of Africa, they are becoming too sick to work or are dying due to HIV-related illnesses. AIDS among teachers may result in increasing absenteeism and disruption in the schools. Training costs for teachers could rise to replace those lost to the epidemic. For instance, AIDS accounted for seven out of ten deaths among teachers in Côte d'Ivoire in 1998; Zambia lost 1,300 teachers in 1998 alone; and in Central African Republic schools have been closed owing to staff shortages. Because an AIDS death to an adult results in the loss of household labour and/or income, children are often required to leave school and remain at home or go to work to compensate for losses and to avoid school fees. Girls, in particular, may have to give up their educational opportunities. Orphans often lose the necessary financial, material, and emotional support that they need for successful schooling. Currently Ghana has not collected data on the impact of HIV/AIDS on the education sector. Efforts have to be intensified to study the impact of HIV/AIDS on the educational sector (National AIDS/STI Control Programme, 2001).

The loss of people in the most productive years of their lives will certainly affect overall economic output. Some sectors, particularly those that require trained and skilled workers, will be harder struck than others. The productivity of an enterprise will be affected even before an employee dies, due to lost workdays because of sickness. The number of workdays lost to illness for a person with HIV/AIDS can range from as few as 30 to as many as 240 days in a year. Even healthy workers may need more time off from

work to attend funerals of relatives and co-workers. AIDS can also have a significant impact on health care costs for firms that provide health care for their employees.

Studies from countries hard hit by the epidemic show that AIDS has an adverse effect on the productive labour force. In Ghana as well, AIDS may have a significant impact on some firms as the study of a Ghanaian firm. AIDS related illness and deaths to employees affect a firm by both increasing expenditures and reducing revenues. Expenditures are increased for health care costs, burial fees and training and recruitment of replacement employees. Revenue decreases are a result of absenteeism due to illness or attendance at funerals. Labour turnover can lead to a less experienced labour force that is less productive. With high levels of HIV infection, businesses in Ghana would find it difficult to provide treatment, including antiretroviral drugs, due to long-term sustainability issues. HIV/AIDS thus presents a dual challenge in that it is both an extremely serious health problem and a major economic concern (National AIDS/STI Control Programme, 2001).

The economic effects are felt first by individuals and their families then ripple outwards to firms and businesses and the macro-economy. The household impacts begin as soon as a member of the household starts to suffer from HIV-related illnesses. Illness prevents the primary breadwinner from working, increases the amount of money the household spends on health care, and requires other household members to miss school or work in order to care for the patient. Death of the patient results in a permanent loss of income, either through lost wages and remittances, or through a decrease in agricultural labour supply. Households must also bear the costs of funerals and mourning. When children are withdrawn from school, the household suffers a severe loss of future earning

potential. On a macroeconomic level, the impact of AIDS is difficult to assess. There are several mechanisms by which AIDS affects macroeconomic performance. AIDS deaths lead directly to a reduction in the number of workers available, and less experienced workers replace those who died, leading to lower productivity. A shortage of workers leads to higher wages, which leads to higher domestic production costs, and a loss of international competitiveness. Reduced savings because of greater health care expenditures and a loss of worker income can cause a significant drop in savings and capital accumulation. This leads to slower employment creation in the formal sector, which is particularly capital intensive (National AIDS/STI Control Programme, 2001).

The transport sector is especially vulnerable to AIDS and vital to AIDS prevention. Building and maintaining transport infrastructure often involves sending teams of men away from their families for extended periods of time, increasing the likelihood of multiple sexual partners. The people who operate transport services (truck drivers, train crews, sailors) spend many days and nights away from their families. Most transport managers are highly trained professionals who are hard to replace if they die. The Government of Ghana and the private sector in Ghana face the dilemma of improving transport as an essential element of national development while protecting the health of transport workers and their families (National AIDS/STI Control Programme, 2001).

Most of the agricultural sector in Ghana is subsistence farming; evidence from other countries suggests that the decline in labour supply due to morbidity and mortality from HIV/AIDS will have a negative impact on production, and thus on the food supply for households, increasing the incidence of malnutrition. There will be loss of labour

supply at crucial planting and harvesting times. In addition, there could also be switching from labour-intensive export crops to food crops. Production may also suffer as the timing of general agricultural tasks is disrupted as workers fall ill and as others need to take time off to care for them (National AIDS/STI Control Programme, 2001).

2.2 Proportion of HIV Status Disclosure

HIV positive status disclosure is lower in developing countries compared to developed countries. Studies conducted in developing countries indicate that the rates of disclosure among the studies from the developing world were notably lower than rates reported from the developed world. The rates ranged from 16.7% to 86%. Among the studies that reported disclosure rates to current and/or steady partners the average rate of disclosure was 49%, considerably less than the average rate reported from studies conducted in the developed world (79%) (Medley, *et. al.*, 2004). Another study conducted by Wolfe *et. al.* (2006) among 112 patients receiving antiretroviral treatment (ART) in private clinics in Botswana found out that 94% of the participants reported keeping their HIV status secret from their community; 69% withheld this information even from their family, while 12% had told no one.

A review done by (WHO/FCH/GWH, 2004) states that studies done on disclosure rates among women only showed that rates of disclosure to sexual partners are higher among women in the developed world (average 71%; range: 42%-100%) compared to women in the developing world (average 52%; range: 16%-86%). The lowest rates found in this review were among pregnant women tested in antenatal care settings in sub-Saharan Africa (16.7%-32%). In addition, larger proportions of studies from developing countries reported women that did not share their HIV test results with anyone (10%-

78%) as compared to women in developed country studies (3%-10%) (WHO/FCH/GWH, 2004).

Other important findings from both developed and developing countries settings include discrepancies between intention to disclose and actual disclosure behaviour indicates that actual disclosure rates are lower than intended disclosure rates. Women in both settings often disclose to multiple categories of people and there are also cultural factors that influence the pattern of disclosure to sexual partners and other members of social networks (WHO, 2004).

The results of individual studies done in different settings also demonstrate the magnitude of the problem of non disclosure. For instance, Perry et al. (1994) found that almost one third of HIV-sero-positive men and women did not disclose their HIV serostatus to past or present sexual partners. Also, Stein et al. (2003) found that 40% of sexually active men and women living with HIV in a community sample had not disclosed their serostatus to their sexual partners. Similarly, in another study conducted by Kalichman and Nachimson (1999) reported that 41% of HIV positive persons had not disclosed their HIV serostatus to their sexual partners. This study also found that 42% of HIV positive men and 42% of HIV positive women reported at least one instance of unprotected sex during a six month period, frequently with partners with unknown or sero-negative HIV status.

Studies have shown that disclosure to fathers was rarer and generally occurred with disease progression. Fathers were also more likely than other family members to become angry or withdraw support after disclosure. Disclosure to sexual partners was also frequently associated with emotional support. However, lovers were more likely to

become angry and withdraw after disclosure than family members. Studies have also reported that disclosure to friends resulted in increased social support and that friends were the most unlikely to become angry or withdraw after disclosure (Stempel, 1995, Simoni et al., 1995 and MacNeil et al. 1999).

The findings of Marks and Crepaz (2001), involving 206 HIV positive men of varied sexual orientation, 48% had not disclosed their serostatus to their sexual partners. A number of studies have also reported that many people with HIV have partners who are HIV negative or of unknown serostatus. In the same way, a study by Ciesla et al. (2006) among 48 respondents, reported that 31.1% of HIV positive patients reported unprotected vaginal or anal intercourse with a partner of negative or unknown HIV.

In sub-Saharan Africa, the primary mode of transmission is heterosexual contact and studies have shown that the rates of infection and transmission of HIV are increasing among married persons making disclosure very important (Olley et al., 2004). In South Africa for instance, the rate of HIV infection among married heterosexual couples cumulatively increased from 5% in 1999 to 12% at the end of 2002 (Abdool-Kareem and Abdul Kareem, 2002).

Another study done in South Africa to examine HIV serostatus disclosure and its relationship to risky sexual behaviours in 69 sexually active, heterosexual, married (62%) or cohabiting (38%), in patients recently diagnosed to be HIV positive, showed that 78% had not disclosed their HIV status to their sexual partners and 46% had no knowledge of their sexual partner's serostatus (Olley, 2004). In a cross sectional survey done by Wong et al., (2009) in Soweto and the Kwazulu natal, that measured the rate of disclosure of HIV status and factors associated with disclosure, HIV disclosure was reported by 87%

of participants and among those who disclosed, 93% disclosed to boyfriends or girlfriends. Following disclosure, 82% requested that their partner be tested and 81% reported that they wanted to limit sex to one partner; 64% stated using condoms for all sexual encounters. Stein et al, (2003) also agreed that non-disclosers are more likely not to regularly use condoms than disclosers and hence sexual partners of HIV-infected persons continue to be at risk for HIV transmission.

KNUST

2.3 The preferred audience for HIV status disclosure

The process of disclosing ones HIV status varies from person to person. It involves decisions about timing, to whom, how and under what conditions (Makin *et. al.*, 2008). Some disclose their status soon after receiving HIV test results, others give the information after a short period of time (months), some take longer to disclose (years) as some do not disclose anything to anyone, fearing the consequences if their status became widely known. Most PLWHA tend to disclose their status to persons whom they are directly related, and who they in fact trust, most often family members such as spouses, parents, siblings, children, aunts and uncles.

However, some PLWHA disclose their status to friends, neighbours, and even members of the public (Lugalla *et. al.*, 2011). PLWHA tend to share their status with family members due to the social ties they have and the psychosocial support they expect from them. However, this might always not be the case, as some people do not trust their family members as they do trust their friends. Previous study reports that friends appear to be closer confidants than immediate family members among gay men (Bouillon *et. al.*, 2007). This study further explained that relatives may be chosen over spouses.

2.4 Factors which may influence HIV status disclosure

2.4.1 Socio-demographic factors

Several factors can influence disclosure of a positive HIV status. These include age, sex, relationship status, financial status, religion, culture, educational level, awareness of the partner's status among others.

2.4.1.1 Age

The age of the person who is HIV positive and the proportion of disclosure vary a little. It appears that younger persons are more likely to disclose to their sexual partner/family members than older people. According to O'Brien et. al. (2003) participants older than 22 disclose most often to sexual partners or an immediate family member, while participants older than 35, seem more willing to disclose to a friend. Women younger than 24 years of age are more likely to disclose than older women and specifically to their sexual partners (Medley *et al.*, 2004). The results of a study conducted by Kadowa and Nuwaha (2009) in Uganda were however different. The study shows the mean age of those who disclose are 38 years and 31 years for those who never disclose. This may be due to associated factors, such as relationship status and the number of sexual partners in the previous two years (Kadowa & Nuwaha, 2009).

2.4.1.2 Gender

The association between gender and HIV status disclosure become significant as it is influenced by gender inequality and discrimination. Gender is a social construct and relates to roles and responsibilities of a male or female (Türmen, 2003). The financial and

social status of women in many communities is lower due to the fact that they are women. A study conducted in Nigeria noted that the rapid transmission of HIV included numerous aspects, one of which is the low status of women (Akpa, 2011). In some societies it is not considered masculine to access health care services so men often access treatment later than women. They are often at an advanced stage of HIV and present with severe opportunistic infections. In these societies the value of women's health is minimal due to power inequalities which result in subordination of women (Greig, 2008).

2.4.1.3 Relationship status

The relationship status of a person does influence the willingness to disclose or not disclose their HIV status to their sexual partner/family members. According to Gaskins (2006) people do not always disclose to their partner's. This is also influenced by the number of sexual partners. As the number of partners increase, the rate of disclosure decreases. Married women are more likely to disclose to their sexual partners than women in cohabitating relationships (Gari, Habte & Markos, 2010). According to Chaudoir *et al.* (2011) disclosure rates were higher to steady partners in comparison to those who have casual partners. This was supported by O Brein *et al.* (2003) who found that disclosure was significantly higher to steady partners. This rate also increases according to the stage of the disease, where individuals who are ill are more likely to disclose than those who are asymptomatic.

2.4.1.4 Religion and culture

Religion and cultural aspects have also been considered in a number of studies with regards to attitude towards HIV and Anti-retroviral drugs (ARVs). According to Zou *et al.* (2008) it appears there is still a strong belief that people with HIV have done something wrong and are now being punished by God. Of the over 400 parishioners included in the study, 80.8% state that prayer could heal HIV, although believers accept the power of prayer and the healing thereof, 93.7% still prefer the option of medical treatment. The same study found that religion and the perceived fear of stigmatisation are closely related, yet 84.2% of the sample feels that they will disclose their HIV positive status to their partner. This is the intention to disclose, not actual disclosure. Clients reported cultural mistrust in mental health counsellor-client relationship, which has resulted in the client discontinuing counselling, possibly affecting support of HIV disclosure (Benkert *et al.*, 2006).

In Nigeria the results of a logistic regression showed that Muslims are stigmatized more often if their partners die from AIDS (Klopper, 2011). Culture prevented Muslims, especially women, from even attending HIV/AIDS clinics (Akpa *et al.*, 2011). The cultural differences are also described by Eustace and Ilagan (2010). In countries such as India and Africa, individuals mostly disclose to family, whereas in the West, disclosure is most often to friends.

Another aspect of concern is the cultural norms of a society. In some instances it is considered that promiscuity is acceptable in men, combined with the encouragement to drink alcohol or abuse drugs, which increase high risk sexual behaviour (Türmen, 2003).

Individuals are less likely to disclose their HIV status if they have multiple sexual partners and more likely to engage in unprotected sex (Eustace & Ilagan, 2010).

2.4.1.5 Educational level

There are two aspects to consider when attempting determining whether education influences HIV status disclosure. The first is the educational level of the individual i.e. the academic achievement level in school or tertiary education. Secondly, the knowledge of HIV/AIDS and educational opportunities the individual has access to. Male participants of a study conducted in a small rural area claimed that ignorance about HIV made disclosure difficult. As one man quoted 'People look down on you real bad. They are not educated'. These men also related that more knowledge on HIV and treatment options are urgently required (Gaskins, 2006).

Lack of knowledge of HIV may be directly related to the educational level and cultural practices of a person. According to Türmen (2003) "many cultures value ignorance about sexual interaction as a feature of femininity, jeopardizing their education". This study conducted in Cameroon revealed that women aged 15-24 have heard about AIDS but only 16% understand the implication of HIV infection. Another study in the Philippines shows that 91% have heard of the disease, but only 4% have substantial knowledge about the infection (Türmen, 2003). Individuals with a higher level of education are more likely to disclose which often results in safer sexual practice (Medley *et al.*, 2004). The choice to commence on ARV's was found to be directly related to an educational level and knowledge of the medication. The higher the level of education the more likely the individual would be inclined to start treatment (Zou *et al.*, 2008).

It has been reported that individuals with higher education are more likely to disclose their HIV status than those with a basic education or those who are illiterate (Deribe *et al.*, 2007). However, other studies have noted that there is no significant difference in disclosure rates with regards to a level of education (Gari *et al.*, 2010; Kadowa & Nuwaha, 2009).

2.4.1.6 Knowledge of partner's status

The rates of disclosure are influenced by awareness of the partner's status and in most studies it has been established that individuals are less likely to disclose if they are unaware of the partner's status (Klopper, 2011). Knowledge of one's partner's status empowers an individual to make safe choices with regards to sexual behaviour such as abstinence and condom use (O'Brein *et al.*, 2003). A study conducted by King *et al.* (2007) found that, in summary, the highest rates of disclosure are among married participants who have attended an AIDS support organization for more than two years and are aware of their partner's status.

Deribe *et al.* (2007) stated that 20% of the participants are not aware of their sexual partner's HIV status and at times disclosure was made after sexual contact with the partner. When an individual knows that the status of their partner is negative, the disclosure rates are low. Simbayi *et al.* (2006) found that 39% of people are unaware of their partner's status. Unprotected sexual contact is most common when both individuals are oblivious of each other's status. A related factor is that these individuals are more likely to engage in unsafe sexual behaviour and have more partners. The reasons for non-disclosure are mostly cited as fear of discrimination. There is an attitude of 'not asking

and not telling'. Women are more likely to disclose to their HIV positive partner than those who do not know the status (Gari *et al.*, 2010).

2.4.2 Theories of Disclosure

2.4.2.1 Disease progression theory

A study by Serovich (2001) theorized that individuals are more likely to disclose their HIV positive status as they become symptomatic. This is supported by opinions that as HIV progresses to AIDS individuals may feel that they will need extra help to manage their illness and thus decide to disclose their status – as a means of accessing necessary social and material support (Mansergh, Marks and Simoni, 1995). Given that disease progression could result in hospitalisation and physical deterioration, it is believed that this situation may necessitate some persons to disclose their status to others (Serovich, 2001).

Disclosure appears also to be associated with variables such as CD4T-cell count – which is actually a parameter used to determine the severity of an HIV infection (O'Brien *et al.*, 2003). These investigators have revealed that individuals with CD4T-cell count above 500 are less likely to disclose their status. And when these levels drop and individuals' conditions progress to AIDS diagnosis, they are significantly more likely to disclose – from about 50% during symptomatic HIV to 75% during AIDS-related complex (ARC) and AIDS (O'Brien *et al.*, 2003).

2.4.2.2 The consequence theory

This theory suggests that disease progression influences disclosure through individuals' perception of the consequences anticipated as a result of disclosure (Serovich, 2001; Serovich, Lim and Mason, 2008). It is perceived that as the disease progresses, the need to assess the consequences of disclosure becomes more pronounced. The decision to disclose one's HIV status is thus presented, in this model, as the outcome of a calculation of the immediate benefits and risks of disclosure; and once the benefits for disclosing outweigh the associated risks, then, People Living with HIV (PLWHA) are likely to disclose their status (Serovich, 2001; Serovich, Lim and Mason, 2008). Nevertheless, the decision to disclose one's HIV status remains reliant on an individual's psychological state, personal communication skills, individual motivations for disclosure and some interventions to help support individuals through the process of disclosure (WHO, 2004).

2.5 Barriers to HIV status disclosure

2.5.1 Fear of abandonment

Fear of abandonment is a major barrier to HIV status disclosure in developing countries. Studies among women, particularly in developing countries have found that fear of abandonment was closely tied to fear of loss of economic support from a partner. Thirteen of the 14 studies conducted in developing countries with women reported that fear of abandonment and loss of economic support were major barriers to disclosing HIV status to sexual partners (WHO, 2004). In these settings where resources are extremely scarce and women's access to resources independent of their partner is uncommon, it is

not surprising that fear of losing instrumental support from a partner is a major consideration when deciding whether to share results or not. The absence of social security and health insurance in most African countries also make women dependent on their partner and family for their health care, therefore women may choose not to disclose their HIV status in order to benefit from family support (WHO, 2004). However, a study by Antelman et al. (2001) conducted in the United Republic of Tanzania did not support the hypothesis that women who are more economically dependent on their partner are less likely to disclose. They found that women of lower socioeconomic status (SES) were more likely to disclose.

2.5.2 Fear of rejection/discrimination

In addition to fearing abandonment and loss of economic support, several studies found that fear of social isolation and discrimination was another important barrier to disclosure of HIV status (WHO, 2004). Study participants feared discrimination and social isolation from family members and from the wider public. Fear of discrimination can be further defined as fear of social discrimination leading to social isolation and lack of support and fear of socioeconomic discrimination which may lead to problems with jobs, housing, insurance and other practical socioeconomic considerations (WHO, 2004). In a study among HIV infected women in the USA by Moneyham et al. (1996) the authors found that concerns of discrimination were a major barrier to disclosure, particularly in situations where disclosure involved people that participants felt had power over some aspect of their lives such as work or needed resources.

The concern regarding socioeconomic discrimination was mentioned more often in studies conducted in the developed world than in those from the developing world.

Participants from studies in the developed world mentioned concern over social discrimination more often than they described fears of socioeconomic discrimination. Fear of loss of confidentiality was closely tied to fear of discrimination in all studies. The loss of confidentiality represented potential exposure to discrimination (Moneyham *et al.*, 1996).

2.5.3 Fear of violence

Fear of violence was mentioned by women as a barrier to disclosure in about one quarter of all studies according to WHO (2004). Some studies specifically probed for fear of violence as a barrier to disclosure, and in others fear of conflict and violence was spontaneously mentioned by women. Fear of violence was mentioned less often as a barrier to disclosure in developed world studies compared to studies from the developing world (WHO, 2004). Gielen (1997) found that 12% of the HIV-infected women included in her study in Baltimore, USA, reported fear of violence as a barrier to disclosure. From developing countries, 16% of the women studied by Kilewo (2001) in the United Republic of Tanzania, 19% of the women studied by Farquhar (2000) in Kenya and 51% of the women studied by Rakwar (1999) in Kenya indicated that fear of violence was a major barrier to disclosure of HIV test results. In a study among pregnant women in Burkina Faso, Nebie (2001) reported that fear of domestic violence was the only identifiable reason why women chose not to share test results with their partner.

2.5.4 Fear of upsetting family members

Concern for others was a barrier that was mentioned in several studies according to WHO (2004). The two studies from the USA that involved Asian/Pacific Islander Americans found that fear of upsetting and shaming family was the major barrier to disclosure (Chin, 1999 and Yoshioka, 2001). Yoshioka (2001) found that among HIV-infected men there were three major barriers to disclosure of HIV status to family members including: protection of family from shame, protection of family from obligation to help, and avoidance of communication about highly personal information.

Chin (1999) found that fear of burdening or disappointing others was a major barrier among the Asian/Pacific Islander women that she studied. In the study from Thailand by Bennetts (1999) three quarters of the women (77%) felt that HIV was a disease of which their family would be ashamed. Lack of disclosure and shame were both associated with high levels of worry about HIV. All three studies describe cultural attributes of Asian communities that explain why shaming and disappointing family is a major concern for HIV-infected individuals. From the United Republic of Tanzania, 17% of the HIV-infected pregnant women studied by Antelman (2001) reported that their reason for nondisclosure was the desire to avoid upsetting others.

2.5.5 Severity of illness

Severity of disease is associated with disclosure to partners, family and friends. As symptoms of the disease become more pronounced, HIV-infected individuals are more likely to share results with others (WHO, 2004). Armistead (1999) found that among African-American women, the stage of disease was predictive of disclosure to fathers and friends, but not to sexual partners. Other studies have found a direct

relationship between severity of the disease and disclosure. Among men of Latin-American origin, Mason (1995) found that severity of disease was an independent predictor of disclosure to partners. Jeffe (2000) found a direct relationship between severity of disease and disclosure to medical providers. Mansergh (1995) also found that disclosure was lower among asymptomatic men than symptomatic men.

2.6 Counseling and HIV status Disclosure

Disclosure of HIV positive status to a sexual partner(s)/family member is made possible if only the PLWHA receives quality counselling. HIV counseling is very essential that can be used to address barriers to HIV status disclosure. De Rosa and Mark (1998) found that rates of disclosure increased monotonically with the number of times that a health official at the HIV clinic where a person received care discussed the issue of disclosure. Men who were counseled both at post-test counseling and at their current HIV clinic were nearly twice more likely to have disclosed to all sexual partners than men not counseled at both sites. At a minimum, raising the issue of disclosure during both the pretest and the post-test counseling session is necessary in order to work through the barriers and develop a plan for disclosure to sexual partners. During the pretest counseling session the counselor can help the client to think about the potential reaction of the partner, develop answers to potential questions that partners may have and to think about when and under what conditions results will be shared with partners. Pre-test counseling can also be used to help clients think about the consequences of failing to disclose including infecting their partners, perinatal transmission, and difficulty in accessing medical and social support. During the post-test counseling session, counselors

can use the behavioural rehearsal techniques to discuss additional barriers and develop a specific disclosure plan (WHO, 2004).

Pre-test counselling is a unique opportunity to reinforce prevention messages. In providing accurate information and correcting false beliefs and myths on HIV and AIDS, pre-test counselling may also assist in reducing stigma in the community. Finally, pre-test counselling prepares individuals to cope with a potential HIV-positive status and contributes at establishing a relationship with the counselor (National Guidelines for the implementation Of HIV Counselling and Testing in Ghana, 2008).

Pre-test Counselling and information according to the National Guidelines for the implementation Of HIV Counselling and Testing in Ghana (2008) are:

Client-Initiated Counselling and Testing

1. Counselling should include the following components:
2. Reasons why the client is requesting CT
3. Basic facts about HIV infection and AIDS
4. STIs and their relation to HIV
5. HIV testing procedures at the site, including whether or not written results will be given
6. Meaning of Test results including the window period. (explain the possibility of discordant results for couples)
7. Basic HIV prevention
8. Personal risk assessment

9. Exploration of behaviour change and the development of a risk reduction plan
(see risk reduction planning under “Post Test Counselling”)
10. Client’s readiness to learn sero-status
11. Client’s intentions after learning test results
12. Exploration of what the client might do if the test is positive, and the possible ways of coping with a positive HIV result
13. Exploration of disclosure plans possibly partner, family member, friend etc.
14. Exploration of potential support from family and friends
15. Condom use, including condom demonstration
16. Any special needs discussed by the client
17. Obtaining of informed consent
18. Information on treatment, care and support services.

Provider-Initiated Counselling and Testing

Information given to clients shall include the following four components:

1. Clinical and prevention benefits of testing
2. Right to refuse
3. Follow-up services offered
4. In the event of a positive test result, anticipating the need to inform anyone at ongoing risk who would otherwise not suspect they were being exposed to HIV infection

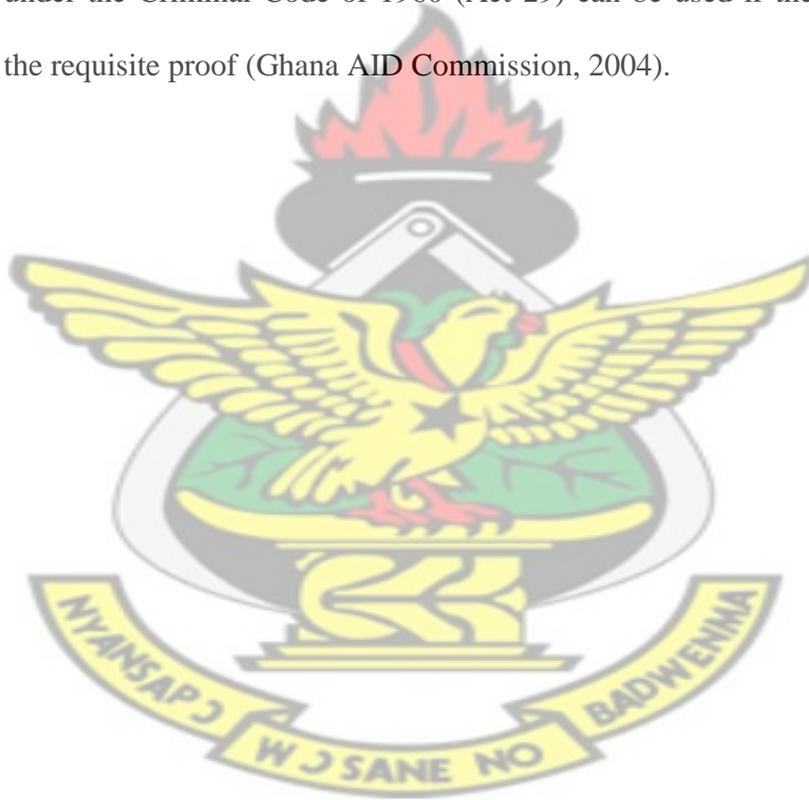
Most clients who initially may be unwilling to disclose, would eventually disclose if they are made aware of the benefits of disclosure and supported to do so. Clients should also be made aware of the possible legal implications of their non-disclosure. For discordant couples, confidentiality should be maintained and the couple encouraged to disclose their HIV status to each other. There is need to discuss protective and safer sex practices and for the periodic testing of the HIV negative partner (National Guidelines for The implementation Of HIV Counselling and Testing in Ghana, 2008)

2.7 HIV status disclosure and the law

Health care and social welfare workers in Ghana can not disclose ones HIV status to a third party without the client consent unless where it is permitted by law. The National HIV/AIDS and STI Policy (Ghana AID Commission, 2004) says that health care and social welfare case workers shall not disclose any confidential information they obtain in the normal course of their work about a client to any other person without the express consent of the client. The only exceptions are in cases where in the considered opinion of the professional, such disclosure is permitted by law and/or in the interest of the client himself his/her spouse, other supportive family members or another person involved in the client's care.

It further says that, where the sharing of information with other professionals is required for professional purposes, it is the responsibility of the professional making the disclosure to ensure that his or her colleagues appreciate that the information is being imparted in strict professional confidence. Professional disclosures to an endangered third party shall be made as permitted by law (Ghana AID Commission, 2004).

Under the Criminal Code 1960 (Act 29) of Ghana, there is a range of offences that can be used to prosecute offenders for willful transmission of HIV/AIDS. These include unlawful harm which is intentionally or negligently caused; intentionally causing the death of another person by any unlawful harm which is murder and death resulting from negligence amounting to a reckless disregard for human life which is manslaughter, attempted murder and assault. Presently, the National HIV/AIDS and STI Policy does not support a specific offence of willful transmission of the HIV virus but proposes that the offences under the Criminal Code of 1960 (Act 29) can be used if the prosecution can establish the requisite proof (Ghana AID Commission, 2004).



CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Study type and design

This research was a cross-sectional study of PLWHA attending the St. John of God Hospital at Duayaw Nkwanta. A cross-sectional study examines the relationship between disease or health condition and other variables of interest as they exist in a defined population at a point in time or over a short period of time. This design was adequate in collecting data that addressed the proposed research questions for this study as it was able to measure all factors under investigation at once, in addition to the proportion of disclosure. However, this study design has weakness in establishing temporal relationship between exposure and outcome, the determinants identified may therefore not be causal (Health Knowledge, 2011). However, most factors examined are known determinants of disclosure and supported by other studies. The Principal Investigator and research assistants administered questionnaire to the selected PLWHA based on the fact that they have met the inclusion criteria and have accepted to be part of the study.

3.2 Profile of the study area

This study was carried out at the St. John of God Hospital in the Tano North District of Ghana. This area was selected owing to several reasons. This research topic was first conceived whilst the researcher was working at the hospital. The researcher, Voluntary Counseling and Testing (VCT) counselors and other clinicians at the hospital

had experienced several ethical dilemmas resulting from non-disclosure of HIV status to sexual partners or family members.

Statistics available at the Tano North District Health Directorate indicate that, the total number of PLWHA as at the end of the year 2012 were one thousand, one hundred and nine (1109). That is, 212 in 2007, 129 in 2008, 91 in 2009, 188 in 2010, 212 in 2011 and 277 in 2012. A total of seven- five (75) mortalities due to HIV/AIDS have been reported from 2007 to the end of 2012 (Tano North DHD-Annual Report, 2012).

Tano North District is one of the twenty-seven (27) Districts in the Brong Ahafo Region of Ghana. Duayaw Nkwanta is its Administrative capital. It is bounded on the North and East by the Offinso Municipal and South – Western by Asutifi. Tano South on the Eastern border and Ahafo Ano North District to the south in the Ashanti Region. The District until 2005 was part of Tano South District. The projected population of Tano North District is eighty-five thousand, six hundred and nineteen (Ghana Health Service, 2013). The District has five sub-districts. Namely: Duayaw Nkwanta, Bomaa, Yamfo, Tanoso and Adrobaa.

3.2.1 Economic Activities

The main economic activities of the people are farming and trading. The cash crops cultivated are cocoa, coffee, citrus and oil palm. Food crops are maize, cassava, vegetables such as tomatoes, garden eggs and pepper. There are quite a number of public and civil servants employed in various institutions. Newmont mining company, an American-based mining giant, has started prospecting for gold in the district. There are also reports of the infamous illegal mining otherwise known as “galamsey” in the district.

3.2.2 Health Facilities

The District has four level “B” health centres, three functional CHPS zones and four CHPS compounds and St. John of God hospital which is the referral facility for all the health facilities in the district.

Table 3.1: Top ten common causes of morbidity in the District for 2012

Disease	Number of cases	Percent (100%)
Malaria	48502	47.3
Acute Respiratory Tract Infections	14466	14.1
Rheumatism & Other Joint Pains	11846	11.6
Diarrhoea Diseases	8872	8.7
Skin Diseases & Ulcers	6454	6.3
Home Accidents and Injuries	3314	3.2
Acute Eye Infection	3235	3.2
Intestinal Worms	3219	3.1
Acute Ear infection	1349	1.3
Acute Urinary Tract Infection	1226	1.2
TOTAL	102483	100

Source: Tano North District Health Directorate Report, 2012

Table 3.2: Top ten common causes of death in the District

DISEASES	CASES	PERCENTAGE (%)
HIV/AIDS	13	11.3
Septicaemia	11	9.6
Sepsis	10	8.7
Severe Anaemia	6	5.2
Chronic Liver Diseases	5	4.3
Chronic Renal Failure	4	3.5
Gastroenteritis	4	3.5
Cardiac Failure	4	3.5
Pulmonary TB	4	3.5
CVA	4	3.5
TOP TEN TOTAL	65	56.5
ALL OTHERS	50	43.5
GRAND TOTAL	115	100

Source: Tano North District Health Directorate Report, 2012

3.3 Data Collection Techniques and Tools

The data were collected from July to the end of October, 2013. Data collection was done by the principal investigator and three nurses trained as research assistants via face-to-face interview and with the use of a structured questionnaire. The research assistants were trained for a day on how to collect the data, such as explaining the purpose of the data collection and explaining each item without inducing bias to the respondents, how to check the data for its completeness, and how to handle difficulties felt by the participants during the interview process such as by referring the participant to a counselor if necessary.

The interviews were conducted in designated places in the pharmacy, laboratory and the available empty doctor's consulting room or the VCT room at the Reproductive and Child Health department to ensure privacy. Participants who were not able to turn-up for services at the St. John of God Hospital due to various reasons during the period of the data collection were contacted on phone and we met each at an agreed location for the interview to be conducted. This again, was to ensure privacy. Again, a written consent was obtained and they were also fully informed of their right to participate or withdraw from the study anytime they wanted to do so.

3.4 Study Population

The study population consisted of all People Living with HIV/AIDS (PLWHA) and visited the St. John of God Hospital for services between July and October, 2013.

3.5 Inclusion Criteria

This study included all PLWHA 18 years and above regardless of their legal status or citizenship who received health care services at the St. John of God Hospital in the Tano North District.

3.6 Exclusion Criteria

This study excluded the following:

1. PLWHA with advanced HIV disease according to WHO staging (Stage IV) whose health condition could not allow them undergo the interview.
2. PLWHA who were critically ill or mentally incapacitated.

3. PLWHA with co-existing psychiatric conditions.

3.7 Study Variables

Table 3.3: Logical framework for the study variables

Objective	Dependent Variable	Independent variable	Conceptual Definition of dependent variable	Scale of measurement
Objective 1	Disclosure of HIV- positive status (to partner/family members)	People Living With HIV/AIDS	Disclosure in this study means the participant voluntarily, full disclosure of HIV-positive status to sexual partners/ family members.	Binary: yes, no
Objective 2	Barriers to HIV- positive status disclosure (e.g Discrimination).	Disclosure of HIV- positive status	Any reason that limits the respondent from disclosing his/her HIV-positive status to his/her sexual partner(s) /family member.	Nominal
Objective 3	Religion	Disclosure	The belief and worship of the participant	Nominal
Objective 3	Ethnicity	Disclosure	The ethnic affiliation of the participant.	Nominal
Objective 3	Education	Disclosure	Having formal education (primary to tertiary) or none.	Ordinal
Objective 3	Economic status	Disclosure	Total monthly income below the poverty line is considered as poor- GH¢370.89 (GSS, 2007) and above, is considered rich.	Ordinal
Objective 3	Marital status	Disclosure	The participant formerly living with a partner	Nominal
Objective 4	Adequate counseling	Disclosure	Participant sufficiently counseled to disclose his or her sero-status	Nominal

Source: *Field work*, 2013

3.8 Sampling Techniques and Sample Size

A records officer was engaged as a data clerk whom together with the principal investigator compiled a list of PLWHA registered at the St. John of God Hospital from January, 2007 to December, 2012. Those known to be dead from the hospital's records were deleted from the list. Systematic random sampling which is a probability sampling method was used to sample 228 out of a list of 800 PLWHA. The records officer then made a separate list of these randomly selected PLWHA and identified their hospital folders (files) and filed them separately in a cabinet under key and lock. He was responsible to follow the patients who came every day and connected them with the principal investigator and the other trained research assistants to administer the questionnaire. The interviews were conducted only after obtaining a written informed consent from the participant. The participants were also fully informed of their right not to participate in the study if they so wish from the outset and also that they have the right to withdraw from the study anytime they wanted to. This was also clearly stated on the consent form.

3.8.1 Sample Size calculation

The sample size of this study was calculated using the formula:

$$n = \frac{Z^2 \times PQ}{d^2}$$

$$d^2$$

Where:

n=desired sample size

Z= confidence level = 95% (1.96)

P= the minimum estimated proportion of HIV positive status disclosure = 0. 16

Q= 1- P= 0.84

d= margin of error set at =0.05

$$So, n= \frac{(1.96)^2 \times (0.16 \times 0.84)}{(0.05)^2}$$

$$n= \frac{3.8416 \times 0.1344}{0.0025}$$

$$n= 207$$

n= 207

Therefore, the minimum sample size was 207.

With the addition of a 10% non-response rate, the final sample size was 228.

3.9 Pre-testing

A pre-test of the technique and tool designed to be used to collect the data was done to identify possible challenges associated with the design, technique and tool intended to be used. The pre-test participants had similar characteristics as those that actually took part in the study. The questionnaire designed for data collection was pre-tested for reliability by selecting 30 PLWHA at Bechem Hospital in the Tano South District. This was done to determine respondents understanding of the question and the appropriate corrections made before the actual study began.

3.10 Data handling

The daily administered questionnaires were checked by the principal investigator to ensure the completeness and quality of the data collected. The data was then entered in Statistical Product for Social Solutions (SPSS) version 17.0 software. Data entry started after the second week of collection and continued to the end of the study. The data cleaning was done before analysis.

KNUST

3.11 Data Analysis

The data collected were analysed using SPSS software version 17.0. Descriptive statistics such as frequency tables and bar charts were used to present all variables. Cross tabulations were also done to determine the relationship between the dependent and independent variables. Chi-square tests were calculated and p-values of less than 0.05 were accepted as being statistical significant for all associations.

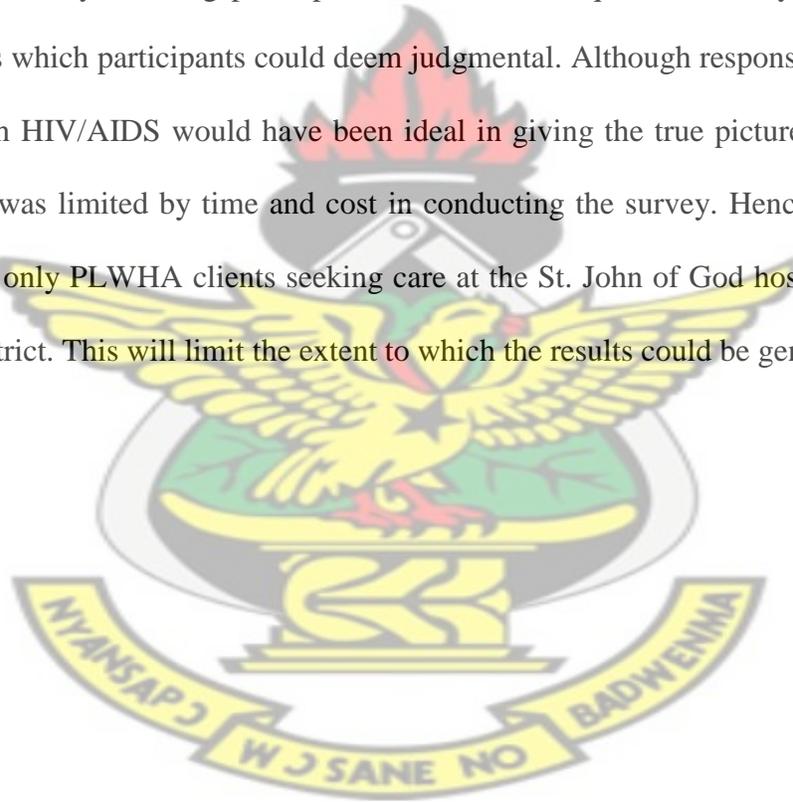
3.12 Ethical consideration

Permission to conduct the study was obtained from the District Director of Health Services (Tano North), the management of St. John of God Hospital, and the Committee for Human Research and Publication Ethics for Kwame Nkrumah University of Science and Technology (KNUST) and Komfo Anokye Teaching Hospital (KATH). Confidentiality and anonymity of subjects were maintained by non-inclusion of names. Written Informed consent was obtained from each participant prior to enrolment in the study after the aim and objectives of the study were explained to them. Participants were told that participation was voluntary and that they have the right to withdraw from the study at anytime. They were also told that refusal to participate in the study would not in

any way affect them. They were assured that any information obtained from them would be kept strictly confidential.

3.13 Limitations of Study

Participants were aware that the researcher is a health professional and this may have influenced the information captured, depending on whether participants think it is deemed appropriate or not for them to share some of the information. The researcher tried to reduce this by allowing participants to answer the questions freely and not making statements which participants could deem judgmental. Although response from all people living with HIV/AIDS would have been ideal in giving the true picture of the findings, the study was limited by time and cost in conducting the survey. Hence, this study was limited to only PLWHA clients seeking care at the St. John of God hospital in the Tano North District. This will limit the extent to which the results could be generalized.



CHAPTER FOUR

4.0 RESULTS

4.1 Data Analysis

4.1.1 Socio-demographic Information

Majority, 148 (64.9%) of the respondents were female. Many of the respondents, 46 (20.2%) were aged between 35-39 years. One hundred and thirty nine, (61%) of the respondents had Basic (Primary/Junior high/Middle school) education as their highest level of education. Christians were the majority, 183 (80.3%) of all the respondents.

Many, 92 (40.4%) of the respondents were self-employed. Majority, 96 (42.1%) of the respondents earned less than 50 Ghana cedis per month with 136 (59.6%) being married. Other details of socio-demographic characteristics are shown on table 4 below.

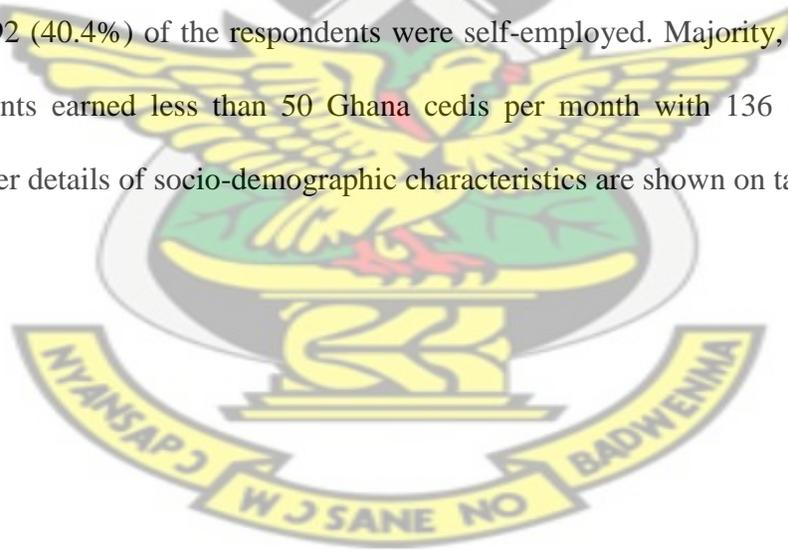


Table 4.1: Socio-demographic Information (n=228)

Characteristics	Number	Percentage (%)
GENDER		
Male	80	35.1
Female	148	64.9
AGE (in years)		
18-24	22	9.6
25-29	40	17.5
30-34	43	19.0
35-39	46	20.2
40-44	28	12.3
45-49	24	10.5
50-54	11	4.8
55 and above	14	6.1
EDUCATION		
None	37	16.2
Basic	139	61.0
Secondary	32	14.0
Tertiary	20	8.8
RELIGION		
Christian	183	80.3
Muslim	45	19.7

Table 4.1: (Cont). Socio-demographic Information (n=228)

Characteristics	Frequency	Percentage (%)
OCCUPATION		
Farming	80	35.1
Government employee	28	12.3
Unemployed	23	10.1
Self-employed	92	40.3
Private employee	5	2.2
MONTHLY INCOME		
<50 Ghana cedis	96	42.1
50-100 Ghana cedis	70	30.7
100-200 Ghana cedis	26	11.4
200-300 Ghana cedis	14	6.2
300-500 Ghana cedis	16	7.0
>500 Ghana cedis	6	2.6
MARRITAL STATUS		
Married	136	59.7
Single	37	16.2
Widow/widower	15	6.6
Divorced	13	5.7
Cohabiting	27	11.8

Source: *Field Data*, 2013

In assessing the number of sexual partners each respondent had since they got to know their HIV status, the study found that majority 166 (72.8%) of the respondents had only one sexual partner as illustrated on figure 3 below.

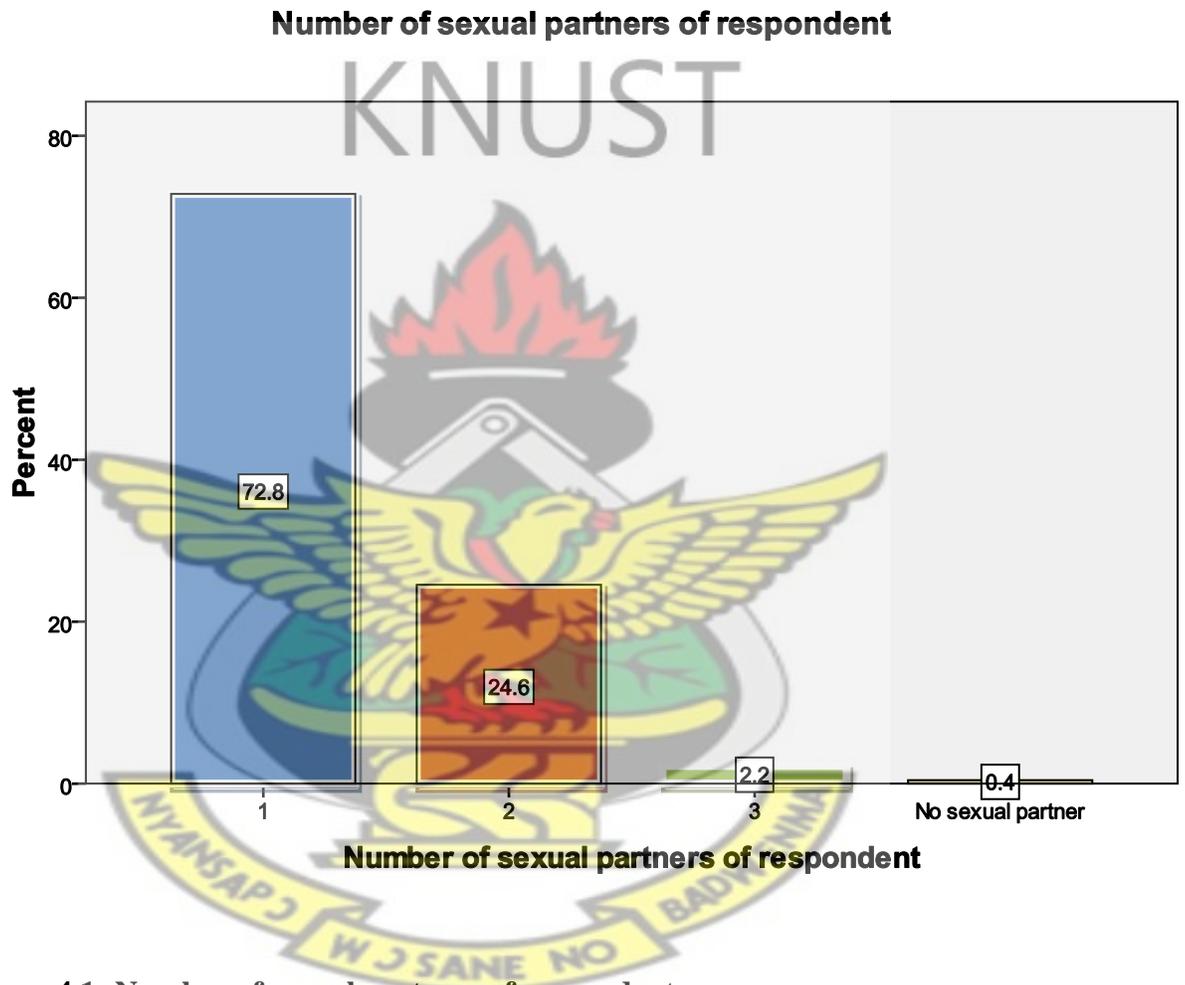


Figure 4.1: Number of sexual partners of respondents

Source: *Field data, 2013*

In assessing the place/occasion during which the respondent was diagnosed, the study revealed that majority, 84 (36.8%) were diagnosed during hospitalisation/admission as illustrated in figure 4 below.

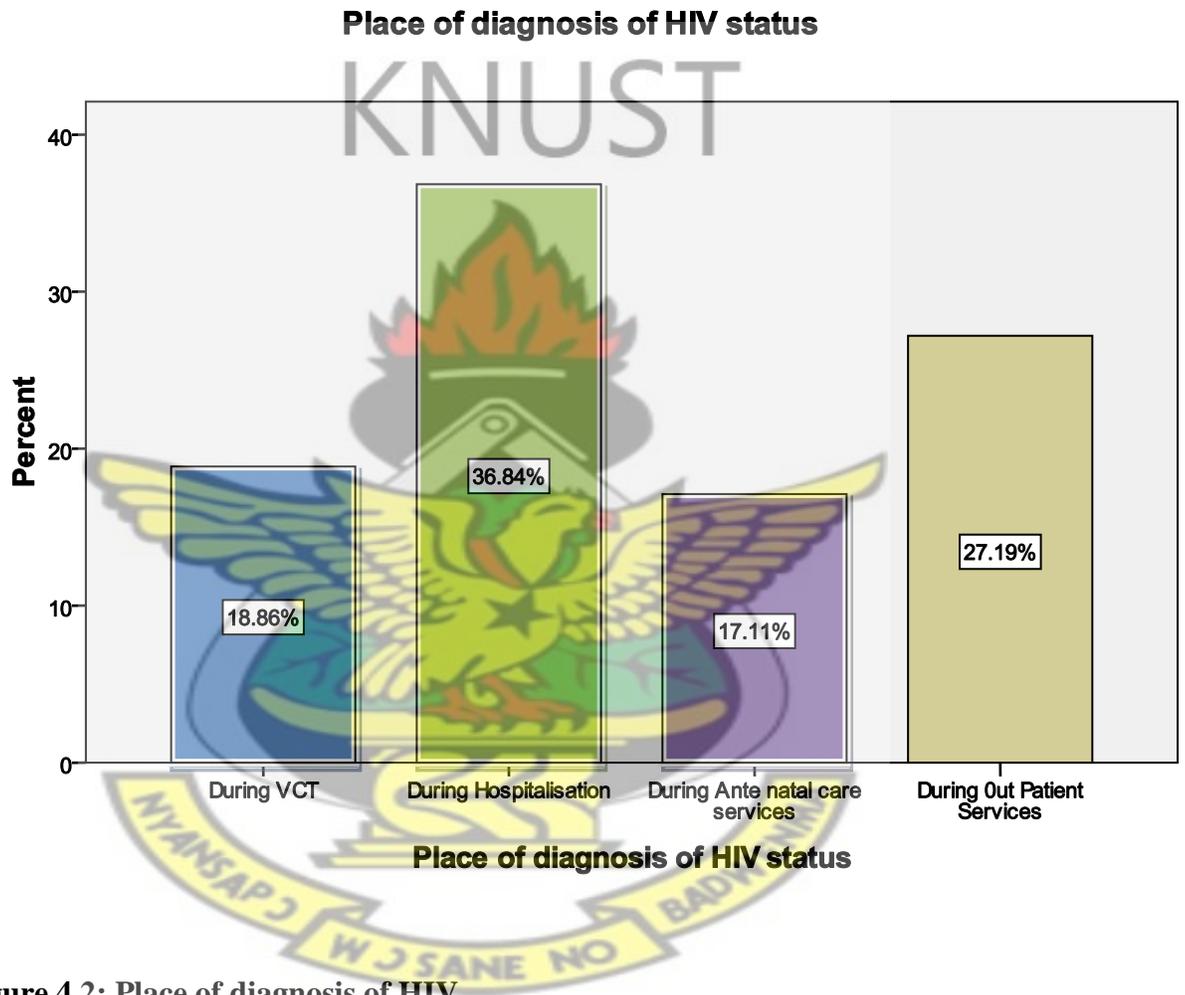


Figure 4.2: Place of diagnosis of HIV

Source: *Field data, 2013*

Figure 5 below indicates that out of 84 (36.8%) respondents who were diagnosed during hospitalisation/admission, only 41 (48.8%) disclosed their HIV status.

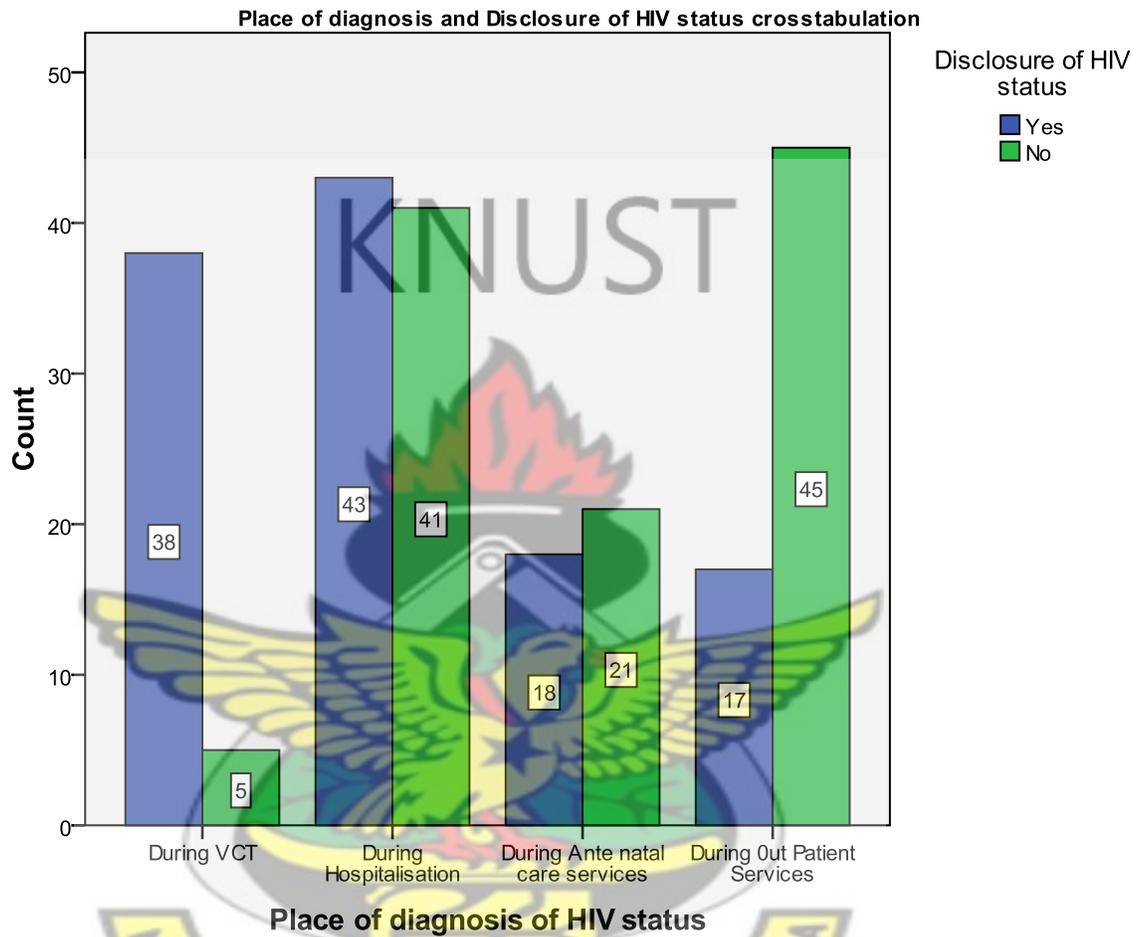


Figure 4.3: Place of diagnosis and disclosure of HIV status cross tabulation

Source: *Field data, 2013*

4.1.2 Proportion of HIV status disclosure

The study assessed the proportion of the respondents who have disclosed their HIV status. It discovered that, only 116 (50.9%) had disclosed their HIV status to someone as illustrated on figure 6 below.

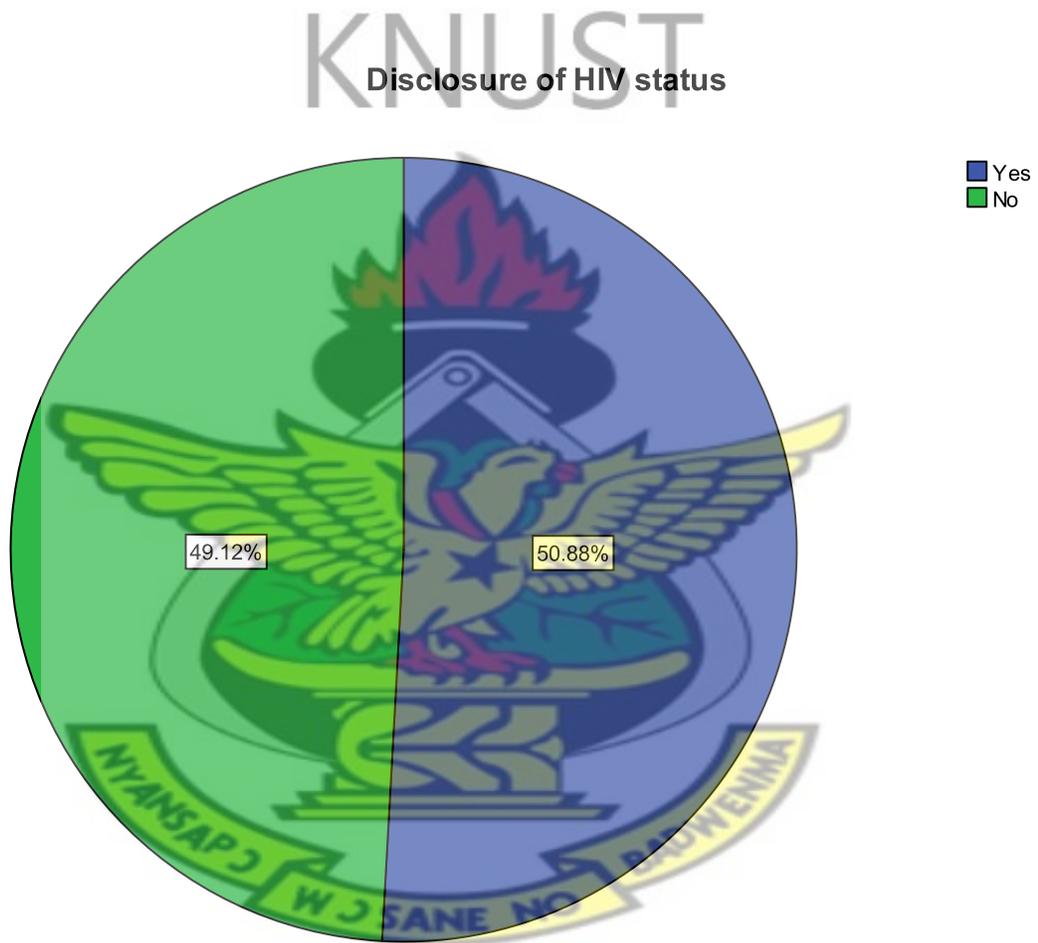


Figure 4.4: Disclosure of HIV status by respondents

Source: *Field data*, 2013

In assessing the proportion of HIV positive status disclosure by age group, the study revealed that, majority, 27 (23.3%) of those who disclosed their HIV status were in the age group of 35-39 years as illustrated in figure 7 below.

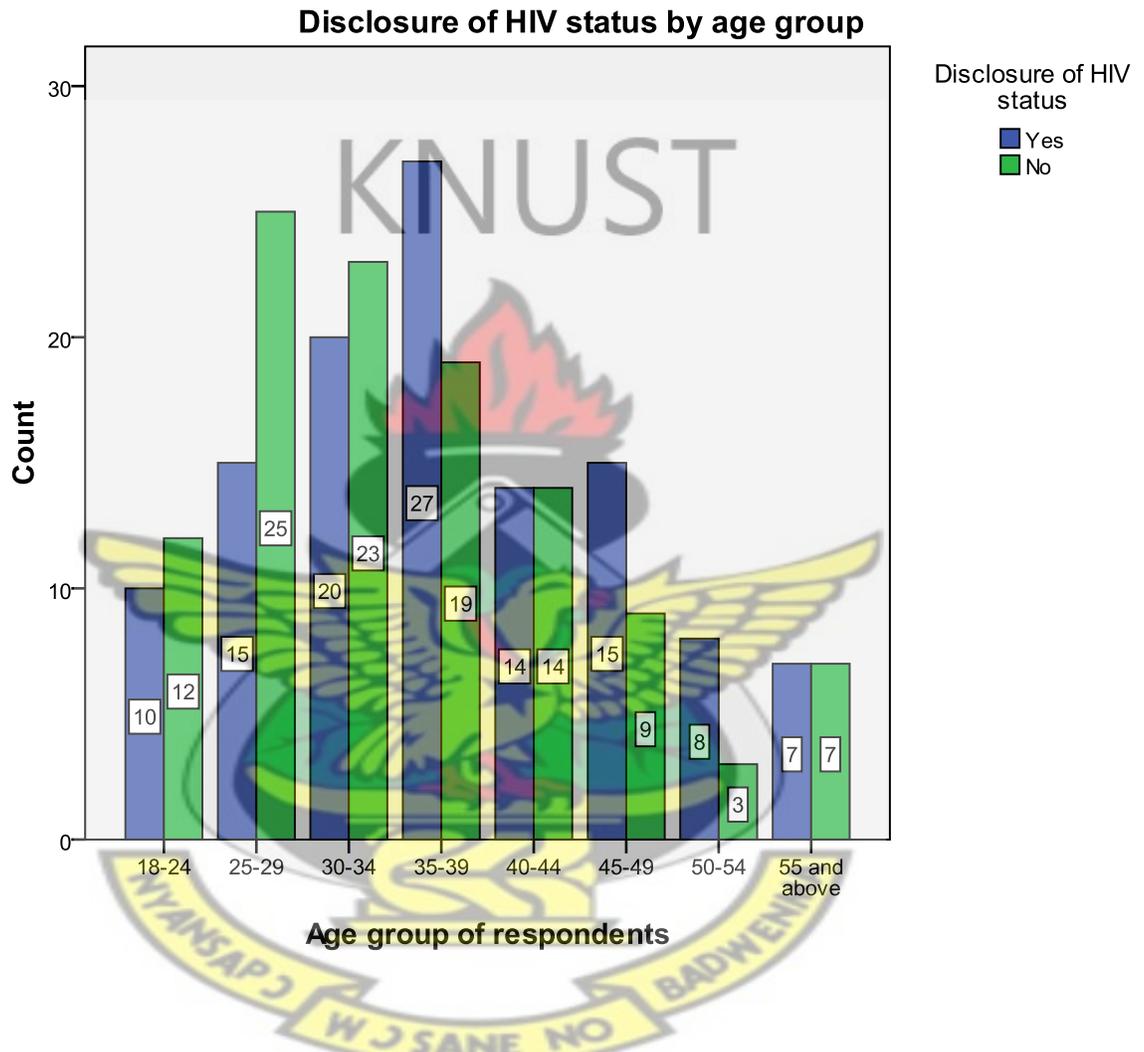


Figure 4.5: Disclosure of HIV status by Age group

Source: *Field data, 2013*

The study also assessed the proportion of HIV positive status disclosure by sex of the respondent. It discovered that, out of the 116 (50.9%) of respondents who disclosed their HIV status, 80 (69%) of them were females as shown on figure 8 below.

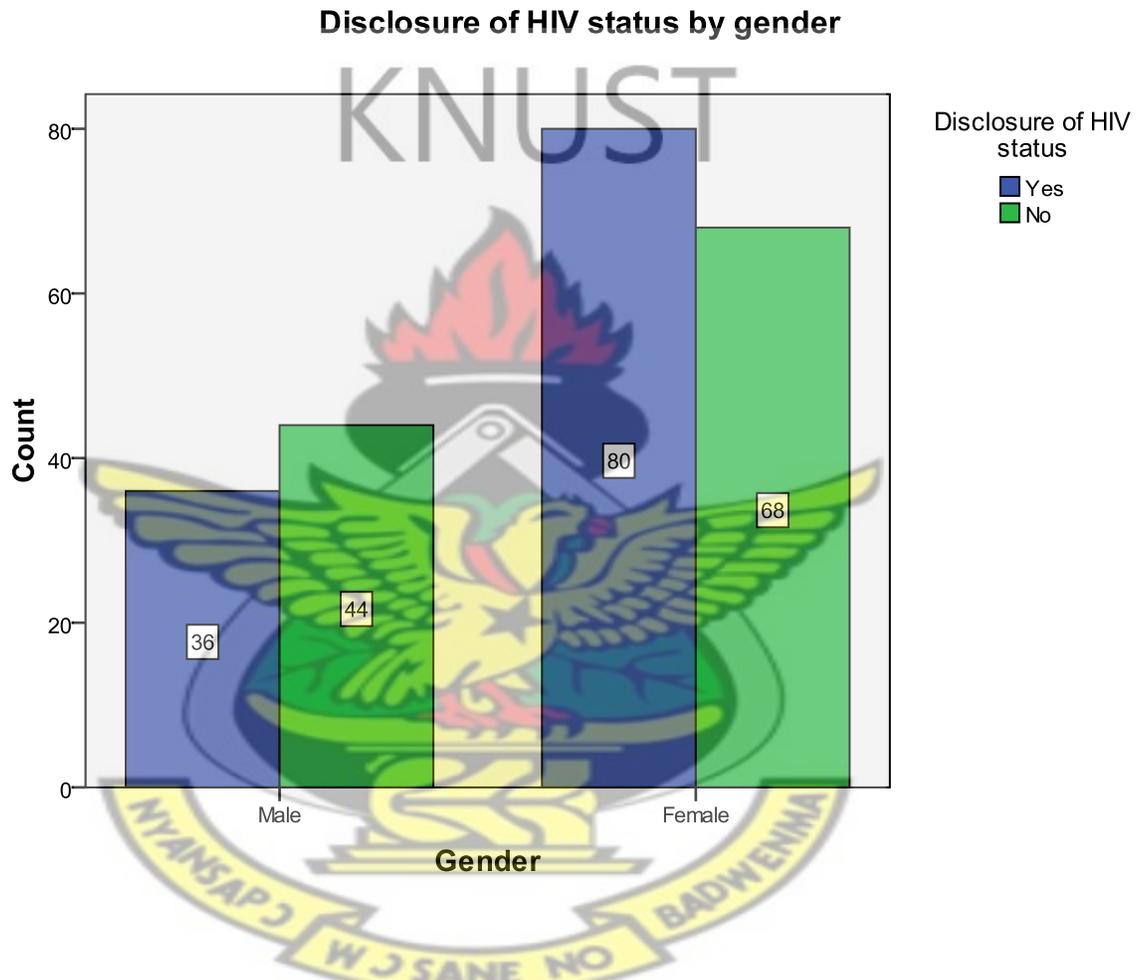


Figure 4.6: Disclosure of HIV status by gender

Source: *Field data, 2013*

Among respondents who disclosed their HIV status, majority 53 (45.7%) disclosed their status to their spouses' as shown on figure 9 below.

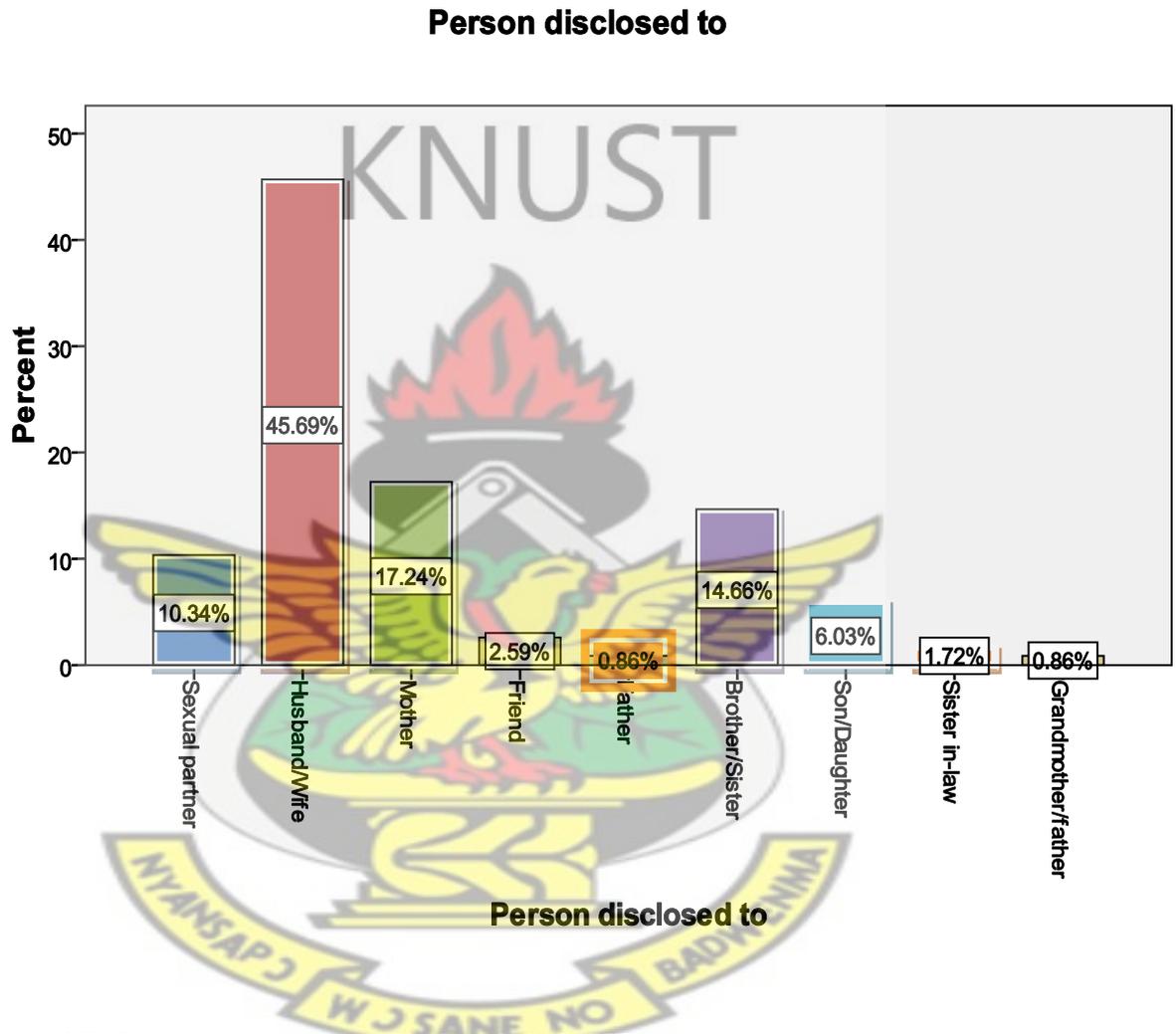


Figure 4.7: Person respondents disclosed their HIV status to

Source: *Field data*, 2013

This study found that, condom usage among respondents was 149 (65%) as shown on figure 10 below.

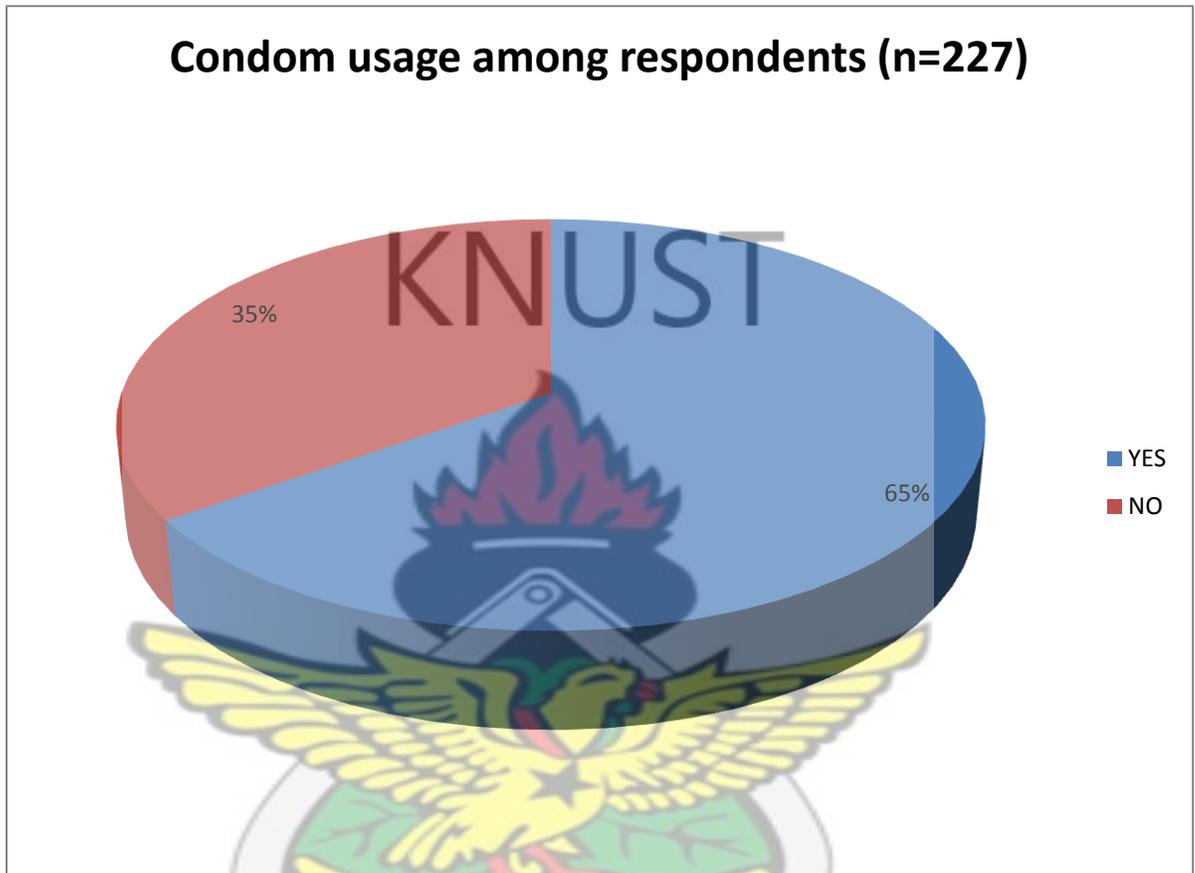


Figure 4.8: Condom usage among respondents

Source: *Field data, 2013*

4.1.3 Barriers of HIV status disclosure

This study assessed the reasons for non-disclosure of HIV status to sexual partner(s)/family members. It revealed a number of reasons for non-disclosure. Significant among them were fear of rejection/discrimination/stigmatization 61 (54.5%),

fear of accusation of unfaithful by partner 37 (33%) and fear of withdrawal of support 36 (32.1%) as indicated on table 5 below.

Table 4.2: Reasons for non-disclosure of HIV status by respondents (n=112)

Variables	Yes Frequency	Percent (%)
Fear of rejection /discrimination/stigmatisation	61	54.9
He/she might think I am unfaithful	37	33.0
Fear of withdrawal of support	36	32.1
Fear of abandonment	35	31.3
Fear of upsetting family members	29	25.9
The person may tell others	25	22.3
I do not want to worry him/her	16	14.3
He/she might abuse me physically (example, beating)	14	12.5
There is no need to tell until I am sick	14	12.5
Severity of illness	10	8.9
He/she might kill me	5	4.5
He/she had too many other problems to deal with right now	1	0.8

Source: *Field Data*, 2013

Among the other reasons for non-disclosure of HIV positive status, denial was the most significant with 19 (8.3%) of the respondent as shown on figure 11 below.

Other reasons for non-disclosure of HIV status (n=70)

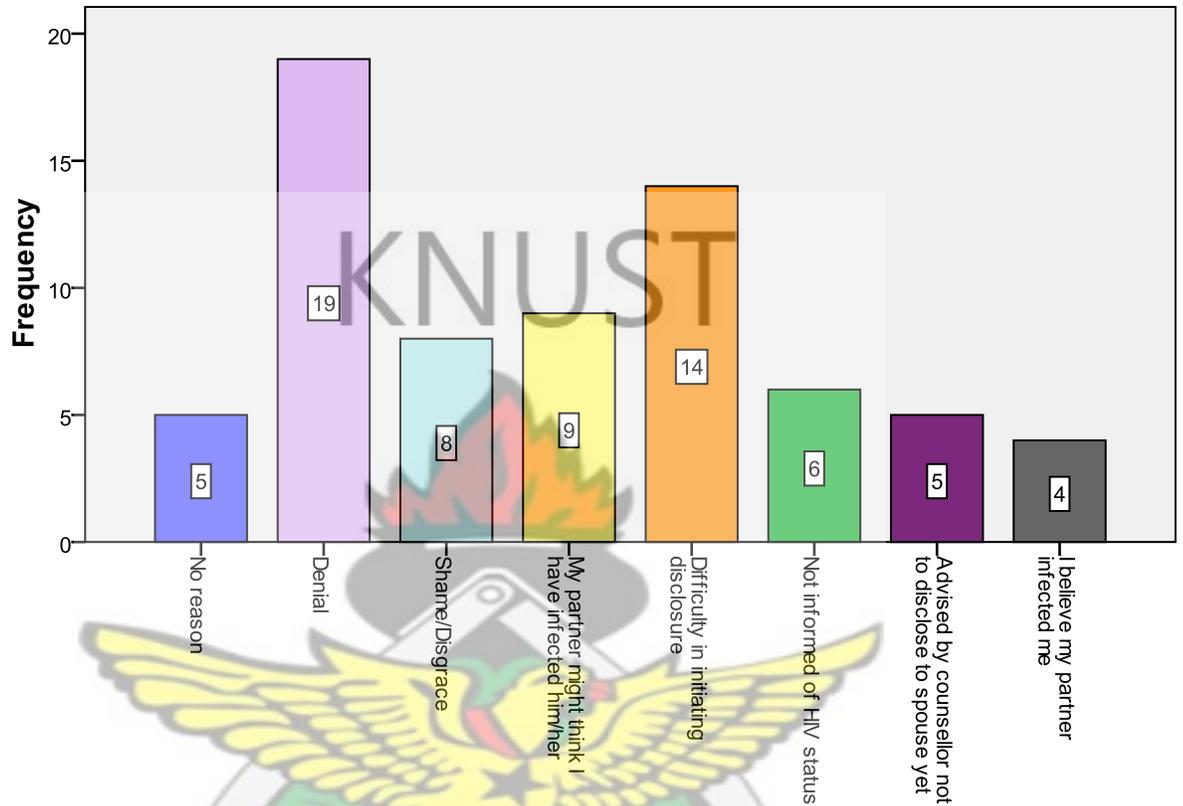


Figure 4.9: Other reasons for non-disclosure of HIV status

Source: *Field Data*, 2013

The study revealed reasons for disclosure of HIV status to a sexual partner(s)/family members. Majority 96 (82.8%) of the respondents disclosed their HIV status because they wanted support as shown on table 6 below.

Table 4.3: Reasons for disclosure of HIV status (n=116)

Variables	Yes Frequency	Percent (%)
I do not want to hide my HIV status from him/her	71	61.2
I want to get his/her support	96	82.8
I do not want to risk him/her	13	11.2
I fear God to hide such things	39	33.6
I do not want to be legally accused	7	6.0
I want to have a safer sex with my partner	28	24.1

Source: *Field Data*, 2013

4.1.4 Socio-demographic factors independently associated with HIV status disclosure

Statistical analysis was performed to compare some socio-demographic variables between respondents who have disclosed their HIV positive status to their sexual partners/family members with those who have not disclosed their status to their sexual partners/family members. The variables found to be independently associated with HIV status disclosure to a sexual partner(s)/family members comparing those who have disclosed with those who have not disclose were gender, age, education, religion, occupation, monthly income, marital status, number of sexual partners, knowledge of HIV status of sexual partner/family member, place of diagnosis and attitude of the counsellor. Statistical analysis was performed for each variable using chi-square test and p value less than 0.05 was determined for statistical significance.

From those who disclosed their HIV status 80 (35.1%) were female ($p<0.193$). With regards to age group, 27 (11.8%) respondents between the age of 35-39 years have disclosed their HIV Positive status, ($p<0.053$). Out of those who have disclosed their HIV positive status, 73 (32%) respondents had basic education as their highest educational level, ($p<0.072$).

On occupation, 45 (19.7%) self-employed respondents disclosed their HIV status ($p<0.051$). With respect to monthly income, 59 (25.9%) respondents who earned less than fifty (50) Ghana had disclosed their HIV status ($p<0.006$).

With reference to marital status, 72 (31.6%) married respondents had disclosed their HIV status ($p<0.768$). With respect to number of sexual partners among those who disclosed their HIV status, 94 (41.2%) of the respondents had one sexual partner ($p<0.023$). Among respondents who disclosed their HIV status, 57 (25%) respondents said the attitude of the counsellor was very good, ($p<0.000$) as shown on table 7 below.

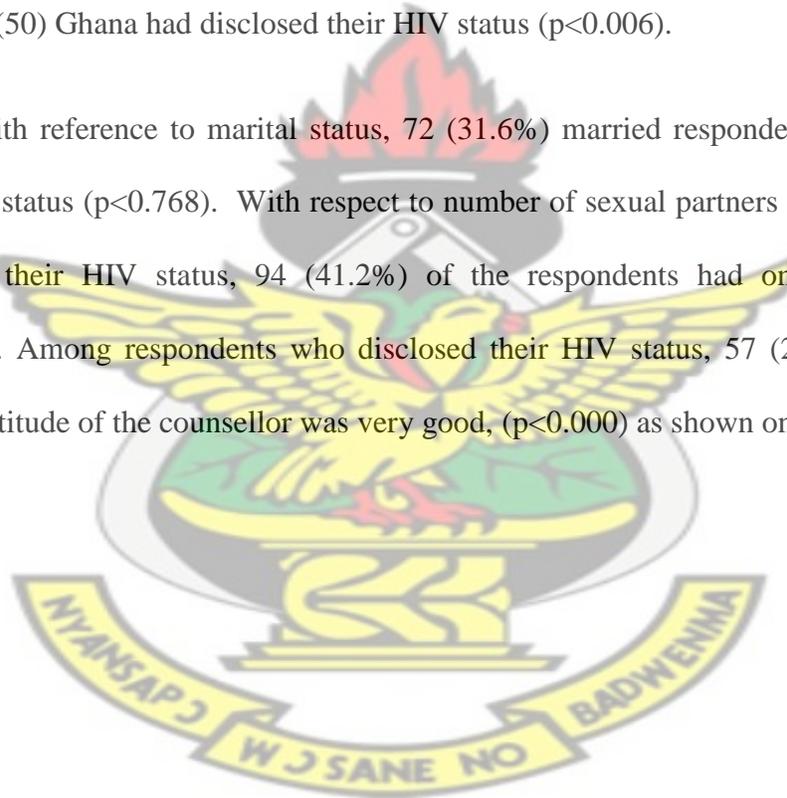


Table 4.4: Socio-demographic Factors Independently Associated with HIV Status

Disclosure

Variable	Disclosed N (%)	95%CI	P-value	Non-disclosed N (%)
Gender		0.59-0.71	0.193	
Male	36 (15.8%)			44 (19.3%)
Female	80 (35.1%)			68 (29.8%)
Age		2.64-3.15	0.053	
18-24	10 (4.4%)			12 (5.3%)
25-29	15 (6.6%)			25 (11.0%)
30-34	20 (8.8%)			23 (10.1%)
35-39	27 (11.8%)			19 (8.3%)
40-44	14 (6.1%)			14 (6.1%)
45-49	15 (6.6%)			9 (3.9%)
50-54	8 (3.5%)			3 (1.3%)
55 and above	7 (3.1%)			7 (3.1%)
Education		1.05-1.26	0.072	
None	22 (9.6%)			15 (6.6%)
Basic	73 (32%)			66 (29%)
Secondary	13 (5.7%)			19 (8.3%)
Tertiary	8 (3.5%)			12 (5.3%)
Religion		0.15-0.25	0.766	
Christian	94 (41.2%)			89 (39%)
Muslim	22 (9.7%)			23 (10.1%)

Source: *Field Data*, 2013

Table 4.4 (Cont): Socio-demographic Factors Independently Associated with HIV

Status Disclosure

Variable	Disclosed N (%)	95%CI	P-value	Non-disclosed N (%)
Occupation		1.44-1.80	0.051	
Farming	52 (22.8%)			28 (12.3%)
Government employee	9 (4.0%)			19 (8.3%)
Unemployed	8 (3.5%)			15 (6.6%)
Self-employed	45 (19.7%)			47 (20.6%)
Private employee	2 (0.9%)			3 (1.3%)
Monthly income		0.96-1.31	0.006	
<50 Ghana cedis	59 (25.9%)			37 (16.2%)
50-100 Ghana cedis	34 (14.9%)			36 (15.8%)
100-200 Ghana cedis	10 (4.4%)			16 (7%)
200-300 Ghana cedis	6 (2.6%)			8 (3.5%)
300-500 Ghana cedis	4 (1.8%)			12 (5.3%)
600 and above	3 (1.3%)			3 (1.3%)
Marital status		0.76-1.12	0.768	
Married	72 (31.6%)			64 (28.1%)
Single	12 (5.3%)			25 (11%)
Widow/widower	9 (3.9%)			6 (2.6%)
Divorced	10 (4.4%)			3 (1.3%)
Cohabiting	13 (5.7%)			14 (6.1%)

Source: *Field Data*, 2013

Table 4.4 (Cont): Socio-demographic Factors Independently Associated with HIV

Status Disclosure

Variable	Disclosed N (%)	95%CI	P-value	Non-disclosed N (%)
Number of sexual partners	94 (41.2%)	0.23-0.39	0.023	69 (30.3%)
One	22 (9.6%)			43 (18.9%)
More than one				
Knowledge of HIV status of sexual partner/family member		1.51-1.64	0.000	39 (17.1%)
Yes				92 (40.4%)
No	76 (33.3%)			
	21 (9.2%)			
Attitude of counselor		0.71-0.88	0.000	22 (9.7%)
Excellent	55 (24.1%)			66 (29%)
Very good	3 (1.3%)			23 (10.1%)
Good	1 (0.4%)			1 (0.4%)
Bad				

Source: *Field Data, 2013*

4.1.5 The quality of counseling (client perspective) given to facilitate disclosure

This study also assessed the quality of counselling (pre and post-test) given to the respondents. It revealed that 174 (76.3%) of the respondents were told the benefits of knowing their HIV status before the test, 188 (82.5%) said they were assured of confidentiality during pre and post-test counselling, 190 (83.3%) respondents said they

were advised to disclose their HIV status to spouse/sexual partner(s), and among others as shown on table 8 below.

Table 4.5: Quality of counselling (pre and post-test) given to respondents (N=228)

Variables	Yes Frequency	Percent (%)
Participant told the benefits of knowing his/her HIV status before the test	174	76.3
Provision of privacy during pre and post-test counselling	172	75.4
Assurance of confidentiality during pre and post-test counselling	188	82.5
Participant made comfortable during the counselling session	170	74.6
Attended to promptly	159	69.7
Information on the availability ARVs during pre-test counselling	193	84.6
Post-test counselling	208	91.2
Advised to disclose HIV status to spouse/sexual partner(s)	190	83.3
Advised to encourage spouse/sexual partner(s) to go for an HIV test	202	88.6
Advised on condom use during pre and post-test counselling	190	83.3
Information on the availability ARVs during post-test counselling	217	95.2
Participant told the benefits of HIV status disclosure	172	75.4
Information on possible legal implication for non-disclosure of HIV status	39	17.1

Source: *Field Data*, 2013

Figure 12 below indicates that majority, 123 (54%) of the respondents said the attitude of the counsellors was very good.

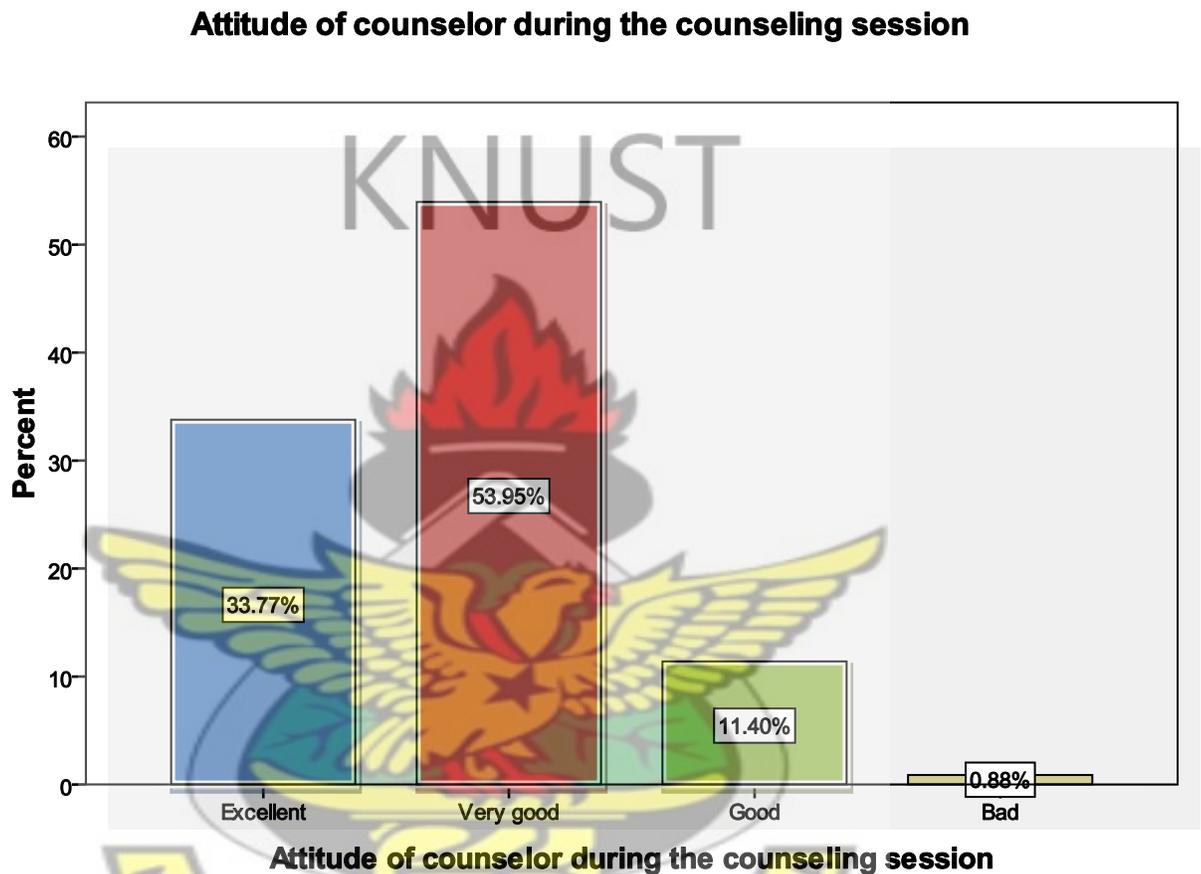


Figure 4.10: Attitude of counsellor during the counselling session

Source: *Field Data*, 2013

Out of the 116 (50.9%) of the respondents who disclosed their HIV status, 97 (83.6%) said the pre-test counselling given to them was adequate and majority, 77 (68.8%) of the respondents who did not disclosed their HIV status admitted pre-test counselling was adequate as shown on figure 13 below.

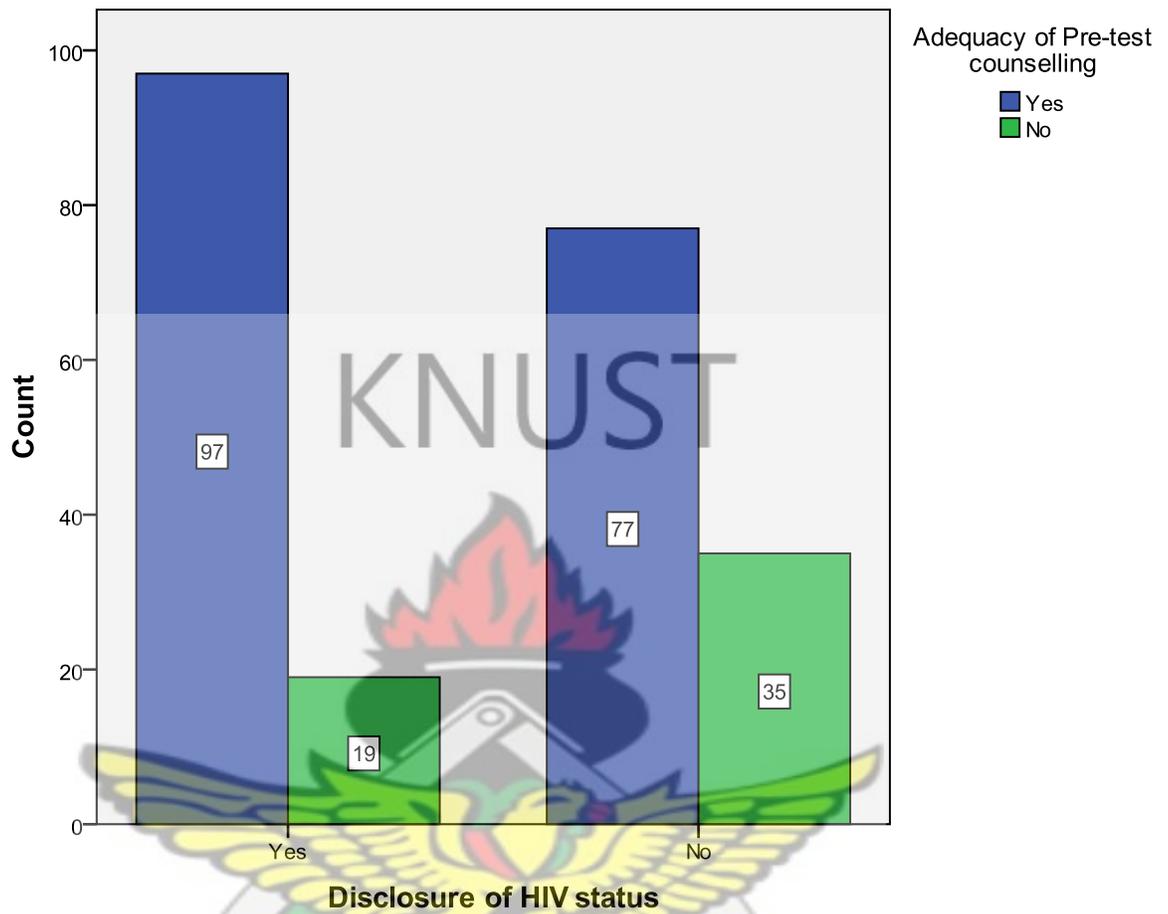


Figure 4.11: Respondents opinion on adequacy of pre-test counselling and disclosure cross tabulation

Source: *Field Data, 2013*

Out of the 116 (50.9%) of the respondents who disclosed their HIV status, 109 (94%) said they were satisfied with the post-test counselling given and majority, 86 (76.8%) of respondents who did not disclosed their HIV status admitted that they were satisfied with the post-test counselling as shown on figure 14 below.

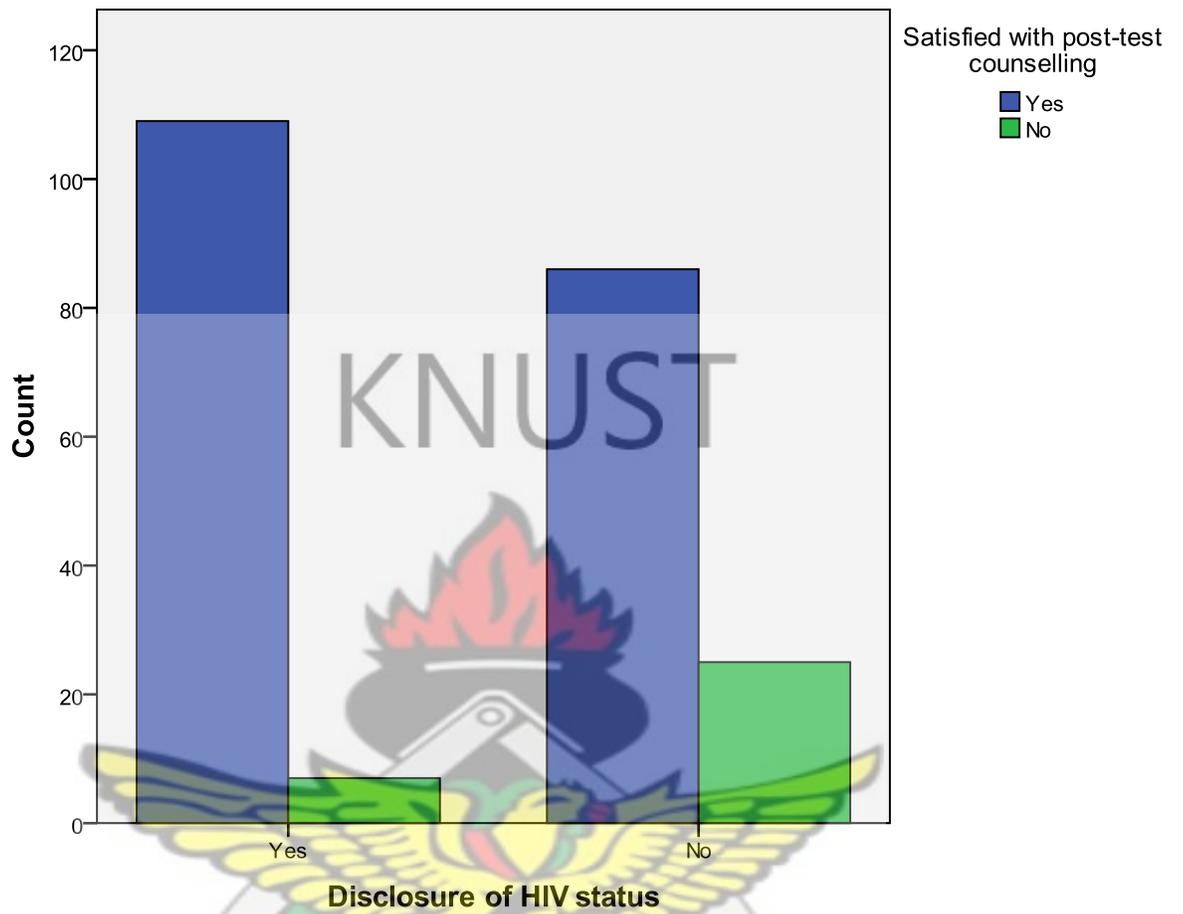


Figure 4.12: Respondents satisfaction with post-test counselling and disclosure cross tabulation

Source: *Field Data, 2013*

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter describes and further discusses the results revealed in chapter 4. The results obtained in this study were also compared with findings from similar studies. This chapter also outlines the possible conclusions that can be drawn from the analysis of the results obtained.

5.2. General information

Eighty-nine percent (89%) of the respondents in this study were in the age range of 18-49 years. This is in line with the 2008 Ghana Demographic and Health (GDHS) report and many other studies in Ghana which reported increasing prevalence of HIV infection among people age between 15-49 years. Majority (64.9%) of the respondents were females compared 35.1% male. According to the GDHS (2008), HIV prevalence in women age 15-49 is nearly 3 percent, while for men 15-59, it is under 2 percent. Prevalence among females is consistently higher than among males at all age groups except at age 40-44, where male prevalence is higher. The female-male gap is particularly large among women and men age 25-29, where women are nearly three and a half times as likely to be HIV positive as men. The peak prevalence among women is at age 35-39 (5%), while prevalence rises gradually with age among men to peak at age 40-44 (4%) (GDHS, 2008).

Educational level for many of the respondents was low. Sixty-one percent (61%) listed of the respondents had Basic (Primary/Junior high/Middle school) education as their highest level of education, 16.2% of the respondents had never been to school, 14% had secondary school education, and only 28.8% respondents had tertiary education. Some publications reviewed show that a higher educational level was associated with an increased disclosure rate. For instance, Antelman et al. (2001) found that women with higher education are more likely to disclose their result to their sexual partner than women who are illiterate. Most of the PLWHA attending the St. John of God Hospital also have low socio-economic status. This was confirmed by this study which found that 42.1% of the respondents earned less than 50 Ghana cedis as monthly income with only 2.5% earning 500 Ghana cedis and above as month income. This study further found that majority of the respondents had irregular monthly income since majority (40.4%) of them were self-employed, 35.1% farmers, 12.3% government employee, 10.1% unemployed, and 2.2% employed by private organisations.

Most of the respondents in this study were Christians (80.3%) compared 19.7% Muslim. This finding corroborates the findings reported in the 2008 GDHS. The 2008 GDHS reported higher prevalence of HIV among Christian denomination compared to Muslims, Traditionalist/Spiritualis and those with no religion. With respect to their marital status, 59.6% were married, 16.2% single, 11.8% cohabitating, 6.6% widows/widowers, and 5.7% divorced. This finding in this study contradicts the GDHS (2008) report which reported that the prevalence of HIV is higher among widowed women (7 percent), followed closely by divorced or separated women (6 percent) and among men, prevalence is higher among divorced or separated men (6 percent).

5.3 Proportion of HIV Status Disclosure

Studies conducted worldwide have shown a wide range of discrepancies in the rates of HIV status disclosure. Generally, studies have reported notably lower rates of disclosure in developing countries compared to rates of disclosure in the developed countries. The average rate of HIV status disclosure for developing countries according to studies is 49% which is far below the average rate of disclosure reported from studies conducted in developed countries (79%).

The proportion of HIV status disclosure in this study was slightly above the average rate of disclosure in developing countries. One hundred and sixteen out of two hundred and twenty-eight respondents representing 50.9% have disclosed their HIV status to their sexual partner(s)/family members. This rate (50.9%) falls within the range of disclosure among previous studies conducted in developing countries according to the meta analysis done by Medley, *et. al.* (2004). In their analysis, they found that the rate of disclosure of HIV status to current and/or steady partners was ranged from 16.7% 86%. The rate of disclosure in this study is lower compared to what Wong et al. (2009) found in Soweto and the Kwazulu natal in South Africa that measured the rate of disclosure of HIV status and factors associated with disclosure for which the reported disclosure rate was 87%. The rate of disclosure found in this study is however, higher than what the researcher expected. This was probably due to rigorous pre ART adherence counselling sessions most of the respondents underwent before they were initiated on the ARVs since most of the respondents were on ARVs. Besides, in the past it was compulsory for PLWHA to have a treatment partner before one is put on ARVs could be another explanation.

Majority 53 (45.7%) among those who disclosed their HIV status, disclosed it to their spouse. The finding in this study contradicts the findings of Wong et al. (2009). In their study in Soweto and the Kwazulu natal in South Africa that measured the rate of disclosure of HIV status and factors associated with disclosure, they found out that 93% of the respondents disclosed to their boyfriends or girlfriends. Majority 96 (82.8%) of the respondents who disclosed their HIV status indicated that they wanted support from those persons. This reason of disclosure found in this study supports the findings of Stempel (1995), Simoni et al. 1995) and MacNeil et al. (1999). In their various studies regarding HIV status disclosure, they found out that disclosure to sexual partners was also frequently associated with emotional support.

Knowledge of a sexual partner's/family member's HIV status in this study was found to be associated with the disclosure of one's own status to a sexual partner/family member. This study also found out that the more the number of sexual partners, the lower the rate of disclosure. It was also found from other studies that people tend to disclose more to their current and steady partners rather than to their casual or previous partners. One of the reasons given for this was a difference in the sense of responsibility. In this study, majority 72.8% of the respondents had one sexual partner, 26.8% had multiple sexual partners, and only 0.4% had no sexual partner.

When asked whether or not the respondents protected their sexual partner(s)/themselves during sexual intercourse, the study found out that 34.8% were not protecting their sexual partners/ spouses by using condom during sexual intercourse. The finding in this study calls for an immediate action since one of the key steps in the prevention of HIV/AIDS pandemics at a national level is educating people about condom

use, and ensuring that condoms are widely distributed for easy accessible. This could be attributed to the inability to negotiate for “safer sex” as a result of non-disclosure as found in this study to be 49.1%. Studies have shown a positive impact of disclosure on safer sex. For example, a study conducted by Ijumba et al (2004) in South African found out that knowing someone with HIV was associated with condom use at last sexual encounter and negatively associated with multiple and casual sex partners.

KNUST

5.4 Barriers to HIV positive status disclosure to partners/ family members

The study found that the fear of rejection/discrimination/stigmatization (54.5%), fear of accusation of unfaithful by partners (33%), fear of withdrawal of support (32.1%), fear of abandonment (31.3%), fear of upsetting family members (25.9%), fear of the person disclosed to telling others (22.3%), I don't want to worry my sexual partners/spouse (14.3%), fear of physical abuse (violence) by sexual partner/spouse (12.5%), there is need to disclose until I am sick (12.5%), severity of the illness (8.9%), sexual partners/spouse might kill them (4.5%), and sexual partner/spouse had too many other problems to deal with right now (0.8%) acted as barriers to HIV positive status disclosure among PLWHA in the Tano North District. These findings are in accordance with the findings from other studies cited in the literature (WHO, 2004).

This study also found that 28.5% of the respondents who did not disclose their HIV status had other reasons for the non-disclosure. These included: Denial (8.3%), difficulty in initiating the process of disclosure (6.1%), my partners might think I infected him/her (3.9%), shame/disgrace (3.5%), not informed of HIV status (2.6%), advised by counsellors not to disclosed to their spouses yet (2.2%), and believe their partners

infected them (1.8%). Some these findings in this study also support the findings of other studies. For instance, a study conducted by Bennetts (1999) in Thailand found that three quarters of the women (77%) felt that HIV was a disease of which their family would be ashamed.

5.5 Socio-demographic factors influencing disclosure of HIV positive status

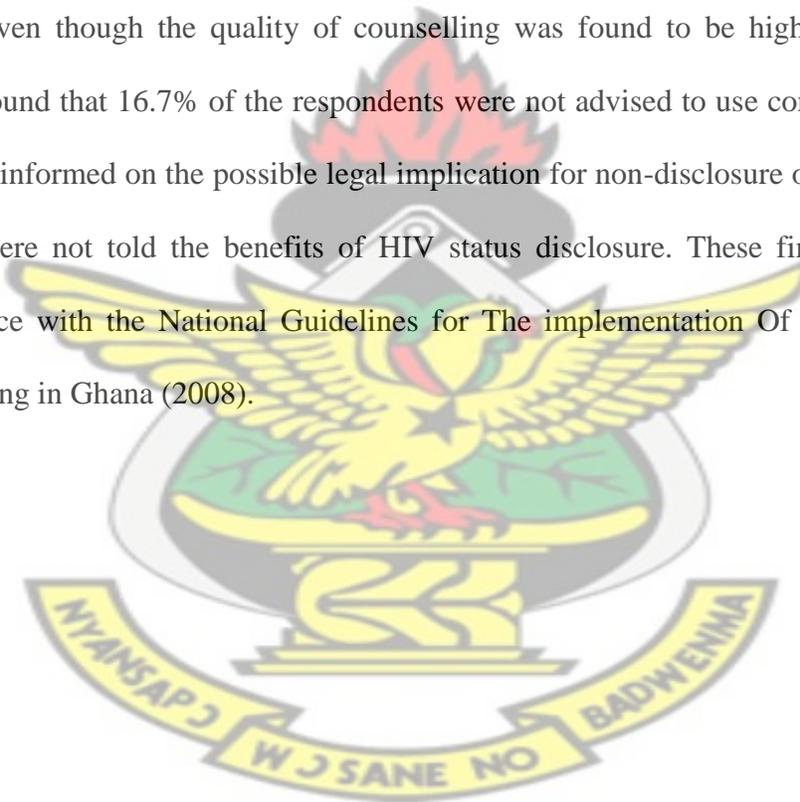
Socio-demographic factors that were found to be independently associated with HIV status disclosure in this study using statistical analysis (Chi-square test) were monthly income, knowledge of HIV status of partner/family member, place of diagnosis, the number of sexual partners, and the attitude of the HIV counsellor (see table 8 in chapter 4). Similar studies conducted by Bouillon et al. (2007) and Deribe et al. (2008) also found some of these factors to be associated with HIV positive status disclosure.

5.6 The quality of counseling (client perspective) given to facilitate disclosure

The quality of counselling (client-perspective) given to the respondents in this study was high. This evidenced by the findings in this study that, out of the 116 (50.9%) respondents who disclosed their HIV status, 97 (83.6%) said the pre-test counselling given to them was adequate against 19 (16.4%) who said the pre-test counselling was not adequate. In the same vein, out of the 116 (50.9%) of the respondents who disclosed their HIV status, 109 (94%) said they were satisfied with the post-test counselling given whilst 7 (6%) said they were not satisfied. The findings in this study support the findings of De Rosa and Mark (1998). In their study, they found that rates of disclosure increased monotonically with the number of times that a health official at the HIV clinic where a

person received care discussed the issue of disclosure. Men who were counseled both at post-test counseling and at their current HIV clinic were nearly twice more likely to have disclosed to all sexual partners than men not counseled at both sites. At a minimum, raising the issue of disclosure during both the pretest and the post-test counseling session is necessary in order to work through the barriers and develop a plan for disclosure to sexual partners. These findings are also in accordance with the findings from other studies cited in the literature (WHO, 2004).

Even though the quality of counselling was found to be high in this study, it further found that 16.7% of the respondents were not advised to use condom and 82.9% were not informed on the possible legal implication for non-disclosure of HIV status, and 24.6% were not told the benefits of HIV status disclosure. These findings are not in accordance with the National Guidelines for The implementation Of HIV Counselling and Testing in Ghana (2008).



CHAPTER 6

6.0 CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presents the conclusions regarding the factors which influence HIV positive status disclosure. The conclusions were drawn about PLWHA (18 years and above) attending the St. John of God Hospital according to the objectives set for the study, based on the findings in this study. Recommendations to facilitate the disclosure rates of HIV positive status are also presented.

6.1 Conclusions

1. The proportion of HIV positive status disclosure to sexual partner(s)/family member is 50.9% which is averagely lower compared to many studies conducted in other developing countries. In view of this, majority (57.7%) do not know the HIV status of their sexual partner(s)/spouse which needs to be addressed. Condom use (65.2%) is not encouraging considering the rigorous educational activities undertaken as a country on condom use as one of the major strategies to control the further spread of HIV infection and hence requires an urgent attention.
2. The major barriers of HIV positive status disclosure among PLWHA attending the St. of God Hospital are: fear of rejection/discrimination/stigmatization, fear of accusation of unfaithful by partners, fear of withdrawal of support, fear of abandonment, fear of upsetting family members, fear of lack of confidentiality,

denial, difficulty in initiating the process of disclosure, fear of suspicion by partner(s) of infecting him/her, and shame/disgrace. These barriers need to be addressed adequately since many people in this community perceive that anybody living with HIV/AIDS might have acquired it through sexual intercourse and hence immoral.

3. The socio-demographic factors found to be independently associated with HIV positive status disclosure to sexual partner(s)/family members among PLWHA attending the St. John of God Hospital were monthly income, knowledge of HIV status of partner/family member, place of diagnosis, the number of sexual partners, and the attitude of the HIV/AIDS counsellor.
4. Disclosure of HIV positive status to a sexual partner(s)/family member is made possible if the PLWHA receives quality counselling. The quality of counselling (client-perspective) given to PLWHA attending this hospital was found to be high. However, much still need to be done since 16.7% of the respondents were not advised to use condom and 82.9% were not informed on the possible legal implication for non-disclosure of HIV status, and 24.6% were not told the benefits of HIV status disclosure.

6.2 Recommendations

6.2.1 Tano North District Health Directorate

A community based programme should be designed to educate the population on the importance of HIV positive status disclosure in churches, work places, schools, and at all health care facilities so as to reduce the perceived consequences of disclosure and prevent

the spread of new infections especially those resulting from non-disclosure of HIV positive status by PLWHA. The programme should attempt to reduce the barriers of HIV positive status disclosure especially fear of rejection/discrimination/stigmatization, fear of accusation of unfaithful by partners, fear of withdrawal of support , fear of abandonment among others of the PLWHA and increase their access to social support systems and health care facilities. The programme should also provide information on HIV/AIDS, coping skills, support groups and on areas that bring about change in behavioural beliefs that rule people's attitudes and hence reduce negative attitudes towards HIV status disclosure.

6.2.2 HIV Counselors and Clinicians

Couple counselling should be encourage by counselors and clinicians since 68.9% of the respondents support it. These may help reduce blame of the person who is tested first and accused of being the primary source of the infection. Special emphasis should be made to increase the coverage of counseling on disclosure after receiving HIV positive results which should include; the benefits, condom use, possible legal implication of non-disclosure among others. Counselling should be effective and on-going which may help individuals to overcome the barriers of HIV positive status disclosure.

6.2.3 Further Research

The researcher recommends that a similar study should be repeated on a larger scale among the general population, not only limited to PLWHA attending the St. John of God Hospital so that the results are not over/underestimated.

REFERENCES

Abdool-Kareem, Q., and S. Abdul Kareem (2002). "Epidemiology of HIV in South Africa", South Africa medical research Council." [http:// www.healthnet.org.za](http://www.healthnet.org.za) cited in November, 2012.

Akpa, z. z., Adeolu-Olaiya, V., Oulsegun-Odebiri, A. and D. Aganaba (2011). "HIV/AIDS-related stigma and access to HIV treatment by people living with HIV/AIDS: A case study of selected states in North-West Nigeria." *HIV/AIDS Review* 10: 19-25.

Antelman, G. (2001). "Predictors of HIV-1 status disclosure: A prospective study among HIV-infected pregnant women in Dar es Salaam, Tanzania."

Armistead, L. (1999). "African-American women and self-disclosure of HIV infection: Rates, predictors, and relationship to depressive symptomatology." *AIDS and Behaviour* 3: 195-204.

bbc.co.uk (October 2005), '[Malawi issues food crisis appeal](#)'

Benkert, R., Peters, R., Clark, R and K. Keyes-Foster (2006). Effects of Perceived Racism, Cultural Mistrust and Trust in Providers on Satisfaction of Care. *Journal of the National Medical Association*. 98(9):1532-1540

Bennetts, A. (1999). Determinants of depression and HIV-related worry among HIV-positive women who have recently given birth, Bangkok, Thailand. *Social Science and Medicine*; 49:737-749.

Bikaako-Kajura, W., Luyirika E., Purcell, D.W., Downing, J. and F. Kaharuza (2006). "Disclosure of HIV status and adherence to daily drug regimens among HIV-infected children in Uganda."

Bouillon, K., Lert, F., Sitta, R., Schmaus, A., Spire, B. and R. Dray-Spira (2007). Factors correlated with disclosure of HIV infection in the French: Antilles and French Guiana: results from the ANRS-EN13-VESPADFA Study. *AIDS*, 21(1):89-94.

Centre for Disease Control (2002). Revised guidelines for HIV counseling, testing and referral. *Morbidity and Mortality Weekly Report*.

Chaudoir, S.R., Fisher, J.D. and J.M. Simoni (2011). Understanding HIV disclosure: A review and application of the Disclosure Processes Model. *Social Science and Medicine* 72:1618-1629.

Chin D. and K.W. Kroesen (1999). Disclosure of HIV infection among Asian/Pacific Islander American women: Cultural stigma and support. *Cultural Diversity and Ethnic Minority Psychology*; 5:222-235.

Ciesla, J.A., Roberts J.E. and R.G. Hewitt (2006). 'Adult attachment and high-risk sexual behavior among HIV-positive patients: preliminary findings'. *J App soc psychol*, Vol 34 issue 1, pp 108-124.

Collins, D.L. and M. Leibbrandt (2007). 'The financial impact of HIV/AIDS on poor households in South Africa', AIDS 21: Supplement 7

Crepaz N. and G. Marks (2002). Towards an understanding of sexual risk behavior in people living with HIV: A review of social, psychological, and medical findings. AIDS, 16:135–149.

Deribe, K., Woldemichael, K., Wondafrash, M., Haile, A. and A. Amberbir, (2007). Disclosure experience and associated factors among HIV positive men and women clinical service users in Southwest Ethiopia.

De Rosa C. and G. Marks (1998). Preventive counselling of HIV-positive men and self-disclosure of status to sex partners: New opportunities for prevention. Health Psychology; 17:224-31.

Eustace, R.W. and P.R. Ilagan (2010). HIV disclosure among HIV positive individuals: A concept analysis. Journal of Advanced Nursing 66 (9): 2094-2103.

Farquhar C. (2000). Prevalence and correlates of partner notification regarding HIV-1 in antenatal setting in Nairobi, Kenya. In: International Conference on AIDS; 381.

Gaskins, S.W. (2006). Disclosure Decisions of Rural African American Men Living with HIV Disease. J Assoc. Nurses AIDS Care 17(6):38-46.

Gari, T., Habte, D. and E. Markos (2010). HIV positive status disclosure to sexual partners among women attending ART clinic at Hawassa University Referral Hospital, SNNPR, Ethiopia. Ethiopia Journal of Health Development 24(1):9-14.

Ghana Demographic and Health Survey (2008).

Ghana Demographic and Health Survey (2003).

Ghana AIDS Commission (2012). Ghana Country AIDS Progress Report (January 2010 – December 2011).

Ghana AIDS Commission (2004). National HIV/AIDS and STI Policy.

Gielen, A.C., O'Campo, P., Faden R.R. and A. Eke (1997). Women's disclosure of HIV status: experiences of mistreatment and violence in an urban setting. *Women's Health*; 25:19-31.

Greener, R. (2004). 'The Impact of HIV/AIDS on Poverty and Inequality' in 'The Macroeconomics of AIDS'

Greig, A., Peacock, D., Jewkes, R. & Msimang, S. (2008). Gender and AIDS: Time to act. *AIDS* 2:35-43.

Health Knowledge (2011). <http://www.healthknowledge.org.uk/e-learning/epidemiology/practitioners/introduction-study-design-css>. Accessed on 20/11/2013.

The Henry J Kaiser Family Foundation (2007). 'The multi-sectoral impact of the HIV/AIDS epidemic—a primer'.

The Henry J. Kaiser Family Foundation (October 2002). 'Hitting Home: How Households Cope with the Impact of the HIV/AIDS Epidemic'

Hosegood V. (2004). 'The impact of adult mortality on household dissolution and migration in rural South Africa', AIDS, July 23rd, Vol. 18, issue 11

Ijumba, K., Gamielien, R., Meyer, L. and C. Morroni (2004). 'Sexual risk behaviors are influenced by knowing someone with HIV/AIDS'. S Afr Med J; 94: 522-23.

Inter Press Service News Agency (May 2006). 'Health South Africa: a burden that will only become heavier'

IRINnews.org (April 2005). 'Business Coalition Launches HIV/AIDS Mitigation Plan'

Jeffe, D.B. (2000). Disclosure of HIV status to medical providers: differences by gender, "race", and immune function. Public Health Reports; 115:38-45.

Kadowa, I. and F. Nuwaha (2009). Factors influencing disclosure of HIV positive status in Mityana district of Uganda. African Health Sciences 9(1):26-33.

Kalichman, S.C. and D. Nachimson (1999). 'Self-Efficacy and Disclosure of HIV-Positive Serostatus to Sex Partners'.

Kilewo, C. (2001). HIV counselling and testing of pregnant women in Sub-Saharan Africa. Journal of Acquired Immune Deficiency Syndromes; 28:458-462.

Klitzman, R.L., Kirshenbaum, S.B., Dodge, B., *et al.* (2004). Intricacies and inter-relationships between HIV disclosure and HAART: a qualitative study. *AIDS Care*, 16:628-640.

King, R., Katuntu, D., Lifshay, J., Packel, L., Batamwita, R., Nakayiwa, S., Abang, B., Babirye, F., Lindkvist, P., Johansson, E., Mermin, J. and R. Bunnell (2007). Processes and Outcomes of HIV Serostatus Disclosure to Sexual Partners among People Living with HIV in Uganda.

King-Spooner S. (1999). HIV prevention and the positive population. *Int J STD & AIDS*, 10:141–150.

Klopper C (2011). Factors influencing HIV status disclosure. Thesis submitted for Master of Nursing Science in the Faculty of Health Sciences at Stellenbosch University.

Lugalla, J., Yoder S., Sigalla, H. and C. Madihi (2011). Social context of disclosing HIV test results in Tanzania. *Culture, Health and Sexuality*.

MacNeil J.M., Mberesero F. and G. Kilonzo (1999). Is care and support associated with preventive behavior among people with HIV? *AIDS Care*, 11:537-546.

Makin, J.D., Forsyth, B.W., Visser, M.J., Sikkema, K.J., Neufeld, S. and B. Jeffery (2008). Factors Affecting Disclosure in South African HIV-Positive Pregnant Women. *AIDS Patient Care and STDs*, 22(11): 907-916.

Mansergh, G., Marks, G. and J.M. Simoni (1995). Self-disclosure of HIV infection among men who vary in time since sero-positive diagnosis and symptomatic status. *AIDS*, 9:639-644.

Marks, G. and N. Crepaz (2001). HIV-positive men's sexual practices in the context of self-disclosure of HIV status.

Marks, G., Richardson, J.L. and N. Maldonado (1991). Self-disclosure of HIV infection to sexual partners. *American Journal of Public Health*, 81:1321–1322.

Mason, H.R.C. (1995). Culturally suctioned secrets? Latino men's nondisclosure of HIV infection to family, friends, and lovers. *Health Psychology*, 1995; 14:6-12.

Matthews, C., Kuhn, L., Fransman, D., Hussey, G. and L. Dikweni (1999). Disclosure of HIV status and its consequences. *South African Medical Journal*, 89:1238.

Medley, A., Garcia-Moreno, C., McGill, S. and S. Maman (2004). Rates, barriers and outcomes of HIV serostatus disclosure among women in developing countries: implications for prevention of mother-to-child transmission programmes. *Bulletin of the World Health Organization*, 82:299-307.

Mills, E. J. (2011) 'The financial cost of doctors emigrating from sub-Saharan Africa: human capital analysis' *BMJ* 343

Moneyham, L. (1996). Experiences of disclosure in women infected with HIV. *Health Care Women International*, 17:209-21.

Nabila, Prof. John S., Phyllis A., Kwaku Y. and O.K. Stephen (2001). “A Study of the Economic Impact of HIV/AIDS on Selected Business Organizations in Ghana,” POLICY Project, Accra, Ghana, June.

National AIDS / STI Control Programme (2012). 2011 HIV Sentinal Survey Report. Accra: National AIDS/STI Control Programme, Ghana Health Service, Ministry of Health, Accra Ghana.

National AIDS / STI Control Programme (2011). 2010 HIV Sentinal Survey Report. Accra: National AIDS/STI Control Programme, Ghana Health Service, Ministry of Health, Accra Ghana.

National AIDS / STI Control Programme (2010). 2009 HIV Sentinal Survey Report. Accra: National AIDS/STI Control Programme, Ghana Health Service, Ministry of Health, Accra Ghana.

National AIDS/ STI Control Programme (2009). National HIV prevalence and AIDS Estimates Reports 2008 - 2015. Accra: National AIDS Control Programme, Ghana Health Service, Ministry of Health.

National AIDS/ STI Control Programme (2009). 2008 HIV Sentinel Survey Report. Accra: Ghana Health Service, Ministry of Health.

National AIDS/ STI Control Programme (2008). 2007 HIV Sentinel Survey Report. Accra: Ghana Health Service, Ghana AIDS Comission, World Health Organisation, Department of Internatational Development.

National Guidelines for the Implementation of HIV Counseling and Testing in Ghana (2008). Ministry of Health, Republic of Ghana.

National AIDS/STD Control Programme (1999). Ministry of Health. AIDS in Ghana:Background, Projections, Impacts, Interventions. Second Edition, Accra, Ministry of Health.

Ncube, N.M., Akunna, J., Babatunde, F., Nyarko, A., Yatch, N.J., Ellis, W., Turpin A. and P.E. Jolly (2012). Sexual risk behaviour among HIV-positive persons in Kumasi, Ghana. *Ghana Med Journal*; 46(1):27-33.

Nebie, Y. and Meda N et al (2001). Sexual and reproductive life of women informed of their HIV seropositivity: A prospective study in Burkina Faso. *Journal of Acquired Immune Deficiency Syndromes*, 28:367-372.

News from Africa (2003). 'Mining giant fights workplace HIV/AIDS'

O'Brien, M.E., Richardson-Alston, G., Ayoub, M., Magnus, M., Peterman, T.A. and P. Kissinger (2003). Prevalence and correlates of HIV sero-status disclosure. *Sexually Transmitted Diseases*, 30(9): 731-735.

Olley, B.O., Seedat, S. and D.J. Stein (2004). Self disclosure of HIV sero-status in recently diagnosed patients with HIV in South Africa, *African Journal of reproductive health Women's health and action Research centre*, Vol 8, No2, pp 71-76.

Paxton, S. (2002). The Paradox of Public HIV Disclosure. *AIDS Care*; 14:4: 559-567.

Perry, S.W., Card, C.A.L., Mofatt, M., Ashma, T., Fishman, B. and L.B. Jacobsberg (2004). 'Self disclosure of HIV infection to sexual partners after repeated counseling'.

Pinkerton, S.D. and C.L. Galletly (2007). Reducing HIV Transmission Risk by Increasing Serostatus Disclosure: A Mathematical Modeling Analysis. *Aids Behaviour*, 11(5): 698-705.

Piot, P., Bartos, M., Ghys, P.D., Walker N. and B. Schwartlander (2001). "The global impact of HIV/AIDS." Nature 410(6831): 968-973.

Rakwar J. (1999). HIV/STD: the women to blame? Knowledge and attitudes among STD clinic attendees in the second decade of HIV/AIDS. *International Journal of STD & AIDS*, 10:543-7.

Rosen, S., Vincent, J.R., MacLeod, W., Fox, M., Thea, D.M. and J.L. Simon (2004). The cost of HIV/AIDS to businesses in southern Africa, *AIDS* 18:317-324.

Serovich, J.M., Lim, J. and T.L. Mason (2008). A Retest of two HIV disclosure theories: the women's story. *Health and Social Work*, 33(1): 23–31.

Serovich, J.M and K.E Mosack (2003). Reasons for HIV disclosure or nondisclosure to casual sexual partners. *AIDS Education and Prevention*, 15:70-80.

Serovich, J.M. (2001). A test of two HIV disclosure theories. *AIDS Education and Prevention*, 13(4): 355–364.

Simbayi, L.C., Kalichman, S.C., Strebel, A., Cloete, A., Hendra, N. and A. Mqeketo (2007). Internalised stigma, discrimination, and depression among men and women living with HIV/AIDS in Cape Town, South Africa. *Social Science & Medicine*, 64:1823-1831.

Simbayi, L.C., Kalichman, S.C., Strebel, A., Cloete, A., Hendra, N. and A. Mqeketo (2006). Disclosure of HIV status to sex partners and sexual risk behaviours among HIV-positive men and women, Cape Town, South Africa. *Sexually Transmitted Infections*, 83:29-34.

Simoni, J.M. (1995). Women's self-disclosure of HIV infection: rates, reasons, and reactions. *Journal of Consulting of Clinical Psychology*, 1995; 63:474-8.

Sowell, R. L., Seals, B. F., Phillips, K. D. and C.H. Julious (2003). Disclosure of HIV infection: how do women decide to tell? *Health Education Research*, 18 (1): 32–44.

Stein, M.D., Freedberg, K.A., Sullivan, L.M., Savetsky, J., Levenson, J.M., Hingson, R. and J.H.

KNUST

Samet (2007). 'Disclosure of HIV-Positive Status to Partners', *Arch Intern Med*; 158:253-257.

Stein, M.D., Freedberg, K.A., Sullivan, L.M., Savetsysky, J.M., Levenson, S.M., Hingson, R. and J.H. Samet (2003). 'Sexual ethics: Disclosure of HIV positive status to partners'. *Arch Inter Med* 2003; 158(9): 253-257.

Stempel, R.R., Moulton, J.M. and A. Moss (1995). Self-disclosure of HIV-1 antibody test results: the San Francisco General Hospital Cohort. *AIDS Education and Prevention*, 1995; 7:116-23.

Stirratt, M.J., Remien, R.H., Smith, A., et al. (2006). The role of HIV serostatus disclosure in antiretroviral medication adherence. *AIDS and Behavior*, 10:483-493.

Türmen, T. (2003). Gender and HIV/AIDS. *International Journal of Gynecology and Obstetrics* 82:411-418.

UNAIDS (2012). UNAIDS World AIDS Day Report 2012. Available at: <http://www.unaids.org/>. Accessed September 11, 2013

UNAIDS (2011). 'World AIDS Day Report 2011'

UNAIDS/WHO. (2009). AIDS epidemic updates 2009. UNAIDS. Geneva.

UNAIDS (2008). 'Report on the global AIDS epidemic', Chapter 6 and 1

UNAIDS/WHO (2007). AIDS epidemic update 2007. UNAIDS/07.27E/ JC1322E, Geneva.

UNAIDS (2006). 'Report on the global AIDS epidemic', chapter 4: The impact of AIDS on people and societies.

UNAIDS (2003). 'HIV/AIDS: It's your business'

UNAIDS/WHO. (2000). Opening up the HIV/AIDS Epidemic: guidance on encouraging beneficial disclosure, ethical partner counselling & appropriate use of HIV case-reporting. UNAIDS. Geneva.

UCSF. (2007). How does disclosure affect HIV prevention? [On-line], Available on: <http://www.caps.ucsf.edu/pubs/FS/disclosure.php>.

UNDP (2011). 'Human Development Report 2011'

UNDP (2005). Human Development Report 2005, overview

Vickerman P. (2012). 'Company-level ART provision to employees is cost saving: a modelled cost-benefit analysis of the impact of HIV and antiretroviral treatment in a mining workforce in South Africa'.

Waddell, E.N., Messeri, P.A. (2006). Social support, disclosure, and use of antiretroviral therapy. *AIDS Behaviour*, 10:263-72.

Wolfe, W.R., Weiser, D.S., Bangseng, D.R., Thior, I., Makhema, J.M., Dickinson, D.B., Mompoti, K.F. and R.G. Marlink (2006). Effects of HIV-related stigma among an early sample of patients receiving antiretroviral therapy in Botswana. *AIDS Care* 18(8):931-933.

Wong, L.H., Van Rooyen, H., Modiba, P., Richter, L., Gray, G., McIntyre, J.A., Schetter, C.D. and T. Coates (2009). 'Test and tell: correlates and consequences of testing and disclosure of HIV status in South Africa (HTPN 043 Project Accept). *JAIDS*; 50(2):215-22.

World Bank (2002). 'Education and HIV/AIDS: A window of hope'

World Bank/UNESCO/UNAIDS Press release (2002). 'In turning the tide against HIV/AIDS, education is key', October 18 (Peter Piot).

WHO/UNAIDS/UNICEF (2011) 'Global HIV/AIDS Response: Epidemic update and health sector progress towards Universal Access 2011.

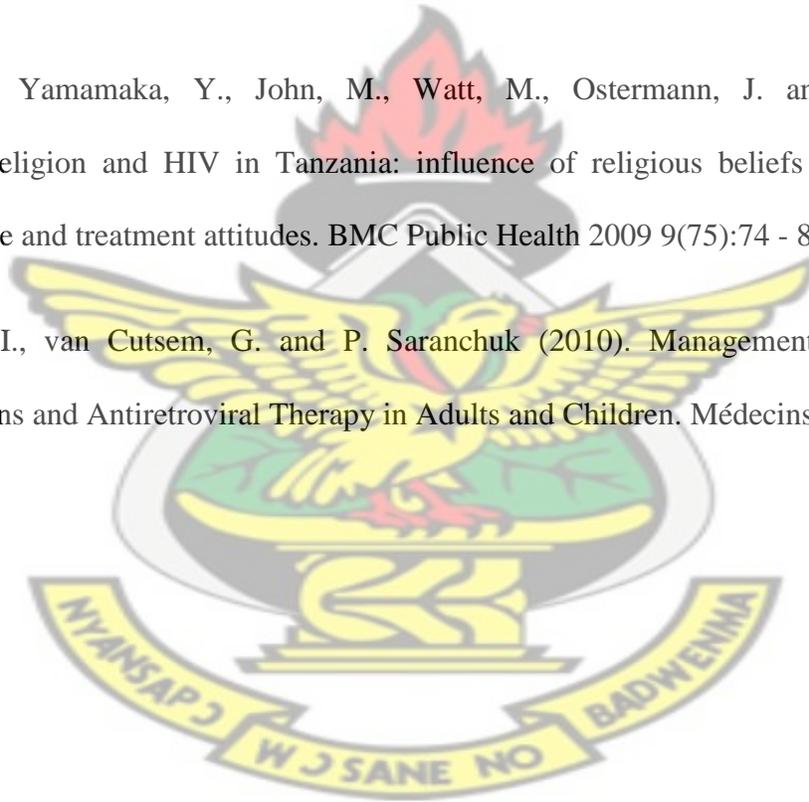
World Health Organization, Department of Gender and Women's Health (GWH) Family and Community Health (FCH) (2004). 'Gender Dimensions of HIV Status Disclosure to Sexual Partners: Rates Barriers and Outcomes'.

WHO Document Summary (2004). HIV Status Disclosure to Sexual Partners: Rates, Barriers and Outcomes for Women, Rates of HIV status disclosure.

Yoshioka, M.R. and A Schustack (2001). Disclosure of HIV status: cultural issues of Asian patients. *AIDS Patient Care and STD's*, 15:77-82.

Zou, J., Yamamaka, Y., John, M., Watt, M., Ostermann, J. and N. Thielman (2008). Religion and HIV in Tanzania: influence of religious beliefs on HIV stigma, disclosure and treatment attitudes. *BMC Public Health* 2009 9(75):74 - 81.

Zuniga, I., van Cutsem, G. and P. Saranchuk (2010). Management of HIV-related Conditions and Antiretroviral Therapy in Adults and Children. *Médecins Sans Frontières*



Appendix A

Questionnaire

Assessment of HIV status disclosure among people living with HIV/AIDS in the Tano North District. This questionnaire is prepared for the research work in partial fulfillment of the Master's Degree in Public Health (MPH-Population and Reproductive Health). Please answer with all honesty. All information that would be gathered during this interview would be strictly confidential. You have the right to withdraw from the study anytime you wish to do so.

INTERVIEW INFORMATION

DATE OF INTERVIEW |__|__| Day |__|__| Month |__|__||__|__|
Year

TIME STARTED |__|__| Hour |__|__| Minutes

TIME ENDED |__|__| Hour |__|__| Minutes

RESULT * |__|

INTERVIEWER NAME

SUPERVISOR

CHECKED BY

ENTERED BY 1) _____

2) _____

*RESULT CODES:

1=COMPLETED

2=POSTPONED

3=REFUSED

4=PARTLY COMPLETED

5=PARTLY COMPLETED

6=OTHER (SPECIFY)

INTERVIEWER: INTRODUCTION AND CONSENT. May I begin the interview now?

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SOCIO-DEMOGRAPHIC CHARACTERISTICS			
I would like to start by asking you a few questions about yourself.			
Q1	Please tell me your age in years.	_ age (completed years)	
Q2	Sex	Male.....1 Female.....2	
Q3	What is your highest educational level?	Non (did not go to school).....1 Primary/JSS/Middle school.....2 Secondary.....3 Tertiary.....4	
Q4	What is your religion?	Christian 1 Muslim..... 2 Traditional 3 Other 4	
Q5	What is your occupation?	Farming.....1 Government employee.....2 Unemployed.....3 Self-employed.....4 Private employee.....5	
Q6	What is your average monthly income?	Less than 50 Ghana cedis.....1 50-100 Ghana cedis.....2 100-200 Ghana cedis.....3 200-300 Ghana cedis.....4 300- 500 Ghana cedis.....5 Others (please specify).....6	
Q7	To what ethnic group do you belong?	Akan 1 Ga/Dangme..... 2 Ewe 3 Dagaaba 4 Mole-Dagbani..... 5 Grussi..... 6 Frafra 7 Hausa 8 Other (specify)..... 9	

Q8	What is your marital status?	Married (civil, traditional, religious) 1 Single 2 Widow/widower3 Divorced4 Not married but in a relationship5	
Q9	Please, do you have more than one sexual partner?	Yes 1 No 2 Respondent doesn't answer 99	→ Q12 → Q12
Q10	If yes to Q9, how many sexual partners do you have?	_____ Partners Don't know 88 Respondent doesn't answer 99	

HIV- POSITIVE STATUS DISCLOSURE			
Q1 1	Please, about how many years now have you been living with HIV/AIDS?	_____ years	
Q1 2	Have you disclosed your HIV status to anybody?	Yes1 No2	→ Q1 4
Q1 3	If yes to Q12, tell me, please, who did you disclose to?	Sexual partner1 Husband/Wife2 Mother3 Friend4 Father5 Brother/sister6 Others (please specify)7	
Q1 4	Do you protect yourself or sexual partner (s) during sexual intercourse all the times?	Yes 1 No2	
Q1 5	If yes to Q14, how often do you protect your sexual partner (s)?	Always1 Sometimes 2	

		When partner insist.....3	
Q1 6	If yes to Q14, please tell me, what do you often use for the protection during sexual intercourse?	Pills..... ..1 Condom..... 2 Herbs..... .3 Others (please specify).....4	
Q1 7	If yes to Q12, did you have sexual intercourse with your partner(s) after your HIV status was disclosed to you before disclosing your status to him/her?	Yes..... 1 No..... 2	
<p>REASONS FOR NON-DISCLOSURE OF HIV-POSITIVE STATUS IN THE DISTRICT</p> <p>Now I would like to ask you questions about your reason(s) for not disclosing your HIV status (For participants who answered “No” to Q12 only).</p>			
Q1 8	Fear of abandonment	Yes..... ...1 No.....2	
Q1 9	Fear of rejection/ discrimination/Stigmatization	Yes..... ...1 No.....2	
Q2 0	Fear of upsetting family members	Yes..... ...1 No.....2	
Q2 1	Severity of illness	Yes..... ...1 No.....2	
Q2 2	I do not want to worry him/her	Yes..... ...1 No.....2	
Q2 3	She/he might think I am unfaithful	Yes..... ...1 No.....2	
Q2 4	No enough time to discuss (he/she works away)	Yes..... ...1	

		No.....2	
Q2 5	She/he might abuse me physically example, beating	Yes.....1 No.....2	
Q2 6	She/he might kill me	Yes.....1 No.....2	
Q2 7	The person may tell others	Yes.....1 No.....2	
Q2 8	There is no need to tell until I am sick	Yes.....1 No.....2	
Q2 9	She/he had too many other problems to deal with right now	Yes.....1 No.....2	
Q3 0	Fear of withdrawal of support	Yes.....1 No.....2	
Q3 1	Others (Please specify)123	→ Q3 ⊗ → Q3 ⊗ → Q3 ⊗

REASONS FOR DISCLOSURE OF HIV-POSITIVE STATUS AMONG PARTNERS			
Now, I would like to ask you questions about your reasons for disclosing your HIV status (For participants who answered “Yes” to Q12 only).			
Q32	I do not want to hide my HIV status from him/her	Yes 1 No..... 2	
Q33	I want to get his/her support	Yes 1 No..... 2	
Q34	I do not want to risk him/her	Yes 1 No..... 2	
Q35	I feared God to hide such things	Yes 1 No..... 2	
Q36	I do not want to be legally accused	Yes 1 No..... 2	
Q37	I want to have a safer sex with my partner	Yes 1 No..... 2	
Q38	Others (Please specify) 1 2 3	

QUALITY OF COUNSELING GIVEN TO PLWHA IN THE DISTRICT (PRE AND POST COUNSELING)

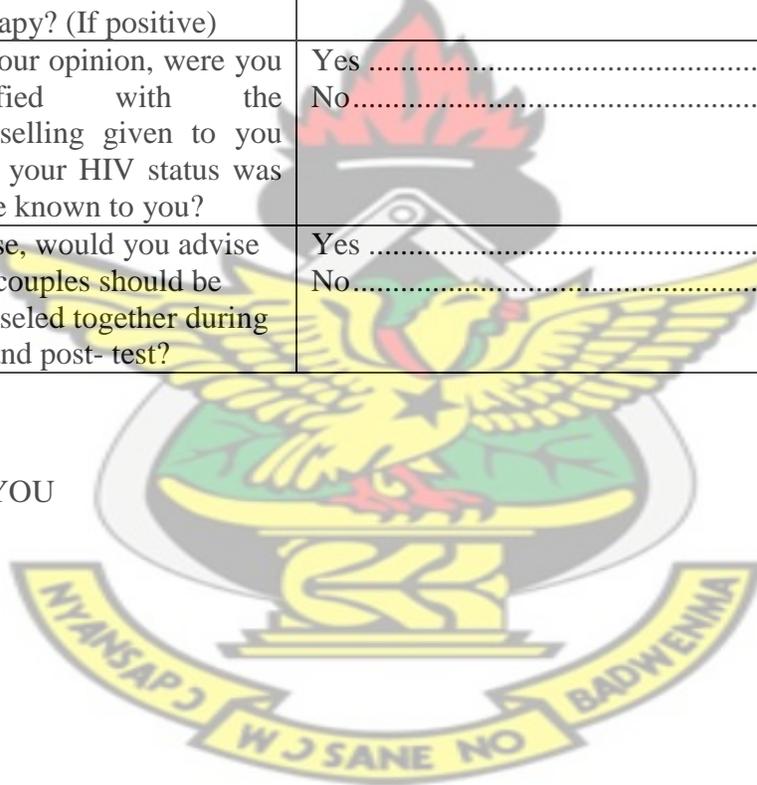
Now, I would like to ask you questions about counseling (Before and After your HIV status was made known to you).

Q39	Please, how did you get to know your HIV status?	During Voluntary Counseling and Testing.....1 During Blood donation exercise.....2 During Hospitalization.....3 During Ante natal care.....4 During Out Patient services5 During “know your status” campaign.....6 Others (please specify).....7	
Q40	Before the HIV test, were you told of the benefits of knowing your HIV status?	Yes 1 No..... 2	
Q41	During the counseling, was privacy provided for	Yes 1 No..... 2	

	the entire process?		
Q42	Were you assured of confidentiality during the counseling session?	Yes 1 No..... 2	
Q43	Did the counselor made you comfortable during the counseling session?	Yes 1 No..... 2	
Q44	Did the counselor attend to you without delay?	Yes 1 No..... 2	
Q45	How will you describe the attitude of the counselor during the counseling session for HIV testing	Excellent..... 1 Very good..... 2 Good..... 3 Bad..... 4 Very bad..... 5	
Q46	Were you told about the availability of Anti-Retroviral Therapy during pre-test counseling?	Yes 1 No..... 2	
Q47	In your opinion, were you adequately counseled before the HIV test?	Yes 1 No..... 2	
Q48	Tell me please, were you counseled after the results of your HIV test was disclosed to you?	Yes 1 No..... 2	
Q49	Were you advised to disclose your status to your sexual partner(s)?	Yes 1 No..... 2	
Q50	Please, were you advised to encourage your sexual partner (s) to go for an HIV test?	Yes 1 No..... 2	
Q51	Did the consellor discuss the benefits of HIV status disclosure with you?	Yes 1 No..... 2	
Q52	Were you informed the possible legal implications of HIV status non-disclosure?	Yes 1 No..... 2	
Q53	Were you advised on family planning after your result was disclosed to you besides condom use?	Yes 1 No..... 2	
Q54	Before and after the HIV	Yes 1	

	test, were you advised on condom use?	No..... 2	
Q55	Please after your HIV status was disclosed to you, were you told about the availability of Anti-Retroviral therapy?	Yes 1 No..... 2	
Q56	Do you know the HIV status of your sexual partner (s)?	Yes 1 No..... 2	
Q57	If yes to Q54, please tell me the HIV status of your sexual partner	Positive.....1 Negative.....2	
Q58	Is your sexual partner (s) on Anti-Retroviral Therapy? (If positive)	Yes 1 No..... 2	
Q59	In your opinion, were you satisfied with the counselling given to you after your HIV status was made known to you?	Yes 1 No..... 2	
Q60	Please, would you advise that couples should be counseled together during pre and post- test?	Yes 1 No..... 2	

THANK YOU



Appendix B: Map of Tano North District



Map of Tano North District of Ghana

Source: Tano North District Assembly