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**INSTITUTE OF STATISTICAL, SOCIAL AND ECONOMIC
RESEARCH (ISSER)**

**EFFECTS OF EDUCATION AND RELIGION ON HIV KNOWLEDGE
AND BEHAVIOUR MODIFICATION OF WOMEN IN THE TEMA
METROPOLIS**

BY

GEORGE SARFO ANTWI-BOASIAKO

(10358193)



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DECLARATION

I, George Sarfo Antwi-Boasiako, hereby declare that, except for references to other people's work, which have been duly acknowledged, this work is a result of my own original research, and that it has neither in whole, nor in part, been presented for a degree elsewhere.

..... Date2015

GEORGE SARFO ANTWI-BOASIAKO

(STUDENT)

..... Date2015

REV. (DR) ADOBEA Y. OWUSU

(SUPERVISOR)

..... Date2015

PROF. AUGUSTIN K. FOSU

(SUPERVISOR)

DEDICATION

I dedicate this work to my mother, Madam Mary Frimpong, who has been my source of inspiration and encouragement in every step in my life.



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I owe it a duty to express my heart-felt gratitude to all who in diverse ways assisted me to complete this study.

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AU	African Union
CHPS	Community-based Health Planning Services
GAC	Ghana AIDS Commission
GDHS	Ghana Demographic and Health Survey
GDP	Gross Domestic Product
GHS	Ghana Health Service
GSS	Ghana Statistical Service
HIV	Human Immunodeficiency Virus
MDGs	Millennium Development Goals
MOH	Ministry of Health
NACP	National AIDS Control Programme
PLWH	People Living With HIV
STIs	Sexually Transmitted Infections
TMA	Tema Metropolitan Assembly
UNDP	United Nations Development Programme
UN	United Nations
USAID	United States Agency for International Development
WB	World Bank
WHO	World Health Organization

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ABSTRACT

In 2012, about thirty-five million people worldwide were living with HIV and around 2.3 million people became infected with HIV within the same year (United Nations, 2012). Sub-Saharan Africa is more heavily affected by HIV than any other region of the world. An estimated 25 million people are living with HIV in the region—around two thirds of the global total.

The HIV prevalence rate of 2 percent in 2008 rose to 4 percent in 2009 in the Tema metropolis, a suburb of the Greater Accra region, Ghana -- an HIV prevalence rate twice the national average (Tema Metropolitan Health directorate, 2010). By the third quarter of 2009, the number of people living with HIV (PLWH) was 2462 in the Tema Metropolis. Out of this number, females comprised 1704 (69.2%) and males, 758 (30.8%), an indication of women's high vulnerability to HIV relative to men.

This study is based on a survey conducted in Tema Community One and Lashibi which employed the use of questionnaires to women to find out the effects of education and religion on HIV knowledge and behaviour modification.

The study showed that there was a high correct knowledge about HIV among respondents. Majority of the respondents had first-hand information about HIV from the radio even before they learnt about the disease from school. Thus, the study revealed that the mass media has an important role to play in the efforts at HIV prevention. Correlation analysis conducted revealed that there was a relationship to some extent between education and behaviour change, and religion and behaviour modification with regards to HIV prevention. That is, religion and education are positively correlated with HIV knowledge and behaviour modification (defined broadly as adopting condoms, fidelity to a single partner, and sexual abstinence as a means to HIV prevention or forgoing risky sexual behaviours. However, when behaviour modification is defined narrowly as only adopting condom use as done globally by the World Bank, then education appears to have a stronger effect on behaviour modification than religion.

Furthermore, logistic regression analysis conducted revealed that while education was a good predictor of behaviour change, religion was not a good predictor of behaviour change in terms of HIV prevention. Also, the study findings pointed to the fact that there may be other variables such as marital status, sex, cultural norms and values which influence behaviour change. Again, the study further revealed that a platform at which HIV is discussed among religious groups is not widespread. However, majority of the respondents' sexual decisions had been influenced positively by their religious groups.

Recommendations made from the study include the fact that, education on HIV should target individuals at the early stages of their lives since it is difficult to alter the behaviours of adults. Also, HIV education should not only aim at knowledge dissemination but behavioural change. Again, men should be educated on the benefits of the female condom to them which includes the fact that the female condom is less prone to breakage, its use does not require an erection and there is no need to withdraw immediately after ejaculating. Furthermore, efforts at exploiting the influence, strength and credibility of religious groups and leaders to shape social values with regards to sex and increase public knowledge about HIV and its prevention should be intensified.



CHAPTER ONE: INTRODUCTION

1.0 Overview

The incidence of the HIV epidemic has and is still of a worrying concern to individuals, governments, countries and the world at large. The epidemic has stalled development in many parts of the world and resources have been diverted in a bid to curb the epidemic. Efforts at development have been only partially fruitful due to the fact that, the very people who are supposed to be actively involved and enjoy its benefits are incapacitated by the disease. It is therefore imperative that society is educated and equipped with the requisite knowledge to curtail the disease, particularly the vulnerable in society. In looking at the effects of education and religion on HIV knowledge and behaviour modification of women in the Tema Metropolis, chapter one presents a background to the study, statement of the problem and objectives of the study. This chapter also looks at some research questions that the study attempted answering, significance of study and the organization of the study.

1.1 Background of the study

With over thirty five million people living with HIV worldwide in 2012 and more than two million new infections each year, the HIV epidemic continues to ravage families, communities, and governments struggling to deal with the sweeping effects of the disease (United Nations Development Programme, 2012). Individuals, families, societies, countries and the world as a whole have wrestled and are still wrestling with the effects and destructive nature of the HIV epidemic.

The Human Immunodeficiency Virus (HIV) is a lentivirus – a member of the retrovirus family that causes the Acquired Immunodeficiency Syndrome (Caldwell, 1995). The Acquired Immunodeficiency Syndrome (AIDS) is a human viral disease that destroys the immune system, undermining the body's ability to defend itself from infection and disease (Nutbeam, 1997). HIV

leaves an infected person susceptible to infections caused by microbes that take advantage of a weakened immune system. HIV is primarily transmitted through sexual intercourse, contact with infected blood and drug needles, both by injecting drug addicts and in hospitals as well as mother-to-child transmission.

In recent times, many strategies aimed at combating and halting the ravaging effect of the epidemic have been intensified with countries increasing their spending on HIV (UNAIDS, 2011). World and Regional bodies such as the African Union (AU), the United Nations (UN) and many Non-Governmental Organizations (NGOs) have also joined in the fight against the epidemic because it is no longer a public health problem but a development crisis the world over (World Health Organization, 2007). The most tragic long term feature of the HIV epidemic is its impact on the labour force and life expectancy of countries, making HIV an unmatched catastrophe in the world's history (World Bank, 2002). As part of efforts to combat the epidemics, the United Nations development Programme (UNDP, 2000) incorporated the goal of halting and reversing the spread of HIV and AIDS by 2015 as part of the Millennium Development Goals.

Despite two decades of intensive efforts, the HIV epidemic continues to spread all over the world particularly in the developing world, threatening to halt or even reverse years of hard-won human and economic development progress in numerous countries (Todaro, 2009). It is imperative to note that more than ninety-five percent of all HIV cases occur in the developing world. The United Nations (2012), reports that by 2011, over twenty-five million people had died of HIV and AIDS with the large majority in Sub-Saharan Africa. Throughout the region, HIV and AIDS is now the leading cause of death of adults in their economically active years. The United Nations (2004) estimates the world adult prevalence rate of the disease at 6 percent with women representing a growing majority of the infected. Although knowledge about HIV is almost universal the world over, adult HIV prevalence is also very high with most of the cases found in

Africa (Todaro, 2009). This may be due to the fact that HIV knowledge among individuals does not necessarily alter risky sexual behaviours for HIV prevention.

Even though Africa accommodates only eleven percent of the world's population, it is estimated that about sixty-six percent of people living with HIV are in Africa (UNAIDS, 2009). Africans have been targeted as the source of HIV because of the supposed practice of exotic customs such as female genital mutilation, widowhood rites, forced child marriages and promiscuity with Ghana being of no exception (Aggleton, 1996). Globally, comprehensive and correct knowledge about HIV among both young men and young women has increased slightly since 2008 but at only 34 percent (UNDP, 2009). Thus, the number of young people with this comprehensive knowledge is barely one third of the global population. The HIV epidemic has been aggravated in Africa by poverty, illiteracy, poor healthcare systems, belief systems, lack of political commitment and social and economic inequalities between men and women. In recent times, African governments have been proactive in responding to the HIV epidemic but there exist much to be done to remedy the epidemic. In general, the global response to HIV has improved considerably with funding coming from many sources of which the Global Fund is the largest source (World Bank, 2009).

1.2 Statement of the Problem

HIV has emerged as the single most formidable challenge to public health, family system, labour markets, human rights and development in recent years of which the Ghanaian population has not been spared of the challenges and negative effects of the epidemic (World Bank, 2000). Even though the HIV epidemic in Ghana is not as grave as in most Southern and Eastern African countries (WHO, 2008), data from sentinel sites in the country indicate that HIV prevalence to some extent has stalled at 3.4%, largely due to high infection rates among young people (aged 15-49) particularly among females (Ministry of Health Ghana, 2007). In 2010, reports by the United Nations Development Programme (UNDP) show that the number of adults infected with

HIV in Ghana increased to 250, 829 in 2008 from 247,534 in 2007, over a 5 percent increase. Females were the most infected accounting for 147,958 out of the 250,829 people infected. According to the UNDP, the number of new infected adults also increased from 21,310 in 2007 to 21,619 in 2008 out of which 12,198 and 12,544 were females respectively. Annual deaths as a result of the disease however dropped to 17,244 in 2008 from 18, 396 in 2007, however females still accounted for the largest portion. The above statistics indicate that the disease is having its brunt on women especially and that they are more vulnerable to the epidemic.

Although intravenous drug use and homosexual activities are becoming important factors in new HIV infections, heterosexual relationships remain central to HIV transmission in Ghana accounting for about 75-80 percent of infections with women being the most affected (Akwara et al., 2005). According to the Ghana AIDS Commission (2009), gender issues are basic to confronting the HIV and AIDS epidemic in Ghana. Thus, Ghanaian women often experience relative powerlessness, compared with men, because of poor economic empowerment and negative social norms. Hence, they are often subject to the will of their partners and husbands when it comes to sexual decisions. This relative powerlessness, along with limited life choices, makes it difficult to decline sexual advances without facing coercion or violence, and therefore limits women's ability to negotiate safer sex.

Departing from the Ghanaian situation, countries like South Africa, Zambia, Uganda and Zimbabwe all have been found to have a high prevalence of the disease among women (Todaro, 2009). Furthermore, the Millennium Development Goals Report 2010, reports that HIV prevalence in Ghana is high in its urban areas than in rural areas, a situation not different from other countries. The mean prevalence in the urban areas was estimated at 2.6 percent for the urban areas, while that of the rural areas was 2.3 percent. HIV prevalence rate in Ghana fell from 3.2 percent in 2006 to 2.2 percent in 2008 but shot up to 2.9 percent in 2009. However, HIV prevalence in the 15-49 age groups in Ghana, rose from 2.7 percent in 1994 to 4.0 percent in 1998, is now estimated to be 1.8 percent in 2009 (World Health Organization, 2010).

According to the UNAIDS (2000), Ghana's vulnerability to HIV is fuelled by poverty, gender inequalities, low levels of education and illiteracy, socio-cultural norms, denial, stigma and discrimination. Likewise, the increase has been attributed to several other factors such as lack of knowledge about HIV prevention, religious beliefs that detest condom use, lack of ready access to condoms, lubrications and sterile needles, and high risk behaviour among a segment of the population. It is worth noting that young people tend to engage in sexual activity at younger ages in this decade than in the 1970s, and 1980s and hence, the possibility of greater vulnerability to HIV and other STIs (Anwar et al., 2010).

Generally in Ghana, the prevalence of the disease is said to be disproportionate at the regional level and the rural-urban dichotomy, among different age groups and gender (UNDP, 2010). Thus, the prevalence of HIV is lopsided among males and females as well as among different age groups. For instance, at the regional level, the Northern region recorded the least HIV prevalence of 0.9% while the Eastern region recorded the highest prevalence of 3.6% in 2012 (Ghana Aids Commission, 2012). The Ashanti and Greater Accra regions recorded HIV prevalence of 2.6 and 3.5 percent respectively.

Women's susceptibility to the virus has primarily been a consequence of their subordinate status and powerlessness to negotiate safe sex or to resist violence and other violations of sexual and reproductive rights (Cornwell, 2005). This is compounded partly by their lack of access to information and knowledge on how to protect their selves from becoming infected and religious norms that condone male promiscuity. HIV prevalence among women aged 15-49 is nearly 3 percent while that of men aged 15-59 is under 2 percent. More women than men are living with HIV, and young women aged 15-24 years are as much as eight times more likely than men to be HIV positive (GDHS, 2008). According to Sobo (1995), most women succumb to engage in unsafe sex for socio-cultural and economic reasons including the following: so as to maintain a "monogamy narrative" (a demonstration of commitment and faithfulness to one partner at a time) which is contradictory with condom usage and to avoid being associated with

undiscriminating sexual behaviour. Also, some women engage in unsafe sex as a source of economic livelihood. Protecting women and girls from HIV means equipping them with the right information about HIV prevention strategies, promoting economic independence from men and protecting them against gender based violence. The 2012 HIV Sentinel and National HIV Prevalence and Estimates Report, reports a median prevalence rate of 2.8 percent and 2.6 percent for urban and rural areas respectively. Areas like Koforidua and Agomanya in the Eastern region, Tema and Adabraka in the Greater Accra region, Cape Coast and Obuasi in the Central and Ashanti regions respectively are marked as HIV sentinel sites with prevalence rate of 0.7 to 5.8 percent. The Tema metropolis, a suburb in the Greater Accra region, had a prevalence rate of 2 percent in 2008 but doubled to 4 percent in 2009, a prevalence twice the national average.

According to the 2000 population census, the total population of the Metropolis was 298,432 with males and females forming 49% and 51% of the population respectively and a growth rate of 2.6%. The population of the area is estimated at 387, 045 and expected to reach 418, 444 by the end of 2013. By the third quarter of 2009, the number of People Living with HIV (PLWH) was 2462 in the Tema Metropolis. Out of this number, females comprised 1704 and males, 758, an indication of women's high vulnerability to HIV relative to men (Ministry of Health, 2009). The spread of HIV in the Tema Metropolis can be understood within the framework of its historical past, port status, unemployment and low wages (Tema Metropolitan Assembly, 2009). According to Akoto (2000), Tema experiences a lot of recurrent migration because considerable proportions of workers and seamen, separated from their families for long periods may engage in temporary sexual liaisons that increase the risk of HIV spread. In fighting the HIV epidemic globally, education has been proven to be at the core of all preventive strategies and policies with much recourse to the role that individual's religious beliefs and norms play in their knowledge assimilation and behaviour modification (World Bank, 2002). According to Takyi et al. (2010), a growing body of research has linked religion with HIV protective behaviour, given its relevance in the lives of Africans (Bediako, 1995; Gifford, 1994; Jenkins, 2002).

Generally education has been used to impart knowledge to people, change their perceptions, modify their beliefs, empower them, expand their livelihood opportunities and help them make informed decisions and choices (United Nations, 2000). Women's empowerment has been said to be impossible if women are not given the right to education to make them enjoy the benefits of it as enjoyed by their male counterparts. According to Adomako (2002), until women are empowered through education, to have equal rights, to be economically independent, have access to resources and be able to take educated decisions and choices on issues that affects them including those concerning their sexuality and reproductive rights, the fight against the HIV epidemic will be a watered down effort. Furthermore, religious norms and beliefs that mystifies issues concerning sex and sexuality needs to be demystified through education to enable women have the voice and choice when it comes to decisions about sex. The United Nations (2008), reports that, to combat the HIV epidemic, women's empowerment through education is very essential for decreasing their vulnerability to the disease.

Also religion has been found to be essential in the fight against HIV. Religion has been described as a binary tool which can help curb or aggravate the epidemic (Benn, 2002). Thus, religion can have effect on HIV either positively or negatively. Religious norms concerning sexuality that promotes chastity and abhors sexual promiscuity and immorality go a long way in HIV prevention. Furthermore religious bodies that have taken on part of the responsibility of disseminating information and imparting knowledge on HIV prevention to its members, contribute immensely to the battle against the epidemic. However religions and religious norms that prevent condom usage by it followers as well as an open discussion of sexuality indirectly may contribute to the spread HIV. A study of women in Ghana by Takyi (2003) found a significant relationship between religious affiliation and increased knowledge about HIV transmission.

It is against this backdrop that this study aims at finding the effects of education and religion on HIV knowledge and behaviour modification of women in the Tema Metropolis with a focus on

Communities 1 and Lashibi located in the metropolis, a district where HIV prevalence has been high and fluctuating (2% in 2008 and 4% in 2009) over the years (Tema Metropolitan Assembly, 2009).

1.3 Objectives

The general objective of this study is to assess the extent to which education and religion influence HIV knowledge and behaviour modification among women in Tema Community 1 and Lashibi.

1.3.1 Specific Objectives

- To find the effect of education on the respondents' HIV knowledge, sexual decisions and sexual behaviour
- To assess the effect of religion on the respondents' HIV knowledge, sexual decisions and sexual behaviour.
- To examine the relationship between education and religion on HIV knowledge, sexual decisions and sexual behaviour among the respondents
- To provide recommendations for policy formulation and further research.

1.4 Research Questions

1. What is the effect of education on respondents' HIV knowledge, sexual decisions and sexual behaviour?
2. What is the effect of religion on respondents' HIV knowledge, sexual decisions and sexual behaviour?
3. What is the relationship between education and religion on HIV knowledge, sexual decisions and sexual behaviour among the respondents?

1.5 Significance of the Study

A range of research in various fields of study are being conducted the world over to answer questions that will help manage and prevent the HIV epidemic. As a result of the enormity of the impact of HIV on the socio-economic development of endemic nations, the sixth goal of the millennium development goals which most countries want to achieve by 2015 aim at combating HIV, malaria and other diseases. The success of any policy or health intervention programme in combating the epidemic must recognize the role that education and belief systems as well as behavioural change play in HIV prevention.

This study on the “Effects of Education and Religion on HIV Knowledge and Behaviour Modification of Women in the Tema Metropolis” attempts to explore the nexus between education and HIV, and religion and HIV focusing on the positive effects that these variables have on HIV prevention. Owing to the fact that women are disadvantaged in almost every aspect of life and based on the call for their empowerment, the study seeks to ascertain the decision making power of women when it comes to sex and whether HIV knowledge really empowers and motivates them to modify their sexual behaviour positively. Again, the study tries to find the positive role that religious beliefs and norms play in decisions concerning sex. As these issues are explored, the study may be used to tackle HIV from the gender perspective in relation to religious beliefs. The study makes useful recommendations based on its findings on how the issues of education and religion in HIV prevention and treatment can be completely exploited.

The epidemic is multifaceted and has both health and socio-economic implications. Streeten (1981) suggests that good health is not only a basic need but also a fundamental human right and very vital for socio-economic development. This study gives a multidisciplinary approach away from the biomedical approach. The study is also necessary in re-emphasizing the importance of education and religion in mitigating the HIV epidemic. It again explores the role that HIV knowledge and beliefs play, particularly among women in the fight against HIV through behaviour change. Furthermore, the study will be useful in directing future policies that will aim

at HIV prevention and women's empowerment and also generate interest in further studies especially on issues concerning women's sexuality and health.

1.6 Operational definitions

Education: The holistic process of imparting and acquiring knowledge through teaching and learning in a well-organized and structured system.

Religion: A specific set of basic beliefs and practices generally accepted by a group of people and for this study, religion refers to the Christian and Muslim religions.

HIV knowledge: Having the basic information such as facts about HIV transmission modes, symptoms of HIV and ways to avoid being infected.

Behaviour Modification: Adopting condoms, fidelity to a single partner, and sexual abstinence as a means to HIV prevention or forgoing risky sexual behaviours.

Safer sex: Being cautious and responsible for one's health by taking precautions before and during sexual activity and using condoms and dental dams to prevent the exchange of blood, semen and vaginal fluids when having sexual intercourse to avoid being infected with HIV and other sexual transmitted infections.

Effects of Education and Religion: The positive outcomes that knowledge acquired through teaching and learning and set of beliefs practiced has on HIV knowledge and behaviour modification.

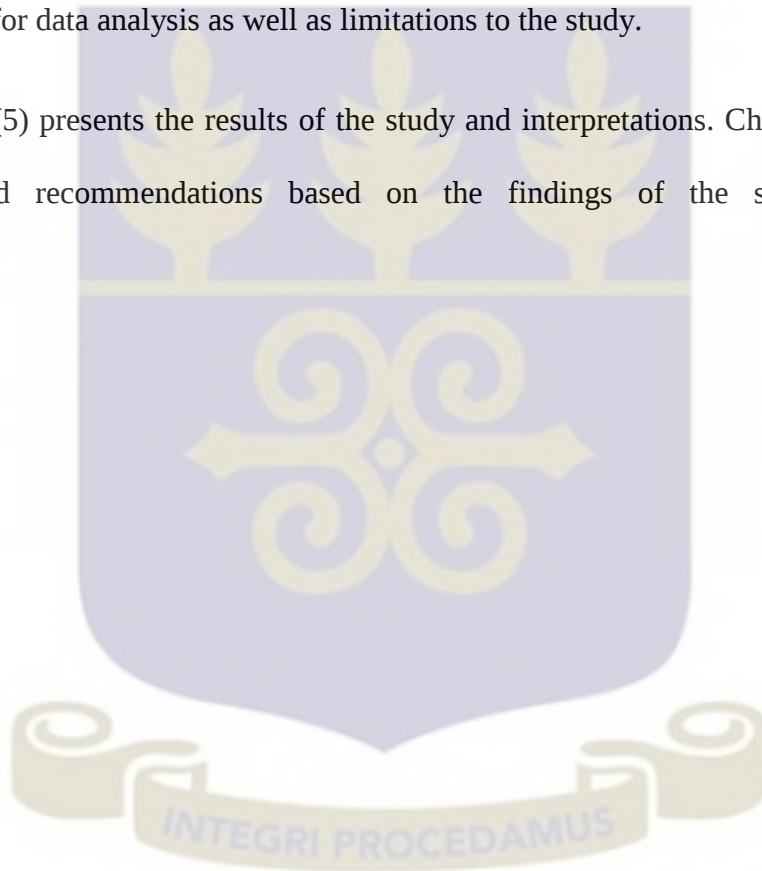
1.7 Organization of the Study

The study was divided into six (6) Chapters. Chapter one (1) gives a general overview of the subject under discussion. It gives a brief background to the study, lay out the problem statement, objectives, significance of the study and organization of report. Chapter Two (2) looks at a

conceptual framework of the study and reviews literature. Literature review focus on the following themes; the HIV epidemic, women and HIV, education and HIV, religion and sexuality, safer sex and HIV and the link between education, religion and HIV prevention.

Chapter Three (3) discusses the profile of the study area including the demographic features of the area, economic activities of the area, educational and healthcare delivery in the area. Chapter Four (4) discusses the sources of data, both primary and secondary. It also looks at sample size determination and the sampling procedure for the study. This chapter further discusses the method used for data analysis as well as limitations to the study.

Chapter five (5) presents the results of the study and interpretations. Chapter six (6) provides a summary and recommendations based on the findings of the study and conclusion.



CHAPTER TWO: LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.0 Introduction

In 2012, over thirty-five million people worldwide were infected with HIV and around 2.3 million people became infected with HIV within the same year. Sub-Saharan Africa is more heavily affected by HIV than any other region of the world. An estimated 25 million people are living with HIV in the region—around two thirds of the global total (United Nations, 2012). HIV and its concomitant, AIDS, remains the leading cause of premature death, robbing millions of people their prime working years and turning the clock of development backwards. In 2009 around 1.3 million people died from AIDS in sub-Saharan Africa and 1.8 million people became infected with HIV. In sub-Saharan Africa, nearly 15 million children have lost one or both parents to the AIDS epidemic (UN, 2010). The social and economic consequences of the HIV epidemic are widely felt, not only in the health sector but also in education, industry, agriculture, transport, human resources and the economy in general.

The HIV epidemic in sub-Saharan Africa continues to devastate communities, creating a virtual generation of orphans estimated at 12 million in 2006 and hindering economic productivity and economic growth, rolling back decades of development progress (World Bank, 2008). Essentially, the speed and scope of the future spread of the HIV epidemic in Africa is unclear, however, projections on the epidemic is dependent most importantly on sexual behaviour and on the effectiveness of preventive programs in altering it. So far, medical estimation points to the fact that, a cure will not be found in the near future although a vaccine may be developed before a cure, but this will not be of any relevance to those already infected with the virus (World Bank, 2008)

In many parts of Africa, as elsewhere in the world, the HIV epidemic is exacerbated by social and economic inequalities between men and women. Women and girls commonly face

discrimination in terms of access to education, employment, credit, health care, land and inheritance (Cornwell, 2005). These factors can put women in a position where they are particularly vulnerable to HIV infection. At the end of 2009 it was estimated that out of the 33.3 million adults worldwide living with HIV and AIDS, more than half were women. It is suggested that 98 percent of these women live in developing countries. The HIV epidemic has had a unique impact on women, which has been aggravated by their role within society and their biological vulnerability to HIV infection (United Nations Development Programme, 2010).

Generally women are at a greater risk of heterosexual transmission of HIV. Biologically women are twice more likely to become infected with HIV through unprotected heterosexual intercourse than men (World Health Organization, 2003). In many countries women are less likely to be able to negotiate condom use and are more likely to be subjected to non-consensual sex. Negotiation is the process whereby two parties confer, haggle or bargain to achieve their desired outcomes, and in this scenario, safe sex. In sub-Saharan Africa, around fifty-nine percent of those living with HIV are female. In many African countries, sexual relationships are dominated by men, meaning that women cannot always practice safer sex even when they know the risks involved (United States Agency for International Development, 2006).

Additionally, millions of women have been indirectly affected by the HIV epidemic. Women's childbearing role means that they have to contend with issues such as mother-to-child transmission of HIV. The responsibility of caring for HIV patients and orphans is also an issue that has a greater effect on women (Cornwell, 2005). This study reviewed studies that predict or explains how education and religion influences HIV knowledge and behaviour modification among women. Literature review was conducted along the following topics: the HIV epidemic, women and HIV, effects of education on HIV and the impact of HIV on development (USAID, 2006). More so, literature was reviewed on safer sex practices and the impact of religion and religious practices on the HIV epidemic.

2.1 The HIV and AIDS Epidemic

In 1981, a new syndrome, the acquired immune deficiency syndrome (AIDS), was first recognized among homosexual men in the United States. By 1983, the etiological agent, the human immunodeficiency virus (HIV), had been identified (World Health Organization, 2008). HIV destroys the biological ability of the human body to fight off opportunistic infections such as Pneumonia and Tuberculosis. An infected person can live with the virus for many years without showing any symptom of the disease. By the mid-1980's, it became clear that the virus had spread, largely unnoticed, throughout most part of the world. Most of the available epidemiological data indicate that the extensive spread of HIV started in sub-Saharan Africa in the late 1970s. By the early 1980s, HIV was found in a geographic band stretching from West Africa across to the Indian Ocean, the countries north of the Sahara and those in the southern cone of the continent remained apparently untouched (Newman et al. 2006). By 1987, the epidemic began gradually to move south.

Some of the most devastating heights of the epidemic have been seen in Southern Africa. South Africa has the largest number of people living with HIV in the world, having about 5 million infected persons. Swaziland and Botswana have the highest adult prevalence levels, thirty-three and twenty-four percent respectively (WHO, 2008). West Africa has been relatively less affected by HIV infection than other regions of sub-Saharan Africa. Efforts at curbing the epidemic though a daunting task have achieved some success stories. Uganda and Senegal represent two of such success stories. Uganda has brought estimated prevalence rate down to five percent by the end of 2001 from an estimated peak of close to fourteen percent in the early 1990s with strong prevention campaigns (Todaro & Smith, 2009).

HIV transmission occurs most commonly during intimate sexual contact with an infected person, including genital, anal, and oral sex. The virus is present in the infected person's semen or vaginal fluids. During sexual intercourse, the virus gains access to the bloodstream of the

uninfected person by passing through openings in the mucous membrane—the protective tissue layer that lines the mouth, vagina, and rectum—and through breaks in the skin of the penis. Also, direct contact with HIV-infected blood occurs when people who use heroin or other injected drugs share hypodermic needles or syringes contaminated with infected blood. Sharing of contaminated needles among intravenous drug users and transfusion of infected blood are also major causes of the disease (World Bank, 2002).

Furthermore, HIV can be transmitted from an infected mother to her baby while the baby is still in the woman's uterus or, more commonly, during childbirth. The virus can also be transmitted through the mother's breast milk during breast-feeding. Mother-to-child transmission accounts for 90 percent of all cases of HIV in children. Mother-to-child transmission is particularly prevalent in Africa owing to the absence of appropriate interventions to prevent the transmission (WHO, 2008). These interventions include the provision of combined package anti-retroviral treatment (ART), safe delivery practices and support and counseling for HIV positive pregnant women. Although new and effective anti-retroviral drugs have brought hope to many HIV-infected persons, a number of social and ethical dilemmas still confront researchers and public-health officials. The latest combination drug therapies are far too expensive for infected persons in the developing world—particularly in sub-Saharan Africa, where the majority of AIDS deaths have occurred. In these regions, where the incidence of HIV infection has soared, the lack of access to drugs can be catastrophic (Newman et al. 2006).

2.1.1 HIV in Africa

The HIV epidemic in Africa is believed to have started in Eastern Africa in countries like Kenya, Uganda, Rwanda and Tanzania (WHO, 1990). HIV was probably carried into the Eastern Africa region in the 1970s from its western equatorial origin. The disease later reached epidemic levels in the region in the early 1980s. As the years rolled by, the transmission rate of the disease was more rapid than one could imagine and therefore had a more devastating effect on the region

than other parts of Africa. A combination of widespread labour migration, high ratio of men in the urban populations, low status of women, lack of circumcision, and prevalence of sexually transmitted diseases were given as factors that aided the rapid spread of HIV in the region. Also, it is believed that sex workers played significant part in the accelerated transmission rate in East Africa. For instance, by 1986, eight-five percent of sex workers in Nairobi were infected with the disease (Clarke and Potts, 1988).

The early 1980s also saw HIV spread further into Western Equatorial Africa and Western African nations. However, in the Western Equatorial countries of Gabon, Congo and Cameroon the virus did not cause large epidemics. The long distances between cities, the difficulty of travel, and violence and insecurity meant that there were not the sexual networks that would allow the spread of HIV to epidemic proportions (UNAIDS, 2000).

The HIV epidemic spread across the West African region with reported cases in Co'te d'Ivoire which was experiencing an era of rapid urbanization and immigration. By the end of the 1980s, HIV infection had been identified in all of the West African states where sex work was thriving at the time.

Although the virus arrived comparatively late in the Southern African region, it stimulated an overwhelming epidemic among the general population. By the end of the 1980s the southern African countries of Malawi, Zambia, Zimbabwe and Botswana were on the verge of overtaking East Africa as the focus of the global HIV epidemic.

The World Health Organization states that, truck drivers alongside other migrants such as soldiers, traders and miners have been identified as a group which facilitated the initial rapid spread of HIV in Africa. Due to the long journeys as well as the long stay away from the families for that matter their spouses, they engaged with sex workers and spread HIV outwards on the transport and trade routes. In the 1980s, thirty-five percent of tested Ugandan truck drivers were HIV positive, as were 30 percent of military personnel from General Amin's Ugandan army.

Again, in 1988, the second highest prevalence rate of HIV in all of Africa was found on the Tanzam road linking Tanzania and Zambia (Clarke et al, 1988).

Sub-Saharan Africa was the hub of the HIV epidemic in the 1990s (World Bank, 2000). In 1993 there were an estimated 9 million people infected in the sub-Saharan region out of a global total of 14 million. In 1998 sub-Saharan Africa was home to seventy percent of people who became infected with HIV during the year, with an estimated one in seven of these new infections occurring in South Africa. According to WHO (2010), in Sub-Saharan Africa more women than men are living with HIV and young women aged 15-24 years are as much as eight times more likely than men to be HIV positive. It was estimated in 2007 that since the beginning of the epidemic more than 15 million Africans had died from AIDS. In 2009, UNAIDS estimated that about 22.5 million people were living with HIV whilst about 1.8 million were newly infected. The vast majority of people newly infected with HIV in the region are infected through unprotected heterosexual intercourse and mother-to-child transmission.

2.1.2 HIV in Ghana

The harsh socio-economic brunt of the HIV epidemic has been and is being experienced by Ghana for over two decades. According to the World Bank (2008), the first officially reported case of HIV in Ghana was in March 1986 and by the end of the year, 42 cases had been recorded. Majority of the initial cases of the disease were found among women who had traveled and returned back to Ghana from Cote D'Ivoire in the 1980's (Ghana AIDS Commission, 2009). By the late 1980s, the disease had spread through most part of the country unnoticed and by the end of December 2001, a cumulative total of 52,916 cases had been recorded. According to the National AIDS Control Programme (NACP) (2000), nearly 90 percent of all AIDS cases from 1986-1999 were among persons aged 25-49 years, with 63 percent of all reported cases being females. This prompted a structured national response through the establishment of the National AIDS/STD Control Programme (NACP) in 1987 and

later the Ghana AIDS Commission in 2003 to formulate HIV and AIDS policies and direct and co-ordinate national activities in the fight against HIV and AIDS. The true number of cumulative HIV and AIDS cases in Ghana is not known, but, according to the projection model used by the Ministry of Health, the total was more than 185,000 by the end of 2000.

The disease spread slowly but steadily until 2003 when prevalence rate peaked at 3.6 percent. During this period, the highest prevalence was recorded in the 25-29 year group with a prevalence of 4.2 percent with the general adult prevalence rate fluctuating over the years. In 2003, 24,000 children in Ghana were estimated to be living with HIV and there were an estimated 170,000 AIDS orphans. The prevalence rate of the disease in 2002, 2003, 2004, 2005 and 2006 was 3.4, 3.6, 3.1, 2.7 and 3.2 percents respectively (Ghana AIDS Commission, 2009).

In Ghana, as in the rest of Africa, two transmission mechanisms account for most new HIV infections in the country: heterosexual contact and mother-to-child (MTC) transmission (Ministry of Health, 1995). Besides sexual contact and MTC transfer, HIV can also be transmitted through contaminated blood, for example, through transfusions or the sharing of needles or blades that have been in contact with the blood of an HIV-infected person. Mother-to-child transmission of HIV accounts for approximately 15 percent of all HIV transmission in Ghana (World Bank, 2008).

There is marked variation in the prevalence of HIV on basis of regions and gender in the country (UNAIDS, 2011). In the mid-1980s, over eighty percent of all reported cases of HIV were females. Currently, it is reported that about sixty-three percent of HIV infected persons are females. On the regional level, the Eastern region has the highest prevalence rate of 4.9 followed by the Western, Ashanti and Greater Accra regions with prevalence rate of 4.3, 3.7 and 3.4 respectively (Ghana AIDS Commission, 2004). On the other hand, the Northern region and Brong Ahafo regions have the lowest prevalence rate of 1.3 and 2.8 respectively.

A Behavioural Surveillance Survey (BSS) conducted by the Ghana Health Service (2003) concluded that the depth of knowledge of HIV prevention remains low across all targets of the population. According to the survey, only 70 to 80 percent of all populations were able to cite 'use of condoms correctly with all sex partners' as a means to prevent HIV infection. Even though, currently, HIV awareness in Ghana is nearly universal (GDHS, 2008) with 98 percent of the population in the know, this impressive figure has not translated into comprehensive knowledge and appropriate behaviour change. According to the Ghana AIDS Commission (2009), majority of infections (nearly ninety percent) are within age group of 15-49 years. The Commission believes HIV awareness and knowledge is very high in Ghana but behaviour change and condom use is low. Also, according to surveillance report by the Ministry of Health in 2009, only one-third of women and half of men used a condom at the last higher risk sex.

Thus, in Ghana, females are at the greatest risk of contracting the HIV and this has been influenced by gender differences in access to economic opportunities reinforced by cultural practices that promote the transmission of the disease. This in a way creates a situation of high dependence of women on men thereby endangering their lives through involvement in unprotected sex particularly multiple partners.

2.2 Safer Sex and HIV

Many consider sex as an integral part of human existence and interaction. Those who engage in it do so for pleasure or procreation and as such, is an act in human societies which cannot be done without by most individuals (Ulin, Cayemittes and Metellus, 1993). However with the emergence of several Sexually Transmitted Infections (STIs), particularly HIV, concerns have been raised about sexual behaviour and how to promote safe sex for disease prevention. The safe sex crusade became more prominent in the late 1980s as part of sex education as a result of the HIV epidemic. It is being cautious and responsible for one's health when it comes to one's sex life. It involves taking precautions during sexual activity and using condoms and dental dams

to prevent the exchange of blood, semen and vaginal fluids (Planned Parenthood, 2004). A condom is a barrier device mostly made of latex used during sexual intercourse to reduce the probability of pregnancy and spreading STIs while a dental dam is a thin latex square held over the vaginal or anal area during oral sex (Centres for Disease Control and Prevention, 2000).

Safe sex also involves having sexual relations with only one partner, avoiding sexual activity with sex workers, and discussing relevant past sexual history with a partner to discover if they are at risk for having an STI (Secretariat of the Pacific Community, 2006). As the years have evolved, stakeholders in the fight against the epidemic currently prefer to use the term “safer sex” instead of just safe sex. This is to precisely reflect that fact that these practices reduce, but do not completely eliminate, the risk of disease transmission. The term safer sex is also used to reflect the fact that risk of transmission of HIV and sexually transmitted infections in various sexual activities is a continuum (Fenway Community Health, 2008). Thus, safer sex is thought to be a more aggressive term, which may make individuals increasingly aware that any type of sexual activity carries a certain degree of risk. Therefore making individuals much conscious of the consequences of their sexual activities and the possible precautions they need to take. Consequently, safer sex revolves around condom and dental dam use, abstinence, monogamy and safe partnership (CDC, 2000).

Sex can be pleasurable, fun and exciting and is very significant in ensuring that the human race does not become extinct. However, sex can also lead to health consequences such as HIV and a variety STIs, some of which can be fatal as well as an unwanted pregnancy. It is estimated that twenty-five percent of youth worldwide will have at least one STI before they reach the age of 25 (WHO, 2008). Fortunately, there are effective ways to reduce the risk of these consequences through safer sex practices. Thus, if everyone were to adopt a safer sex practice all the time, it is obvious that the rate of new HIV infections would drop dramatically if not eliminated altogether. However, protected sex is not widely practiced the world over (USAID, 2001), partly because

societal norms associate condoms with an admission of infidelity or a lack of trust in one's partner (Ulin et al, 1993). Thus, there is a general low condom usage among sexually active persons, reflecting in part, the reluctance of couples to openly acknowledge non-exclusive sexual relations of which both partners may or may not be aware (Heise and Elias, 1995).

Again, gender values may assign females a passive role in sexual encounters that limit a woman's ability to assert her preference for safer-sex behaviors (Wyatt, Vargas, Loeb and Gordon, 2000). Traditional gender values that emphasize the centrality of motherhood to a woman's life may also limit a female's willingness to use contraceptives, including condoms and thereby forgoing the opportunity to negotiate safer sex for HIV prevention (Heise and Elias, 1995). The conservativeness attached to issues revolving around sex and sexuality in society breeds negative feelings such as being branded as a deviant and therefore makes it difficult for people to talk openly about sexual issues or even to seek out information or obtain medical advice, perhaps out of fear of being judged (Kalipeni et al, 2004). Nevertheless, open communication with a partner and feeling confident about one's sexual feelings and behaviours are two ways to promote sexual health and reduce the risk of spreading HIV. Unfortunately, some current social mores and religious teachings hinder, rather than promote, positive feelings about sex. It is imperative to note that, a person's view of sexuality has an impact on his/her sexual activity and use of safer sex practices.

There are many other factors that influence our safer sex practices. Some people do not use condoms or other safer sex practices because they are not familiar with them. They do not know how to use a condom or where to buy one. Learning more about safer sex practices is sometimes all it takes for these individuals to adopt safer sex behaviours. For some, a negative attitude towards safer sex practices interferes with adopting healthier behaviours. At present, the most effective safer sex practice is using a condom correctly and consistently during sexual intercourse with a partner.

2.3 Women and HIV

Although many women around the globe are increasingly speaking out about their rights to make informed reproductive choices in terms of contraception, safer sex, and safe motherhood, many discussions and interactions about the HIV and AIDS epidemic with reference to women continues to revolve around what is socio-culturally acceptable and permissible (Cornwell, 2005). However, unless women gain extensive knowledge, recognize the causes, symptoms and effects of HIV/AIDS as well as gaining the social, political, economic and cultural freedom and independence, they may not have the full benefit of insisting on and negotiating for safe sex (Adomako, 2006).

According to the (2008) World Health Organization and United Nations Programme on HIV/AIDS (UNAIDS) global estimates, women comprise 50 percent of people living with HIV. In sub-Saharan Africa, women constitute 60 percent of people living with HIV. In many African countries, sexual relationships are dominated by men, meaning that women cannot always practice safer sex even when they know the risks involved. In 1985 in sub-Saharan Africa there were as many HIV infected men as there were women. However as the infection rate has increased over the years, the number of women living with HIV has overtaken and remained higher than the number of infected men.

Women's susceptibility to the HIV epidemic has been attributed to socio-cultural practices such as female genital mutilation, widowhood rites, puberty rites and biological factors that place them at a higher risk than men. These biological factors include the fact that the lining of the vagina provides a large area, which can be exposed to HIV infected semen, semen having higher levels of HIV than vaginal fluids and more semen exchanged during sexual intercourse than vaginal fluids (USAID, 2006). Also, the fact that it is more difficult to detect the presence of sexually transmitted infections (STIs) in women, having untreated STIs makes it more likely for women to get HIV.

In 2009 there were around 12 million women living with HIV, compared to about 8.2 million men in Africa. UNAIDS (2008) has estimated that around three quarters of all women with HIV live in sub-Saharan Africa. As women are twice as likely to acquire HIV from an infected partner during unprotected heterosexual intercourse than men, women are disproportionately infected in this region. Although across the African continent, many women may be willing to use condoms, their male partners may refuse to do so. Notwithstanding this situation, HIV prevention strategies has continued to be dichotomized, targeting women and men separately, and stressing the importance of condom use—a strategy which depends heavily on women's skills in persuading men to corporate in condom use and safe sex (Campbell, 1995).

HIV education targeted exclusively towards women assumes that, given full information, women may be more likely than men to respond positively to HIV knowledge by modifying their sexual behaviours (Heise and Elias, 1995). Thus, HIV education programs generally assume that women make better health decisions than do men without a critical look at other factors that discourages condom use among women. For instance, gender roles in society which labels women as mothers may not give them the opportunity to take personal decisions on having children as well as the notion that male sexual pleasure takes precedence over female pleasure (Gupta, 2000; Gupta, 2002). Gender values may also assign females a passive role in sexual encounters that limit a woman's ability to assert her preference for safer-sex behaviours (Wyatt and others, 2000). Also, gender norms in society in relation to the earning power of women indicate that women are less likely to negotiate for condom usage because they lack economic advantage over their partners.

Moreover, many women erroneously believe their partners to be monogamous and thus may not consider themselves to be at risk and more so negotiate for safe sex (Adomako, 2006). Most women see sex as an inevitable part of a relationship with a man and feel obliged to have sex with their boyfriends and partners when, and how the men want them to, even if they are

unwilling. Since condom usage is frequently associated with infidelity, a woman who raises the issue of condom use in negotiating for safe sex is assumed to be non-monogamous or free from disease or that she suspects her partner is not, which sometimes leads to the woman being beaten by her partner (Heise and Elias, 1995).

According to the USAID (2008), in Ghana, women in polygamous unions are more likely to be infected with HIV than women in monogamous unions. Women's behaviour and decisions can affect their vulnerability to infection. The prevalence of HIV generally swells with the number of higher risk sexual partners a woman has. The upsurge and the increasing commoditization of casual sex in contemporary Ghana have brought about the phenomenon of men wanting their sexual needs met and women who are ready to meet those needs in exchange for material gains (Adomako, 2006). Many women view condom as a contraceptive (device preventing fertilization) rather than as a prophylaxis (treatment to prevent disease) and thus, a few insist on their use for the purpose of practicing safe sex (Adomako, 2002). The use of condoms as a prophylaxis is difficult to sustain over a longer period of time and as such even when women feel sufficiently entitled to safer sex, they often compromise after having been in a relationship for a while. Also condoms can no longer be insisted on when couples begins to consider having a child.

Rape and sexual abuse of girls and young women severely increases the odds of contracting HIV and STIs (Population Council, 2004). Young women often suffer injuries from forced sex which increases their risk of contracting HIV. For instance, in Southern Africa, young girls have been raped by older men with the misconception that HIV can be cured by having sex with a virgin (UNAIDS and UNICEF, 2006).

Women are not only at a greater risk of HIV than their male counterparts but also bear the burden of caring and providing for those affected by the disease and the household. Women may have to make great sacrifices by giving up their education, jobs and income earning to care for

an infected spouse or relative. Women who become widows due to HIV become heads of their households. Interestingly, most of these households may be having children who are still young and across Africa, most of female-headed households tend to be among the poorest (Oppong et al, 2006). Thus, the load of care giving falls primarily on women deepening, poverty and inequality among them. In the face of weakened extended family ties, girls who are orphaned by the epidemic may become more vulnerable to further sexual exploitation and harassment (Poku, 2005).

2.4 Education and HIV

A greater number of programs that deal with HIV education include some component designed specifically to increase HIV knowledge, with the premise that increased knowledge will result in improved behaviour outcomes (Heise and Elias, 1995; World Bank, 2004). Education is said to be one of the most effective and efficient instrument in HIV prevention across the globe (World Bank, 2004). Estimating the impact of education on HIV prevention, the Global Campaign for Education (2000) advocates that, if every child received a comprehensive primary education, 700,000 new HIV infections in young adults could be prevented every year. Reiterating this fact, the World Bank (2002) has described education as a proven means to prevent HIV: a general basic education has an important preventive impact, it can equip children and the youth to make healthy decisions concerning their own lives, bring about long term healthy behaviours and give people the opportunity for economic independence and hope. This can be achieved by sharing information with colleagues and students and raising awareness in the community and making skills based health education an integral part of the curriculum. Furthermore, it is described as the most efficient and effective tool for reducing women's vulnerability to the disease.

Girl's education can go a long way in slowing and reversing the spread of HIV by contributing to female economic independence, freedom from men's domination, delayed marriages, family planning and work outside the home (World Bank, 2002). Thus, education provides women with

earning power to enhance their economic independence, which may keep them from resorting to commercial sex work for economic survival and the ability to bargain for safe sex, thereby reducing their risk of contracting HIV.

Even more, education has been seen to offer a readymade infrastructure for delivering HIV prevention efforts to large numbers of uninfected populations, mainly, school children as well as the youth who in many countries are the age group most at risk (UNAIDS, 2008). In an effort at reaching a greater section of populations the world over, education may readily serve as the most highly cost effective prevention mechanism owing to fact that the school system may possibly bring together students, teachers, parents and the community. Thus a greater number of people may be reached by the school system outside of its confinement via the various interactions between students, parents, friends and the whole community. Advancing HIV education can also aid in reducing the stigma that people living with the disease face. Eradicating stigma is essential in fighting against HIV because stigma can increase the vulnerability of certain groups of people such as sex workers and individuals who may already be at a higher risk of being infected with HIV (World Bank, 2002).

Despite this fact, sexuality remains much a shadow aspect of society; something that is not discussed openly and when addressed causes embarrassment and shame. In fighting against the epidemic, issues such as education policies, quality of education, the gender gap in education and the relationship between education and HIV are being acknowledged (WGHE, 2006). It has become clear that knowledge alone is not enough; knowledge per se does not lead to changes in attitude and behaviour but time and again practices show that change can only be brought about through a systematic education approach and participatory learning process (United Nations chronicle, 2004). Primary and especially secondary education for girls has crucial multiplier effects that increases women's social and economic status and expand their freedom of choice.

Educated women have greater decision making authority within the household and have the knowledge and capacities to maintain and protect their health (World Bank 2002).

Many governments have made efforts at drawing and implementing HIV policies and strategies in education through the integration of how the disease is transmitted and can be prevented into schools curricula for students at all levels (UNESCO, 2011). In Ghana, an HIV education campaign termed as the ‘Stop AIDS Love Life’ was implemented in February 2000 and had objectives that included increased knowledge of strategies to avoid AIDS, increased perceptions of personal risk for becoming infected with HIV, increased interpersonal communication about HIV, increased perceptions that social norms favour the use of protective behaviours, and increase use of safer sexual behaviours. According to Tweedie et al. (2002) at the end of the first phase of the programme in 2001, 83 percent of men and 77 percent of women recalled hearing or seeing the programme’s campaign materials. Also, men and women were likely to know a way to avoid AIDS and less likely to think they had no risk of becoming infected with HIV than they were prior to the campaign. Thus, key findings by Tweedie et al. (2002) showed that the first phase of the programme very successful in contributing to increases in HIV prevention behaviours in Ghana, especially condom use.

Again, as part of the Stop AIDS Love Life campaign, a USAID-supported program was launched by the Girls Education Unit of the Ghana Education Service in 2003 to help young women aged 11–15 develop the ability, decision-making and other skills to protect themselves from being infected with HIV infection and also stay in school (UNICEF and John Hopkins University, 2003). The campaign was composed of a program on stories about how an adolescent figure named ‘Sara’ and her friends confronted and handle different situations (sexual harassment, rape and teenage pregnancy) and training of 900 district Girls Education Unit officers and teachers to help form “Sara Clubs” in schools and help facilitate “Sara” activities in communities.

According to the World Bank (2006), comprehensive correct knowledge of HIV is having heard of HIV and identifying that using condoms and limiting sex to one faithful, uninfected partner are two ways to prevent HIV transmission, and also rejecting two common misconceptions that mosquitoes transmit HIV and sharing food with an infected person transmits HIV, and knowing that a healthy-looking person can have HIV. That is, in addition to knowing about effective ways to avoid contracting HIV, it is also useful to be able to identify incorrect beliefs about HIV to eliminate misconceptions which contribute to discrimination and stigmatization of persons with HIV and more so, the spread of the disease. Thus, comprehensive correct knowledge of HIV through education is very crucial to the spread of HIV and its prevention.

Adomako (2006) suggests that prior to the 1990s, the global HIV prevention strategy had focused mainly on changing sexual behaviour and the promotion of safer sex through abstinence, condom use and encouraging people to stick to one partner without considering the gendered landscape that sexual relations are grounded in. Thus, embedded in these three preventive measures are the implicit assumptions that women have exclusive control over their sexual behaviour and that they always make rational choices (Adomako, 2006).

For instance, when it comes to the issue of condom usage, women can only influence and not control the use of condoms due to their lack of autonomy when it comes to contraception and most times the unwillingness of their partners to wear condoms. Therefore, the protection of women against HIV is largely dependent on their abilities of negotiation and influence, often with an unwilling partner (Heise et al. 1995). Barnett et al., (2002) suggests that prevention efforts regarding HIV transmission will have to ensure that those who are particularly vulnerable such as women are not endangered and if threatened, adequate knowledge and skills to prevent infections be given them.

2.5 RELIGION AND HIV

Religion the world over is deemed as a very important human institution that contributes greatly to all aspects of the human life. As Benn (2002) points out, religion influences economy, promote social solidarity, inculcate social virtues, provide mental peace, and serves as an agent of socialization and social control. According to Aggleton (1996), religious criteria, beliefs and norms infuse meanings into sexual behavior in society and thus, facilitate or impede both positive and negative changes concerning sexual relationships. Religion has played a role in how HIV is fought and viewed within respective social contexts since very early in the epidemic.

With reference to Ghana, several scholarly works which have looked at the influence of religion on the Ghanaian society are of the view that religion is and has emerged as a persuasive social force in both private and public life (Yirenkyi, 2000, Kirby, 1997, Gifford, 1995; Meyer, 1995). Yirenkyi (2000) and Aboagye-Mensah (1994) points out that since the 1980s, the Christian churches in Ghana have taken a more activist role in national politics than ever before. Investigating the connections between religion and contraceptive use in Ghana, Addai (1999) found religion to be a significant predictor of contraceptive use.

In discussing the religion-HIV relationship, two schools of thought referred to as the particularized theology and selectivity theses can be identified (Takyi, 2003; Trinitapoli & Regnerus, 2006; Parkhursts, 2001; Lagarde et al., 2000; Allain et al., 2004). The selectivity school of thought is of the view that the relationship is to some extent an ambiguous one. Thus, to the selectivity school, lack of religious consensus in HIV preventive behaviour depicts differential access to both human and social capital, including education, ethnic affiliation or extent of exposure to the disease. According to Benn (2002), this ambiguous relationship creates a situation where religious groups are torn between religious morality in supporting people living with HIV, and imposing certain 'moral' codes on society and social agents in line with the respective religious beliefs. This dichotomy in their attempts to address the epidemic has placed

some religious circles under constant criticism, and has been the topic of much heated discussion over the past decade.

On the other hand, the particularized school of thought, view religion as an inescapable and significant aspect of social interaction in Africa and as such can exerts some influence on people's sexual behaviour and decisions (Kagimu et al., 1998) – a view derived in part from Durkheim's belief of religion as an institution of social control. In Durkheim's view, religions teachings, beliefs, norms and values of various religious groups shapes and influences behaviour to a greater extent. This idea is further expounded by Hummer and Colleagues (2004) who point out that a key function of religious societies is to shape the norms and values of individual members through behaviour regulations that are specified in sacred teachings, reinforced through authoritative messages from congregational leaders, and solidified through social interactions in the religious community. This is well demonstrated in Ghana with religious authorities teaching and admonishing their congregations on a wide range of issues bordering on morality at their various places of worship.

Like the world's major religions, all religious groups in Ghana all have a common stance when it comes to the issue of sexual promiscuity and condom use. They stand unified in their opposition to promoting the widespread availability of contraceptive devices such as condoms because they believe this will encourage immorality and illicit sex (Kelly, 2003). No religious tradition supports the use of contraceptives to make it easier to engage in extra-marital sex by avoiding pregnancy and preventing HIV. Thus, all religions are against the use of condoms and contraception outside the context of marriage. STIs notwithstanding, HIV or not – religions will not promote condom use for unmarried couples because this is perceived as condoning illicit sexual behaviour.

The response from many religious followers and faith-based organizations to HIV has hovered between a moderate stand of 'finger-pointing' and blaming the individual, to a 'mean-spirited'

and bitter punitive ideology (Benn, 2002). This could be attributed to the fact that Muslims, Christians and other religious groups largely adhere to the ideal of sexuality having its rightful place in lifelong marriage, and of course only between a man and a woman.

Muslims may have the most options for religiously acceptable contraceptive methods, but Islam's stance on condom use outside of marriage is non-negotiable – even for preventing the spread of HIV. Islam does not place many restrictions on contraception, and non-permanent contraceptive methods such as condoms are the preferred contraceptive device because their effect is likened to the 'withdrawal method' that is mentioned in Islamic texts (Benn, 2002). All contraceptive devices seem to be permissible as long as they do not kill the embryo or affect the woman's health. Surgical sterilization is only permissible if medically necessary. The sexual pleasure factor is recognized (but only between married couples, naturally), and marriage is not equated with conception. A man may not use the withdrawal method of contraception unless his wife agrees because it interrupts her pleasure, for example. Contraception is supported for economic reasons, to space childbearing, to prevent the spread of STIs and for the natural well-being of the family.

Previous research by Caldwell (1995), suggests that Muslim Africa has generally lower HIV rates than the rest of Africa although underreporting may be a problem. Thus, studies have shown that in instances where Muslims and Non-Muslims live side by side, Muslims tend to have less than half of the rate of HIV among Non-Muslims. This may be due to the fact that Islamic cultural practices prescribes strict sanctions against promiscuity and endorses widespread practice of circumcision.

Furthermore, Muslims consider the uncircumcised as an unbeliever and unclean. It is only when one is circumcised that he is regarded as ritually clean. Circumcision is deemed by Muslims as a duty and a neglect of it is punishable (Kalipeni et al, 2004). Circumcision generally lessens the risk of contracting HIV. A study by the Arkansas Research Centre (ARC) in the United States of

America indicates that the circumcised penis develops a thicker, tougher skin over the glans that is more resistant to HIV infection than an uncircumcised penis with glans that allows a moist, warm area to incubate and encourage organism growth.

In contrast, Christianity preaches the message of grace and forgiveness which have been misinterpreted by some Christians as a license for promiscuity. Every sin including sexual immorality committed by any Christian can be forgiven by God if they confess their sin and repent. Hence, the absence of an immediate harsh or drastic retribution for sexual impropriety may produce many acts of promiscuity in Christianity than Islam which may be a catalyst for the spread of HIV and other STIs. Also, the position of Christianity on condom use depends on the denomination (Kelly, 2003). For example, the Roman Catholic Church's position is that the purpose of sex is to procreate and as such, hindering reproduction is to encourage sinful sex among both the married and unmarried. The only birth control techniques sanctioned by the Catholic Church are abstinence and Natural Family Planning (NFP). Catholics believe that unnatural forms of contraception such as condoms encourage casual sex, which is a sin. Among Protestant and Orthodox Christians, condom use among unmarried couples is strictly forbidden regardless of the HIV epidemic but married couples are allowed to make their own decisions regarding condom use.

Religious influences that prohibit open discussion of sex and sexuality often hinder access to adequate information for both males and females. Open discussion about condom use and safe sex among religious adherents are often believed to lead or encourage promiscuity among the sexually active (Ali-Akbar et al, 2007). This situation somehow erects additional barrier and cost to the fight against HIV and other STIs owing to the fact that many people engage in unprotected sex even when they possess knowledge of the dangers of HIV because they may not have the confidence to access adequate and reliable information as to how protect themselves.

Although the argument could be made for and against the role of religion in helping or hindering the fight against HIV, it is nevertheless important to note that religious bodies around the globe have been very instrumental in the fight against the epidemic. They have used their dominance and influence on society to construct and reconstruct people's views on HIV and its related issues such as prevention, stigma and support for PLWH. However, from the standpoint of most religions, it seems that the importance of preventing (or at least not condoning) 'immoral' sexual behaviour like extramarital sex and homosexuality is more important than preventing the spread of HIV and other STIs (Wyatt et al, 2000). Moreover, religious bodies and faiths poses an enormous potential of inhibiting HIV transmission and for ensuring care and support for those affected by the disease if they direct their energies to support government and other organizations to fight the epidemic (Kelly, 2003).

2.6 HIV AND DEVELOPMENT

Until quite recently, development was measured by economic growth in terms of Gross Domestic Product (GDP). This was done by computing per capita income and other poverty indices. The importance of recognizing the human and social dimensions of the development paradigm has been more recent. Development has therefore been defined as economic growth and structural changes in an economy. It involves changes in popular attitudes, social structure and national institutions. It also must include a reduction and eradication of poverty, inequality and all forms of social problems (Todaro & Smith, 2009). Some scholars have further expanded the definition of development to embrace an enhancement of people's capabilities, happiness, freedom and self-esteem. But the question is how development can take place when the HIV epidemic with its multidimensional impacts is devastating individuals, families, communities and countries (Sen, 1999).

Sub-Saharan Africa has been described as facing socio-economic stagnation and decline thereby making it underdeveloped. With the various socio-economic and developmental challenges that the continent have to grapple with, the HIV epidemic with its unmatched catastrophe is threatening to topple progress made at development of which the Ghanaian economy is of no exception. As such, the HIV epidemic in world development is no longer considered as a medical health problem but a development crisis threatening to stagnate or even halt years of progress made at development in most developing countries. Efforts at development by countries, governments and citizens has and is still being stifled by the HIV epidemic with its negative impact on income, productivity, life expectancy, families, government's spending and many more (Poku, 2005). The disease mainly strikes people in their prime years, thus HIV hits people hardest in their productive years, depriving them and their countries economic productivity and consequently self and national development.

Families and households are much affected in the event of HIV due to the fact that medical costs rise, work and incomes are disrupted, family members are drawn away from work to provide care, funeral cost may rise and education of children in the household may be aborted prematurely (Bharat and Aggleton, 1999). Families and households may make all efforts to draw on resources from wherever possible and even go to the extent of borrowing to take care of an infected relative. Also, family assets may be sold to cater for relatives thereby depleting family resources. This diverts monies that would have been used to provide the needs of the family as well as providing them with a better quality of life to caring for sick relatives.

Family budgets are burdened as medical expenses for infected relatives rises and also, expenditure on other items tends to decline substantially. This situation culminates into a vicious cycle of poverty among families and households undermining their nutrition, education, happiness, self-esteem and freedom from servitude (Poku, 2005). Hence, attempts at development on individual as well as national development are weakened. Looking at the male

and female dimension of the effect of HIV on the family, the death of an adult male is particularly costly in terms of lost income and assets. But when a an adult female dies, the cost in terms of income and resources is not much affected relative to male adults, however, the care economy dominated by women is greatly affected (Oppong, Odotei & Oppong, 2006)

The impact of HIV on productivity can never be overemphasized. Worldwide, HIV hits people hardest in their prime and productive years with its direct and indirect impact on a person's health status and generally on human capital formation (World Bank, 2000). By reason of the fact that HIV infection has different phases, it may not have an immediate effect on an infected worker and such he/she may carry on with normal work for some years after the onset of the disease. During this initial phase of the disease, the infected worker slowly loses his/her energy and productivity owing to a decline in body mass, energy, motivation and morale (Kalipeni, Craddock, Oppong & Ghosh, 2004). When HIV has fully developed in its second phase, there is a virtual loss of work capacity and productivity. This phase can last for between two and three years choking a worker's capacity to contribute to a firm's marginal product. Similarly, HIV impacts negatively on the firm's returns to human capital investment due to the fact that infected workers may have to shuffle between health facilities and work most of the time and hence, his /her contribution to total output is greatly undermined.

On the national scale, HIV has a lot of negative impact on GDP, savings, life-expectancy, returns to human capital investment and healthcare expenditures. Furthermore, resources for development are diverted to preventing and treating the disease. Owing to the fact that HIV is being experienced basically on the micro-level whereas GDP is measured on the macro-level, the direct effect of the disease on GDP has not been clear. However, some studies on the effect on the disease on GDP have suggested that the epidemic could adversely affect GDP. A World Bank study of South Africa suggests that the economy could dwindle by a third by 2078 because of HIV (World Bank, 2002). Thus, GDP of countries contending with the epidemic will

eventually be affected negatively through a strain on government budgets, reduce savings rate, increase poverty, reduction in labour supply and productivity.

Besides, its impact on the GDP, the HIV epidemic has adverse effect on every sector of the economy from education to health and the financial to manufacturing sector. In the face of the epidemic, schooling may be affected and in the long-run negatively impact on the human resource capacity of the nation. In the case of teachers who are infected with the disease, dying or caring for infected relatives, the school system is greatly undermined owing to the fact that skilled personnel are lost, absenteeism become the order of the day and even if they are present at school, the motivation and strength to work is missing (UNAIDS 2002). School children, especially girls, may be withdrawn from school to help with family responsibilities and also orphaned children normally drop out of school.

Furthermore, the health sector is not spared the brunt of the epidemic, mortality rates accelerates and there may be a shift in the allocation of government health expenditure from improving healthcare systems and prevention of diseases to just primary healthcare and the treatment and mitigation of the disease (Caldwell, 1995).

Governments may face the dilemma of what priority to give the health ministry budget in the face of HIV as against sectors like education, social welfare and industry. As governments increase their spending in the light HIV, there will be a substantial fall in their ability to secure overall health, well-being and educational improvements for their citizens leading to a stagnation in productivity and total development ((Kalipeni et al. 2004).

The socio-economic impact of HIV is very significant and often has a cyclical effect on every sector of the economy. Thus its impact alters and distracts development efforts at both individual and national levels. In a situation where spending shifts, incomes are lost, education and health sectors affected negatively and human resource investment undermined, attempts at development is greatly challenged (Todaro and Smith, 2009). For development to take place while confronting

the epidemic, HIV prevention policies must recognize its impact on development and adopt strategies at dealing with the epidemic and its impact on each sector of the economy comprehensively.

2.7 THE NEXUS BETWEEN EDUCATION, RELIGION AND HIV

Education and religion are important part of life for many people the world over. Glaeser (2002) argues that both religion and education seek to emancipate man, not from contract with his environment, but from slavery to it. Education and religion create certain values of life and help in the modification of behaviour that may affect an individual's general wellbeing and for that matter health concerns including HIV. Sacerdote (2001), points out that society could not function without religion and education. In Sacerdote view, the two control, direct and infuse meanings into every aspect of human life being it social, economic or health.

According to Kumar (2010), religion and education are closely associated with each other such that both regulates behaviour and are generally in support of social connectedness and responsibility. People's opportunities for better health are strongly influenced by education with recourse to their religious beliefs. Thus, education and religion are important social determinants of health. The two can impact positively on levels of social engagement, an important factor in generating more cohesive, safer and healthier societies which is in harmony with HIV prevention strategies and efforts the world over. Education and religion thus create certain values of life and help in the modification of behaviour. They may concurrently give certain mouldings to life and help in the cultivation of moral values which are less likely to adopt unhealthy habits particularly in relation to physical activity, substance abuse and sexual activity that aid in the spread of HIV.

Education has been defined as the process by which man adopts himself gradually in various ways to his physical and spiritual environment (Kumar, 2010). The ability of social adaptation means the development of the social qualities like cooperation, coordination among social

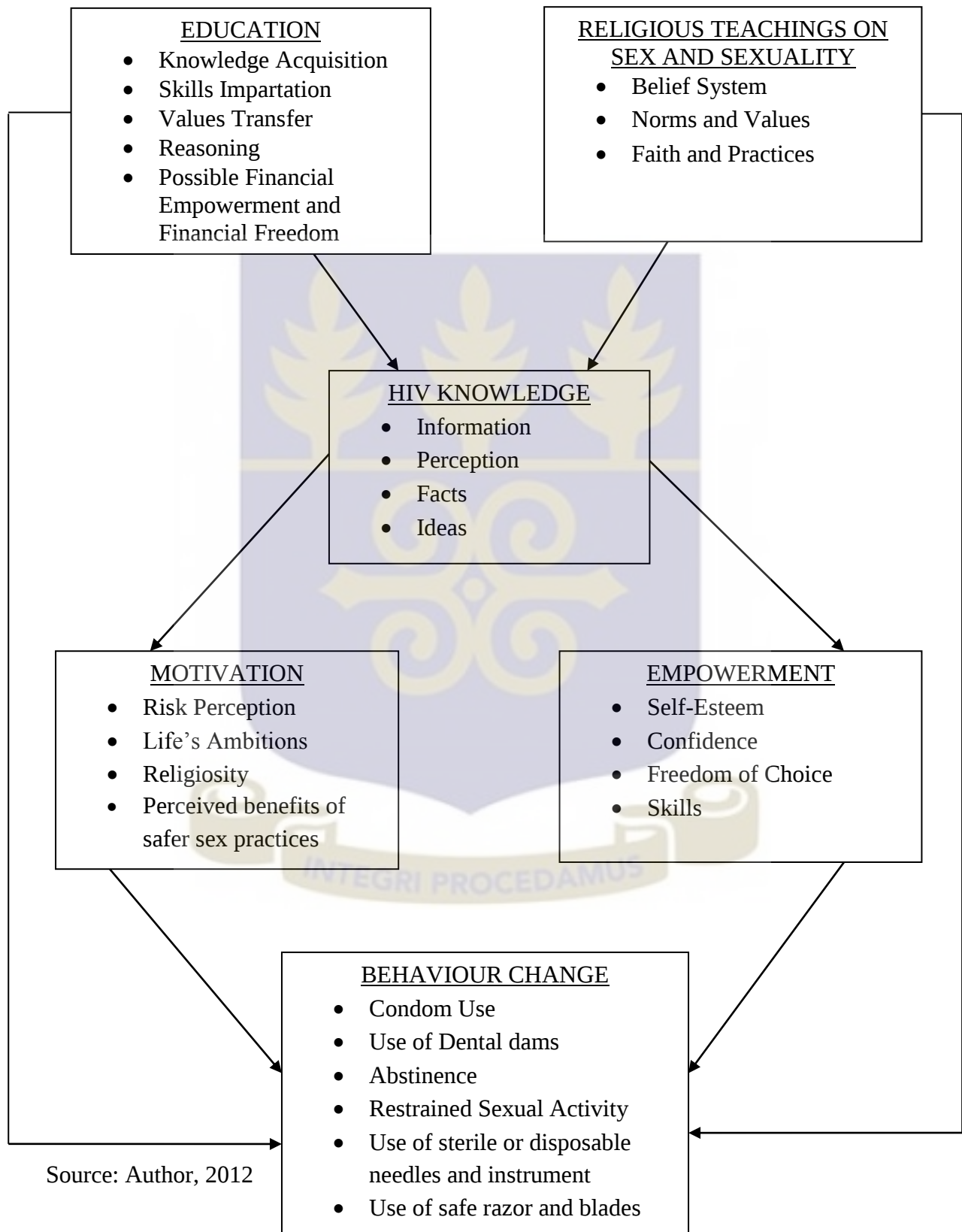
groups and communities which are the fundamentals of religion. That is, the aim of the two is an all-round development of man through the dissipation of knowledge and information about his environment and how to adapt to it by taking decisions conducive to prosperity, general gains and good health including attitudes to avoid contracting HIV.

“Previously considered as outside the sphere of research for the perceived impossibility in using any scientific method to study it, religion is now prominent in scientific studies that investigate its influence on health” (Miller & Thorensen, 2003). Religion is an important foundation in many people’s lives and often influences education and educational systems. Both are intertwined with each other such that it is difficult to draw a clear cut line between the two. They may have different ways, structures and context by which the process of imparting knowledge, understanding and values to man happens but have the same aim of cultivating attitudes and behaviours conducive to social support systems, normal psychological state and better health. In their study, Miller and Gur (2002) are of the view that religion may play a role in preventing risky sexual behavior. Thus, in a study of African American adolescent females, religion correlated with avoidance of unsafe sexual situations. The study also found positive associations between religion and fewer sexual partners outside a romantic relationship, religious participation and a better understanding of Human Immunodeficiency Virus (HIV) or pregnancy risks from unprotected intercourse.



2.8 CONCEPTUAL FRAMEWORK

Figure 2.0: A conceptual framework of education, religion and behaviour change on HIV



The conceptual framework attempts to look at the relationship between education, religion, HIV knowledge and behaviour change which may translate into a woman's ability to prevent and protect herself from being infected with HIV. The framework tries to depict the positive relationship between education, religion, HIV knowledge and behaviour change. Education and religion are also directly or indirectly correlated to knowledge (information), motivation and empowerment. The framework highlights that between education, religion, and behaviour change, there are intervening variables that may aid in the process of behaviour change. However, religious teachings centered on sexual purity and chastity can directly lead to behaviour modification necessary for HIV prevention.

For both males and females, education has been proven to provide protection against HIV infection (World Bank, 1999). According to the World Bank, a basic education has a general preventive impact on society. Thus, basic education has the ability of informing and equipping women to make better health decisions concerning their own lives, bring about long-term behavioural change and give them the opportunity for economic independence all fundamental to prevention of HIV spread. Education has been described as the process of imparting and acquiring knowledge through teaching and learning whereas religion can be explained as a specific set of beliefs and practices generally accepted by a group of people which is associated with a Supreme Being or deity whom is believed to be the creator and final authority of the universe.

The study focuses on behaviour change outcomes from the perspective of motivation and empowerment. Thus, the study tries to identify the kind of effect that knowledge gained may have on sexual decisions and behaviours in the Tema metropolis. All things being equal, education and religious teachings directly motivates and empowers people in changing their attitudes, beliefs and behaviour. As people possess information about HIV and become aware of its consequences, they are given a reason or an incentive to alter their behaviour for the better. Information in this context means making available basic knowledge such as facts about HIV

transmission and how to protect one's self from being infected. Information provides a strong leverage that can be used to access other forms of skills, abilities and empowerment to modified sexual behaviour for HIV prevention.

Thus, as people are educated about HIV vis-à-vis their religious beliefs on sex and sexuality, they gain the knowledge/information, motivation and the empowerment needed to change perceptions, make informed decisions and modify behaviour in relation to sexual activities. Women's knowledge of HIV reduces their vulnerability to the disease. By their exposition to facts, ideas, information and correct perceptions about HIV through education and religious teachings and outreaches centered on HIV knowledge, they are likely to adopt safer sex practices such as condom use and abstinence, make healthy sexual decisions and employ stronger negotiation skills in sexual relationships.

Knowledge about safer sex practices can have significant influence on the spread of HIV. These include reductions in rates of sexual partner change, reductions in the frequency of high risk sexual activities such as anal sex between partners. Again, education on other preventive strategies such as use of sterile or disposable needles and instruments and the use of safe razor and blades also influence the spread of HIV positively. The perception of the risk of HIV infection may induce fear and translate into behaviour change. According to Kelly (2000), better educated people have lower rates of HIV infection. This is due to the fact that educated individuals are more likely to adopt safer sex behaviour and other preventive strategies. Knowledge of HIV acquired through education reduces risky sexual behaviour through interrelated factors such as an understanding of how HIV infection would affect one personally and how individuals perceive their own behaviour to be risky. Again, having the skills necessary to negotiate safer sex behaviour and to resist social pressure are all crucial in defining ones sexual behaviour (Choi and Coates 1994, Oakley, Fullerton and Holland, 1995).

Women's socio-economic status in terms of education and personal income greatly affect their own health decisions and that of people around them. Education increases women's access to vital information about HIV and their confidence to put new ideas into practice. Educated women may be more knowledgeable about HIV prevention and are more likely to adopt new codes of behaviour (Price, 1994). Developing safer sexual behaviour through education and religious teachings on sex and sexuality is critical for reducing HIV prevalence. One of the most important conditions to curb the HIV epidemic is accurate and comprehensive knowledge of how HIV is transmitted and strategies for prevention through education. Knowledge of HIV that is acquired through education and religious expositions on sex and sexuality may help women make specific decisions to reduce risk and increase safer sex practices so they will not be infected.

Women with higher levels of education are more likely to be aware of various preventive methods and negotiate safer sex than women with lower levels of education (United Nations Children's Fund & Ghana Statistical Service, 2008). The study suggests that developing the knowledge base of women on a sustainable base with reference to education and religious beliefs can yield positive behaviour changes to help in the fight against HIV.



CHAPTER THREE: TEMA METROPOLIS' PROFILE

3.0 Introduction

The study was conducted in the Tema Metropolis with the sample drawn from Community 1 and Lashibi. This chapter looks at a profile of the study area focusing on its location and size, climate and vegetation, historical origin, socio-demographic features and major economic activities in the Metropolis. It also examines religion, education and health profile, road network and marketing centres of the Metropolis.

3.1 Location and Size

The Tema Metropolitan Assembly (TMA) shares boundaries on the North East with the Kpone Katamanso and Ningo-Prampram Districts, Southwest with Ledzokuku Krowor Municipal Assembly, North West with Adentan Municipal Assembly and the Ga East Municipal Assembly (GEMA). It is bounded on the North by the Akwapim South District Assembly and the South by the Gulf of Guinea and is a coastal district situated about 30 kilometers east of Accra, the capital city of Ghana¹. The Greenwich Meridian (Longitude 0°) passes through the Metropolis and is home to the famous Tema Harbour due to the proximity of the metropolis to the sea with its low lying terrain which projects into the sea. The Tema Harbour which was constructed in 1957 is said to have made the Tema metropolis “the Eastern Gateway of Ghana”. The total land coverage of Tema Metropolitan Assembly is approximately 396 sq. km, of which 45 percent has been approved, planned and developed for residential, commercial and industrial purposes among others. The district lies in the coastal savannah zone.

¹ Large portion of the data used in this chapter was extracted from the Tema Metropolitan Assembly's Medium-term Development Plan (2014)

3.2 Climate and Vegetation

The Metropolis lies in the coastal savannah zone of Ghana and therefore enjoys a dry equatorial climate. The mean annual rainfall ranges between 730 mm to 790 mm. The major rainy season is usually from April to July and the minor rainy season from September to November. The highest amount of rain is experienced in May, June and early July. Temperatures are high all year round with significant daily and seasonal variations. The annual average temperatures range between 25 °C and 30 °C in the major rainy season while in the minor season temperatures range between 34 °C and 40 °C. Humidity varies from 60% - 80% or more in the wet season to less than 30% in the dry season. Winds, generally of low velocity, blow over the area from the South during the day and evening and from the West in the night and early morning.

The vegetation zone in the Metropolis comprises of the following: shrub land, grassland and few semi-deciduous forests. The grassland is found in areas like Appollonia, Gbetsile, Santeo, Katamansu, etc as such most residents in these areas are into livestock farming. Tema being an industrial hub, some areas were demarcated and reserved as greenbelts as a result of the absence of forest reserves to control the micro-climatic condition of Tema. However, the number of industries and waste generated has been increasing in the Metropolis without a corresponding increase in afforestation to absorb excess carbon monoxide generated by these factories. Also, areas reserved as green belts are being encroached upon. This has led to changes in weather condition with its associated effects such as loss of biodiversity and erratic rainfall pattern.

3.3 Historical Origin

Tema was created out of a cluster of small fishing villages. History has it that “Torman”, as it was originally called was founded by a migrating people called the ‘Kpeshies’ who were Gas. They brought along seeds of the gourd plant, which they planted at their new-found site. The seeds thrived very well producing lots of gourds and the area was referred to as “Torman”, meaning a town of gourds, which stood at where the defunct Meridian Hotel is located. The

traditional people were later relocated to their present location at Tema Manhean in 1961 when the Tema Harbour was constructed. The Tema Metropolitan District was created in 2007 in pursuance of the Government's Decentralization and Local Government Act 1993 (Act 462) with Tema as its capital.

3.4 Socio-Demographic Features

According to the 2000 population census, the total population of the Metropolis was 298,432 with males and females forming 49% and 51% of the population respectively and a growth rate of 2.6%. Currently the population of the area is estimated at 387, 045 and expected to reach 418, 444 by the end 2013. The 2000 Ghana Population and Housing Census report indicated that 87.2% of the population was in the Tema Urban area with 12.7% in rural Tema. The urban settlement includes Tema, Sakumono, Lashibi, Baatsonaa and Kpone which harbours most of the Metropolis industries and other commercial activities. The rural settlements included Katamanso, Oyibi, Zeenu and Appollonia. The dominant ethnic groups are the Akan, Ga-Dangme and Ewe with other ethnic groups fairly well represented. About 63% of the total population of the Metropolis falls within the economically active group. An analysis of the employment/unemployment situation using the 2000 Ghana Population and Housing Census report also revealed that about 81.2% of the economically active population were economically engaged, while 16.0% are unemployed. The unemployment rate in the Metropolis does not compare favourably with the regional figure of 13.4%. It has been suggested that majority of the unemployed segment of the population are migrants from other parts of the country that have moved to the Metropolis in search of non-existent jobs.

3.5 Major Economic Activities

Industry, commerce, service, agriculture and manufacturing and processing are the main economic activities of the metropolis. The industrial and the service sectors form the backbone of the local economy as it employs majority of the labour force with a significant number of the

people engaged in agriculture particularly fishing. The service sector in the Metropolis is growing at a faster rate with women dominating the sector relative to their male counterparts. This phenomenon has been attributed to the fact that the service sub-sectors relatively requires low skills and education. There are 245 factories duly registered in the metropolis and they are categorized under eight (8) broad headings and these include: Chemical, Textiles, Food Processing, Engineering, Paints, Fish Cold Stores, Printing and Woodwork industries. The service sector in the metropolis covers a wide range of tertiary activities. These include hairdressing, driving, selling and petty trading, tailoring and dressmaking. Most of these activities are carried out usually on small scale. The agriculture industry employs nine percent of the labour force in the District and the main activities include fishing and its processing, livestock rearing and the cultivation of onions, pepper, tomatoes and cassava.

3.6 Education²

A unique feature of education in the Tema Metropolitan District is that there are significant number of private educational institutions complementing the efforts of the public facilities provided by the government and religious bodies. Most of the privately owned educational facilities as well as Senior High Schools are concentrated at the Southern part of the Metropolis due to the high population and the vibrant economic activities in these areas. The Metropolis can boast of a total of 865 educational institutions comprising 406 Early Childhood centres, 246 Primary Schools, 189 Junior High Schools and 18 Senior High Schools as indicated in Table 3.0. There are also six (6) Technical/Vocational Schools with quite a number of tertiary educational institutions which have sprang up in the district. Prominent among the latter are the Data Link University College, Methodist University College, Graduate School of Management and the Presbyterian University College. Out of the 865 educational institutions in the metropolis, the private institutions constitute 74 percent while the public institutions constitute 26 percent.

² There was no empirical data on Universities/tertiary institutions in the Tema Metropolis at the time of the study.

Table 3.0: Schools in the Private and Public Sectors, Tema Metropolitan Assembly, 2013

LEVEL	NUMBER OF SCHOOLS		
	PUBLIC (%)	PRIVATE (%)	TOTAL (%)
Preschool	65 (28.5)	341 (53.5)	406 (46.9)
Primary	87 (38.2)	159 (25.0)	246 (28.4)
JHS	69 (30.3)	120 (18.8)	189 (21.9)
SHS	6 (2.6)	12 (1.9)	18 (2.1)
Voc. & Tech. Sch.	1 (0.4)	5 (0.8)	6 (0.7)
TOTAL	228 (100)	637 (100)	865 (100)

Source: Tema Metropolitan Education Directorate and MOE, Ghana, 2013

Currently, education in the Metropolis is characterized by higher enrolment levels in both the public and private schools from 2009-2013 as indicated in Tables 3.1a and 3.1b. The increase in enrolment levels can be seen largely in the pre-school and primary school levels of education in the metropolis. Increased enrolment in public schools can be attributed to some educational support programmes by the Government such as the Capitation Grant, Ghana School Feeding Programme and Free Uniform and Text Books (Tema Metropolitan Education Directorate, 2013). Table 3.1b indicates that the number of girls enrolled in the public schools at the basic level is more than the boys. It is also worth mentioning that, enrolment of girls decreases and that of boys increases as they climb higher on the educational ladder (i.e. at the SHS and tertiary institutions).

Table 3.1a: Enrolment in Private Schools at different levels: 2009-2013, Tema Metropolitan Assembly

Level	Enrolment in Private Schools														
	2009			2010			2011			2012			2013		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Pre-Sch.	11,331	11,344	22,675	13,949	13,741	27,690	9,278	9,149	18,427	9,501	9,109	18,610	9,278	9,149	18,427
Prim.	18,361	18,528	36,889	21,241	21,242	42,483	17,944	18,184	36,128	16,211	15,981	32,192	17,944	18,184	36,128
JHS	5,938	6,328	12,266	6,467	6,823	13,290	5,677	5,761	11,438	5,002	5,036	10,038	5,677	5,761	11,438
SHS	979	1,293	2,272	1,571	2,071	3,642	1,216	1,609	2,825	1,325	1,780	3,105	577	790	1,367
Voc. & Tech.	668	244	912	647	236	883	78	358	436	89	436	525	1	75	76
TOTAL	37,277	37,737	75,014	43,875	44,113	87,988	34,193	35,061	69,254	32,128	32,342	64,470	33,477	33,959	67,436

Source: Tema Metropolitan Education Directorate and MOE, Ghana, 2013

Table 3.1b: Enrolment in Public Schools at different levels: 2009-2013, Tema Metropolitan Assembly

LEVEL	Enrollment in Public schools														
	2009			2010			2011			2012			2013		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Pre-Sch.	3,343	3,445	6,788	3,664	3,773	7,437	2,686	2,655	5,341	2,675	2,576	5,251	2,688	2,623	5,311
Prim	19,992	22,754	42,746	20,565	23,341	43,906	14,772	16,857	31,629	14,970	17,103	32,073	14,363	16,685	31,048
JHS	12,286	12,992	25,278	12,080	12,979	25,059	8,436	9,311	17,747	8,259	9,047	17,306	8,311	9,062	17,373
SHS	4,355	3,605	7,960	3,507	2,914	6,421	3,427	2,956	6,383	3,487	3,013	6,500	4,686	4,175	8,861
Voc. & Tech.	649	94	743	599	86	685	619	96	715	689	156	845	1,251	97	1,348
TOTAL	40,625	42,890	83,515	40,415	43,093	83,508	29,940	31,875	61,815	30,080	31,895	61,975	31,299	32,642	63,941

Source: Tema Metropolitan Education Directorate and Ministry of Education, Ghana, 2013

3.7 Religion

Religion is an important personal characteristic because it is associated with a variety of differences in attitudes, statuses and behaviour. The distribution of the population by the various religious denominations in Tema is nearly the same as that of the national distribution. The percentage distribution of religious groups in the Tema Metropolis shows the predominance of Christians (82.9%) compared with the second major religion, Islam (10.2%), (Tema Metropolitan Assembly, 2009). Among the Christian group, adherents of Pentecostal and Charismatic churches constitute the largest religious denomination followed by Protestants and Catholics in that order. The distribution is almost similar for both sexes except for the predominance of females in the Pentecostal/Charismatic churches. There are however more male than female Muslims. About 6% of the population asserts to have no religion while an insignificant proportion of the population (0.6%) practice traditional religion.

3.8 Health

Health is an important and fundamental aspect of human development and has linkages to general well-being, poverty reduction and development. Tema has both public and private health facilities that are spread across the entire metropolis based on their functions and the range of services they provide. From Table 3.2, it is realized that the number of operational health facilities in the metropolis total 70 including public, private and industrial health facilities. There are 59 health outreach points also operating in the metropolis which serve the peri-urban areas where accessibility to health facilities is poor. There are also 8 hospitals and 8 clinics owned by some industries in the Metropolis to provide healthcare services to their employees and families as well as members of the general public.

Table 3.2: Health Facilities in Tema Metropolis, 2013

Type of Facility	Public	Private	Industrial
Hospital	1	16	8
Polyclinic	1	-	-
Health Center	2	-	-
Clinic	1	27	8
CHPS	2	-	-
Maternity	1	3	0
Outreach point	59	-	-
Total	67	46	16

Source: Tema Metropolitan Health Directorate, 2013.

There are 978 medical officers in health institutions in the metropolis out of which 67% are in the public sector. The doctor-patient and nurse-patient ratios in the metropolis currently stand at 1:7,420 and 1:729, respectively. Although Malaria continues to be the leading causes of morbidity in the metropolis, available information indicates that it has not been the major cause of mortality. The Tema Metropolitan Health Directorate (2013) reports that, the leading cause of death in Tema Metropolis as a whole has been HIV and AIDS since year 2002. The maternal mortality rate stands at 235/100,000 births.

3.9 Road Network

The Tema metropolis has 985 kilometers of total length of road networks and they are classified into paved and unpaved roads. There exist 500 kilometers of paved roads and 485 kilometers of unpaved roads. The Metropolis has about two - thirds of the Accra–Tema Motorway which serve as the main access road to the Tema harbour. The Akosombo road from the Tema end of the motorway to the harbour, the Tema–Manhean road, the Tema–Aflao road and the Tema–Akosombo road are classified as first class roads. The intersection of the road network in the

metropolis to various roads in other parts of the country has earned the metropolis the name, “nodal district”. Apart from the good entry roads to the metropolis, almost all the roads of the hinterlands of the peri-urban areas are unpaved and are in deplorable states which make them almost un-motorable. Driving on these roads slows down movement and increases travelling time and hence, few and very old commercial vehicles ply these roads. Some roads in bad conditions in the Metropolis are the Tema-Nungua road or the Beach road, the first Republic Road and some link roads in the Communities.

Some of the unpaved roads include the Katamanso-Appollonia, Katamanso-Oyibi, Oyibi-Appollonia, Manhean-Kpone roads which make investments in these areas not only unattractive but expensive. Other problems associated with the road network in the Metropolis include: potholes at cross-roads due to poor coating of bitumen, road capacity in the central areas, inadequate parking spaces, congested terminals, and high operation and maintenance of roads. Generally, the bad roads in the metropolis cause a lot of traffic jams, congestion in the urban centres and regular breakdown of vehicles that ply these roads.

3.10 Marketing Centres

Markets are common features of all the urban centres in the Tema Metropolis with the liveliest and most busy one being the Community One Market which serves almost the whole Metropolis. The Metropolis has a “Bulk Breaking Market” in Community 9 where big trucks and lorries off-load to avoid entering the city centre. This is done to avoid these trucks and lorries from causing traffic jams and destroying roads and streets in the city centres. Owing to the presence of the fishing harbour, the Metropolis has lot of Cold Stores and fish markets, located near the sea. The markets create places of convenience to shop and also offer opportunities for employment to both skilled and unskilled labour and persons.

The metropolis is also characterized by periodic markets that are special market days which fall on particular days in a week. The periodic markets serve us avenues for those who deal in

perishable agricultural products to dispose off their goods. Areas that benefit most from the periodic markets are the urban centres like the city of Tema, Sakumono, Newtown, Gbetsile and part of Kpone where less agricultural activities takes place. Such markets include the Community One Market, Community 9 “Bulk Breaking Market” and the Manhean Fish Market. On the other hand the farming communities like Appollonia, Seduase, Oyibi, and Gontein do not have such centre.



CHAPTER FOUR: METHODOLOGY

4.0 Introduction

This chapter presents the methodologies that were adopted to retrieve both primary and secondary information for the study. The chapter covers the target population, sample size, sampling procedure, data collection, data processing and analysis. The research design used for the study was a field survey. The study was undertaken primarily to identify the effects of education and religion on HIV knowledge and behaviour modification among women, focusing on Community 1 and Lashibi in the Tema Metropolis. It gathered information on the educational levels of women in the area, the impact of their religious beliefs on their sexual behaviour and decisions, their knowledge about HIV and whether their education and knowledge of HIV alter their sexual behaviour.

4.1 Study Area and Target Population

The target population of this study was Christian and Muslim women aged 15-49 years in the Tema Metropolis focusing on Community 1 and Lashibi who have had some level of education or no education at all. Women aged 15-49 were the target population due to the fact that UNAIDS (2010) suggested that the best way to understand the extent of the HIV epidemic is to look at HIV prevalence among 15-49 year olds (when they are sexually and reproductively active). According to the 2000 Population and Housing Census, the population of Christian and Muslim women aged 15-49 were 7,645 and 6,861 for Community 1 and Lashibi respectively at a growth rate of 2.6 (Ghana Statistical Service, 2000). Although the 2010 Population and Housing Census had taken place at the time of this study, it was not yet disaggregated so the researcher had to estimate the population for the two communities based on the 2000 population figures adjusted by a growth rate of 2.6. Hence, the estimated population of Christian and Muslim women aged 15-49 were 10,423 for Community 1 and 9,266 for Lashibi.

Tema was chosen for the study due to its urban characteristics and heterogeneity in terms of education and religion. The Tema Metropolis is predominantly urban and settled by the Christian and Islamic religions, has a literacy rate of 79.8% and therefore makes it somewhat suitable for this study which seeks to ascertain the effects of education and religion on HIV knowledge and behaviour change. Again, it is well established that, levels of HIV prevalence tend to be appreciably higher in urban centres due to the relatively high rates of non-regular sexual relationships and social interactions conducive to the spread of infectious diseases such as HIV (Dyson, 2004). Furthermore, the Tema Metropolis is among the six (6) areas with highest prevalence of HIV in Ghana (Ghana AIDS Commission, 2009). The prevalence rate of HIV in the metropolis is very unstable and keeps fluctuating each year; for example, the prevalence rate of the disease in the Metropolis doubled from 2 percent in 2009 to 4 percent in 2010 (Tema Metropolitan Assembly, 2009).

Based on the fact that the study seeks to ascertain the effects of education and religion on HIV knowledge and behaviour modification, Community 1 and Lashibi were chosen owing to the fact that both communities are heterogeneous in terms of education and religion relative to other communities in the Metropolis. Also the two communities were chosen due to the fact that they differ in terms of economic status. According to the Tema Development Plan (2009), Lashibi is considered to be on a higher economic status relative to Community One.

4.2 Sources of Data

4.2.1 Secondary sources of data

Secondary data sources for the study included relevant health articles and magazines, books, health service reports at the district and national levels, development plan from the Tema Metropolitan Assembly. Also, publications and statistics from the Ghana AIDS Commission and

periodic reports from the Tema Metropolitan health and education directorates as well as the Tema Metropolitan assembly were utilized.

4.2.2 Primary source of data

Primary data were obtained through the administration of structured non-disguised questionnaires. Relevant questions on respondent's background characteristics like education, religion and relationship status were asked. Questions were also asked on the knowledge of respondents about HIV, their religious beliefs pertaining to sex and sexuality, their ability to negotiate for safer sex and questions that relate to decision making power of women when it comes to sexual relations.

4.3 Target Population and Sample Size

The International Fund for Agricultural Development's (2009) sample size determination formula was employed to arrive at the sample size (n) for the study. This formula was adopted based on the fact that it takes into account three factors which largely determine an appropriate sample size for a population-based survey. These factors include; the desired level of confidence, acceptable margin of error and the estimated proportion of the target population with similar characteristics.

The formula to estimate the appropriate sample size (n) is:

$$n = \frac{t^2 \times p(1-p)}{m^2}$$

Where:

n - desired sample size

t - confidence level set at 95% (standard value = 1.96)

p- estimated proportion of the target population with similar characteristics

The estimated population of women in the Community One was 40,242 based on the 2000 Population census adjusted by 2.6 growth rate. Estimated population of Christian and Muslim women aged 15-49 years (target population) was 10,423 representing 25.9 percent of total women population (40,242) in Community One. Also, the estimated population for Lashibi was 36,196 with estimated population of Christian and Muslim women aged 15-49 years (target population) being 9,266 representing 25.6 percent of the total population of women. With the target population being 25.9 and 25.6 percent of the total women population for Community One and Lashibi respectively, the researcher decided to approximate the two figures to 26 percent. Thus, the researcher used 26 percent as the estimated proportion of the target population with similar characteristics (Christian and Muslim women aged 15-49) in Community One and Lashibi to represent “p” in the sample size formula.

m - margin of error set at 5% (standard value = 0.05)

Based on this information where $t = 1.96$, $p = 0.26$ and $m = 0.05$, the sample size (n) was calculated as:

$$n = \frac{3.8416 \times 0.26 (1-0.26)}{0.0025}$$

$$n = 295.64$$

Estimated proportion of the target population with similar characteristics (p) was obtained by calculating the percentage of women in the study area who fell between the ages of 15 and 49 divided by the total population of women in the study area. In order to cater for non-response, 10% of the sample size was calculated, which was equivalent to 30, giving a total survey sample size of 326.

Hence, the study sampled a total number of three hundred and twenty-six (326) respondents. Questionnaires were administered to hundred and seventy-two (172) respondents from Tema Community 1 and hundred and fifty-four (154) from Lashibi. The sample size of 326 used to

represent the total population is supported by the fact that small samples can be used quite effectively to yield good estimates for large populations (Neuman, 2004). Thus, a large sample size alone does not guarantee a representative sample but a good random sample and sampling frame do. Blalock (1960) indicates that sample size for large populations should not fall below 50 and hence any sample size of 50 and above will be representative enough for large populations if selected randomly. This is because, as the population size grows, the returns in accuracy for sample size shrink but what matters is a high probability sampling.

4.4 Sampling Procedure

The Multi-stage sampling technique was adopted to draw the sample for this study. It was used because it has the advantage of presenting all sub groupings that may exist in the study population. This sampling technique also ensured that each unit had equal chance or probability of being included in the sample. It also helped in minimizing selection errors that the researcher may have committed. Enumeration areas (refer to Appendix 1) in Community 1 and Lashibi served as the main sample frame for the study. A mixture of probability and non-probability sampling techniques were used to select respondents for the study.

First, a purposive sampling procedure was used to select two of several enumeration areas (Site 1 and Site 20) each from Community 1 and (Lashibi Zongo and Konkonsa) from Lashibi respectively to serve as the enumeration areas for the study ((refer to Appendix I). The enumeration areas were purposively selected due to the fact that the researcher wanted to select a Muslim and Christian dominated areas for each of the two communities. The household list contained all the members of the households and their demographic characteristics.

Based on the sample size calculated for the survey (326), a multi-staged sampling technique was used to select the individual respondents as shown in Table 4.1.

Table 4.1: Summary of residents' survey sampling procedures

Community	Population of women between 15 and 49 years	Percentage share of community in sample frame	Sample size of community
Community 1	10,423	52.9	172
Lashibi	9,266	47.1	154
Total	19,689	100	326

Source: Tema Metropolitan Assembly, 2009.

The sample size was first divided among the two communities, Community 1 (172) and Lashibi (154). In the second stage, samples were proportionally allotted to both religious groupings in each community (Community 1: Muslims = 34, Christians = 138; Lashibi: Muslims = 31, Christians = 123) to ensure their representativeness. The religious proportions were calculated based on their percentage share in both communities. After this, the systematic sampling technique was used to select houses from each community to aid in constituting the sample for the survey.

Representing the number of houses in each of the communities by N and the sample size by n, an interval size (k) was calculated by dividing N by n. Thus,

Number of units in Population – N

Sample size – n

Interval size – $k = N/n$

With total houses of 3107 (N) and a sample size of 172 (n) for Tema Community 1, the researcher calculated the interval size (k) and had a result of 18. A random integer from 1 to 18 was then selected to represent the starting point for the systematic sampling. Once the starting point was obtained, the researcher then picked every 18th house on the numbered list to be included in the study. The researcher then went through the same procedure for Lashibi which had a total number of 5191 (N) houses and sample size of 154 (n). Based on the sample size apportioned to each community and religion in relation to the enumeration areas selected, the

researcher administered questionnaires to all women (aged 15-49) in each house he entered until the sample size for each community and religion was achieved. In a case where there was no woman within that age range, the researcher used the next house to make up for the non-availability of a respondent.

4.5 Instrument of Data Collection and Data Collection Processes

Structured questionnaires with both open-ended and closed-ended questions were employed to generate primary data from respondents based on the study objectives and research questions. The close-ended questions had a list of answer choices that respondents chose from to answer the questions while the open-ended questions made room for the respondents to give their own responses to the questions posed based on their knowledge or opinion. The questionnaire was employed due to the fact that it can be used to explore sensitive areas such as issues relating to sex more than other methods and also, easy to standardize, code and interpret (Sudman, 1983). Again, the questionnaire has the advantage of providing confidentiality to respondents and is very useful in reducing researcher's biases in value laden surveys (Bell, 2004).

The 70 item structured questionnaire was in five sections with both open-ended and closed-ended questions. The first section of the questionnaire enquired about the respondents' socio-demographic characteristics.

The second part of the questionnaire explored each respondent's knowledge and perceptions about HIV. The section also focused on the respondents' knowledge of the modes of transmission, symptoms and prevention strategies of the disease.

Section three focused on the influence of education on HIV knowledge and sexual behaviour. This section asked the respondents question on their first source of learning of HIV, whether their knowledge of HIV had changed any wrong perception they had about the disease and whether their knowledge has influenced their decision on sexual relationships and sex.

In Section four, the researcher explored the effect of religion on HIV knowledge and sexual decisions of the respondents. The questions in this section focused mainly on whether respondents' HIV knowledge has influenced their sexual behaviour and decisions vis-à-vis religious teachings and admonitions. In the final section, I examined condom usage as a proxy to behaviour change and whether respondents' knowledge of HIV had influenced their sexual behaviour positively.

Three (3) field assistants were recruited for the study. Two of them were University graduates and the other a post graduate student. They were taken through one day training for the fieldwork. The training period looked at the purpose of the study, and the translation of the instrument into Twi and Hausa. A mock administration of the instrument was conducted among the field assistants and questions that came up were addressed. The group of people selected as field assistants had had similar experiences of collecting data.

Prior to the data collection, the questionnaire was pre-tested to ascertain its appropriateness to elicit the desired answers from the respondents and also make corrections where needed. Using a rule of thumb, 15 respondents were used for pre-testing. The pre-testing was carried out at Ashaiman which has similar socio-economic features as Community 1 and Lashibi after which some revision was made in the questionnaire.

4.6 Method of Data Analysis

The data were analysed both quantitatively and qualitatively using the mixed method approach. Creswell (1994) states that the complementary strength of mixed methods makes it appropriate when a study seeks to explore, describe and give casual explanation of variables. Greene and Caracelli (1997:7) have supported Creswell's position with the argument that "the underlying rationale for mixed methods inquiry is to understand more fully, to generate deeper and broader insights, to develop important knowledge claims that respect a wide range of interest and

perspectives using a combination of qualitative and quantitative techniques. The use of both quantitative and qualitative methods of data analysis was necessary because the researcher needed narratives, descriptive and inferential statistics to meet the objectives of the study. Qualitative analysis was done based on narratives gathered from direct responses by respondents from the open-ended questions. Responses from the open-ended questions were coded in order to accurately capture the given responses. Responses collected from respondents were analyzed with the help of the Statistical Package for Social Sciences (SPSS) version 16, after all data cleaning were done. Descriptive statistics like tables, frequencies, percentages, pie-chart and averages were used by the researcher to analyse the ages, marital status, occupations and religious and educational backgrounds of the respondents. Narratives gathered direct from responses from the open-ended questions were used to assess whether the sexual decisions of the respondents have been positively influenced by their religious affiliation in relation to their HIV Knowledge and reasons why some respondents do not use condoms. Also, correlation and logistic regression analyses were conducted in order to obtain the relationships between education and religion and behaviour change. The results are presented and discussed subsequently in chapter 5.

4.7 Limitation of the study

Issues concerning sexuality being sensitive and considered mostly as “private” in our part of the world posed a problem in getting respondents for the study. There was the possibility of respondents providing false answers and exaggerating responses to questions. However, the researcher educated and assured his respondents of greater confidentiality to overcome this limitation as much as possible. Also, one clear area of concern for most respondents was the protection of their identity. To address this concern, names and contact details of the respondent were not sought and care was also taken not to give clues that might lead to the easy identification of respondents in the research report. Again, to avoid interviewers’ bias, the

interviewers for the study were carefully selected, trained and briefed to undertake this survey. Furthermore, as a case study, the findings of the study cannot be generalized to respondents outside this study (Bell, 2004).



CHAPTER FIVE: ANALYSIS AND DISCUSSION OF RESULTS

5.0 Introduction

This chapter discusses the field findings of the effects of education and religion on HIV knowledge and behaviour modification among women in the Tema Metropolis. It combines both qualitative and quantitative analysis of the data gathered. The findings of the study were based on the following objectives:

- To find the effect of education on the respondents' HIV knowledge, sexual decisions and sexual behaviour
- To assess the effect of religion on the respondents' HIV knowledge, sexual decisions and sexual behaviour.
- To examine the relationships between the effects of education and religion on HIV knowledge, sexual decisions and sexual behaviour.
- To provide recommendations for policy formulation and further research.

The chapter is sectioned into five major headings. Section one (5.1) discusses the socio-demographic background of the respondents. The section looks at the age of the respondents, their level of education, religious denominations, occupation and income levels of the respondents. Section two (5.2) assesses the respondents' knowledge of HIV. Transmission modes, symptoms of the disease and prevention methods are also discussed. Section three (5.3) of the chapter discusses the relationship between education and HIV. The section analyzes how education has deepened knowledge and changed wrong perceptions about HIV among women in the Tema Metropolis. Section four (5.4) delves into the religion of the respondents and the effect of their beliefs based on their religious affiliation on HIV knowledge and condom usage. The last section (5.5) discusses the relationship between education, religion and HIV knowledge and consequently, their effect on behaviour change for HIV prevention.

5.1 Demographic characteristics of Respondents.

A total of three hundred and twenty six (326) respondents participated in this study. The respondents were women aged 15-49 in the Tema Community One and Lashibi. Hundred and seventy two (172) respondents were interviewed from Tema Community 1 and hundred and fifty four (154) from Lashibi. The respondents were in two broad categories: Christian women and Muslim women. Two hundred and sixty one (261) Christian women constituted the largest share (about eighty percent) of the total respondents and sixty five (65) Muslim women (about twenty percent of total respondents) participated in this study. The communities, their share of Muslim and Christian women and percentage share of total respondents are presented in Table 5.1.

Table 5.1: Community share of respondents

Community	Number of Muslim Women	Number of Christian women	Number of Respondents	Percentage of Total Respondents
Community One	34	138	172	52.9
Lashibi	31	123	154	47.1
Total	65	261	326	100

Source: Author's field survey, May 2012.

5.1.1 Age of Respondents

From Table 5.2, women between the ages of 31 to 35 years were the majority of respondents (76) who were sampled to fill the questionnaires. They formed about twenty three percent of the total sample. This was followed by women aged 21 to 25 and 26 to 30 who were sixty-two (19.0%) and sixty-one (18.7%) of the total percentage of the respondents, respectively. The lowest group of respondents was women aged 36 to 40 years and 46 to 49 years who were twenty-five (7.7%) and thirty (9.2%), respectively.

Table 5.2: Age distribution of respondents

Age Range	Frequency	Percentage
15-20	32	9.8
21-25	62	19.0
26-30	61	18.7
31-35	76	23.3
36-40	25	7.7
41-45	40	12.3
46-49	30	9.2
Total	326	100.0

Source: Author's field survey, May 2012.

5.1.2 Educational levels of Respondents

Responses from the respondents indicate that seventeen (about five percent) of the respondents had no education whereas 309 (about ninety five percent) of the total respondents had had some level of education. This finding supports the fact that education is generally well developed and fairly distributed in the Tema metropolis (Tema Metropolitan Assembly, 2009) and may also be an indication that girl child education has gained root in the Metropolis. From the total number of respondents interviewed, thirty-eight percent had University/Tertiary education, about sixteen percent had Technical/Vocational education and about twenty nine percent had Secondary/Senior High School (SHS) education. Thus, looking at Table 5.3, it is realized that majority of respondents had attained a high education level.

Table 5.3: Educational level of respondents

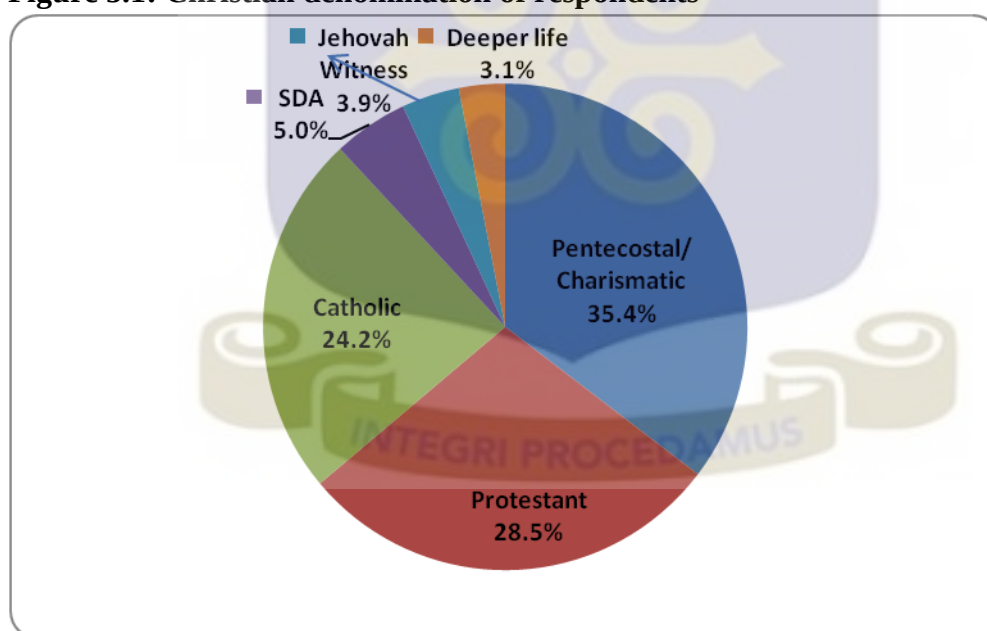
Level of Education	Frequency	Percentage
No education	17	5.2
Primary/Basic	6	1.8
Middle/JHS	30	9.2
Secondary/SHS	96	29.4
Technical/Vocational	53	16.3
University/Tertiary	124	38.0
Total	326	100.0

Source: Author's field survey, May 2012.

5.1.3 Religious Affiliation of Respondents

Religion infuses meanings into an individual's knowledge, perceptions and decisions on sexuality and the practice of the sex act. Religion also may play a significant role in determining how an individual interprets knowledge on HIV and consequently behaviour modification with regards to sexual activity. Some religious groups prevent their members from using contraceptives such as condoms. Christians comprised about eighty percent of the total respondents while about twenty percent of the respondents were Moslems. Figure 5.1 indicates that majority of Christian respondents who participated in the study were Pentecostals/Charismatic comprising about thirty-five percent followed by Protestants and Catholics with about twenty-nine and twenty-four percent, respectively. The remaining twelve percent of the respondents belonged to the Seventh Day Adventist (five percent), Deeper Life (about three percent) and Jehovah Witness (about four percent).

Figure 5.1: Christian denomination of respondents

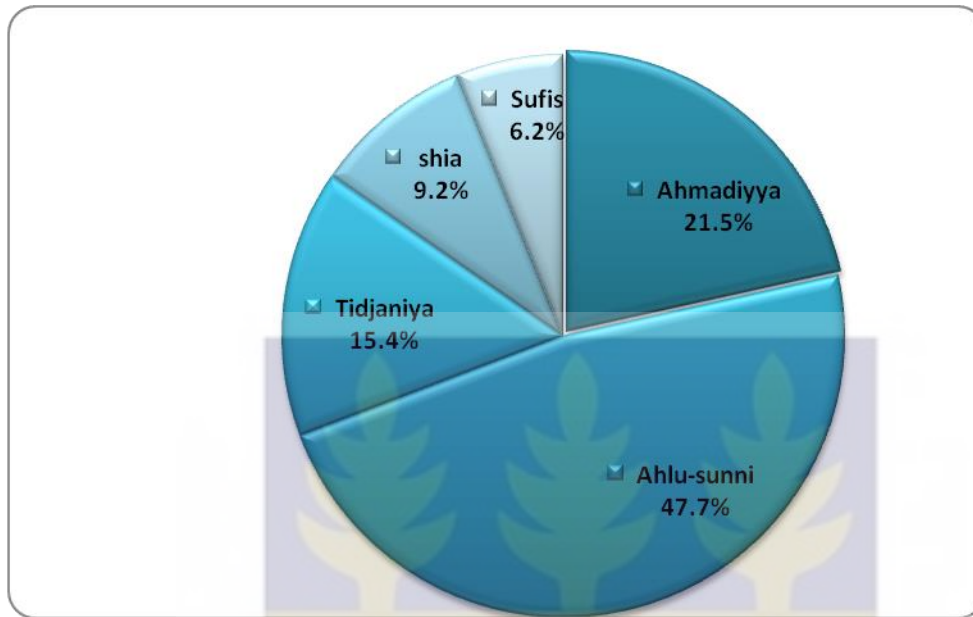


Source: Author's field Survey, May 2012.

Figure 5.2 indicates that out of the sixty-five Muslim women who participated in the study, about forty-eight comprising the majority belonged to the Alhu-Sunni sect while the Sufis sect had the lowest with a percentage share of about six. The Ahmadiyya sect had the second largest majority

with about twenty-two percent of the total respondents followed by the Tidjaniya and Shia sects with about fifteen percent and nine percent, respectively.

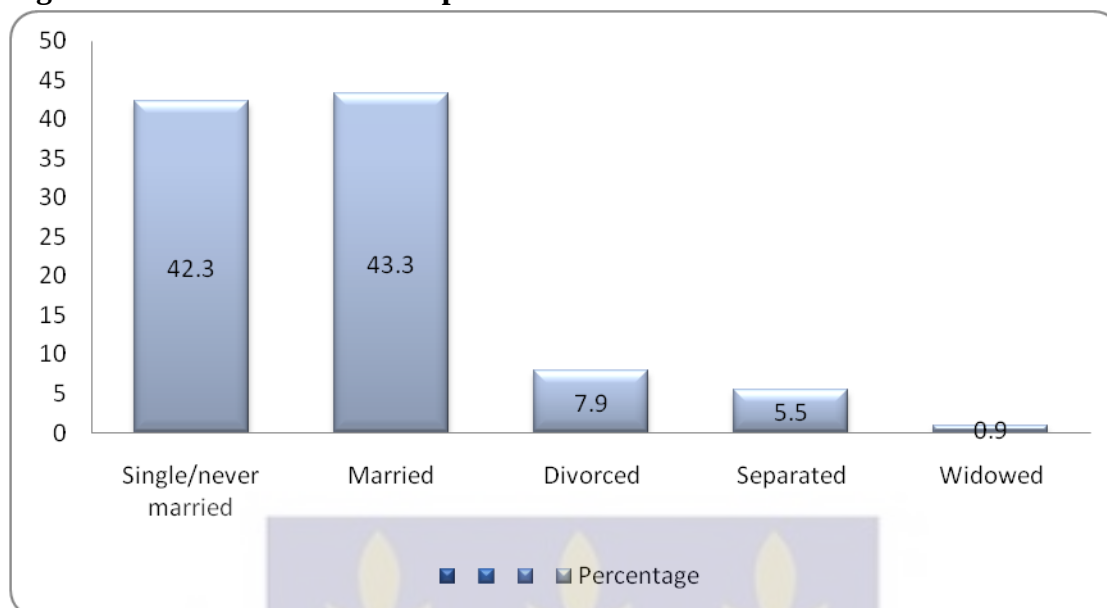
Figure 5.2: Muslim sects of respondents



Source: Author's field survey, May 2012.

5.1.4 Marital Status of Respondents

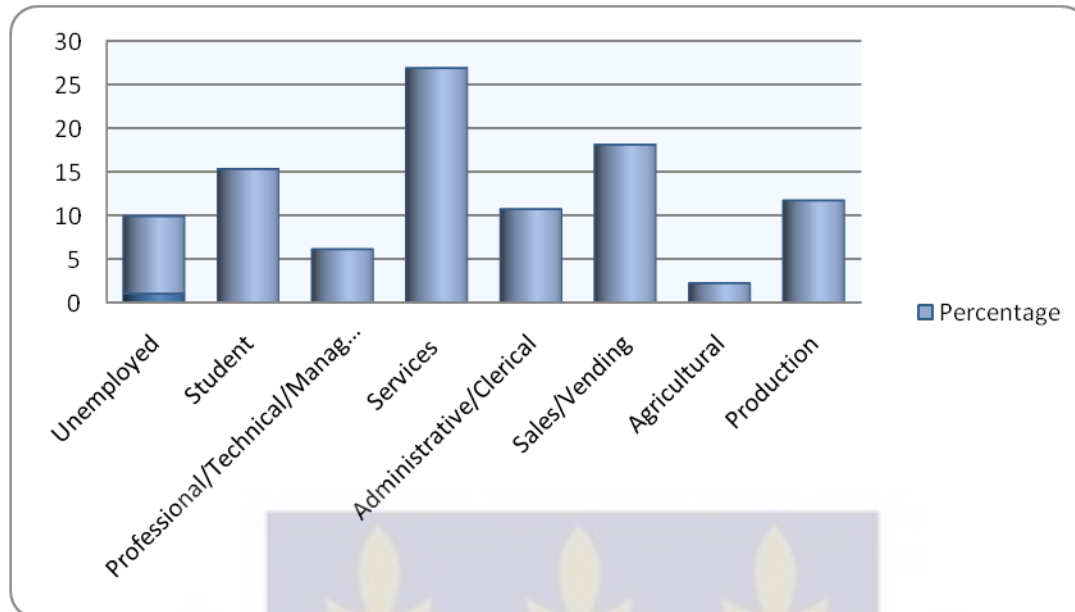
As presented in Figure 5.3, most of the respondents, about forty three percent were married, about forty two percent were single/never married and eight percent of the respondents were divorced. Eighteen of the respondents (about six percent) were separated and three of the respondents (about one percent) were widowed.

Figure 5.3: Marital status of respondents

Source: Author's field survey, May 2012.

5.1.5 Occupation of Respondents

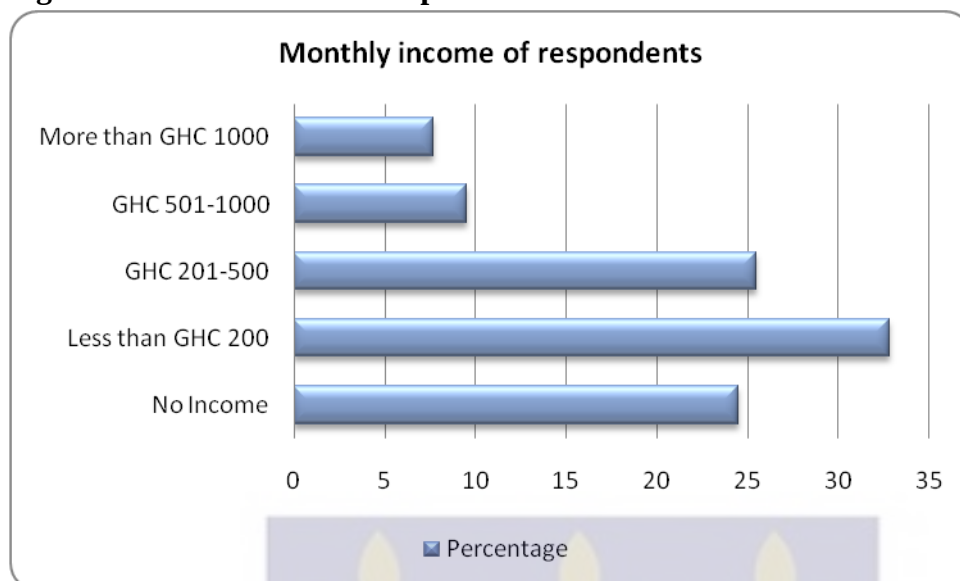
The Tema Metropolis is known as an industrial hub due to the presence of many industries in the Metropolis. Responses gathered from the survey indicated that majority of the respondents were engaged in the services industry while the smallest proportion were found in the agricultural sector. Eighty eight respondents representing about twenty seven percent of the total respondents were in the service industry followed by the sales/vending sector with about eighteen percent and students comprising about fifteen percent of the total respondents as shown in Figure 5.4. Respondents who were engaged in professional/technical/managerial and administrative were about six percent and twelve percent, respectively. The production sector had twelve percent of the respondents engaged in it whereas about two percent of the respondents were engaged in the agricultural sector representing the smallest proportion of the respondents. This may also be due to the fact that agriculture is less dominant in urban areas like Tema relative to rural areas.

Figure 5.4: Occupation of Respondents

Source: Author's field survey, May 2012.

5.1.6 Income Levels of Respondents

From Figure 5.5, about thirty three percent, representing the majority of the respondents earned incomes between GHC 201 and 500 monthly while about twenty five percent of the respondents earned no income. This may be due to the fact that about fifteen percent and nine percent of the total respondents were students and unemployed respectively. Thus, ideally these categories of respondents were not engaged in any income generating activity and therefore did not earn any income. From the responses gathered, about twenty six percent of the respondents earned less than GHC 200 and about thirteen percent earned between GHC 501 and 1000 per month. Forty four respondents out of the total respondents earned more than GHC 1000 monthly. Thus, there were many of the respondents found in lower income ranges than in higher income ranges.

Figure 5.5: Income level of respondents

Source: Author's field survey, May 2012.

5.2 Knowledge of HIV among Respondents

As indicated in Table 5.4, on the knowledge of HIV, as high as 98.9 percent of the respondents who participated in the survey said they have heard of the disease indicating that awareness of the disease in the study area is widespread. However, there were differences of HIV knowledge by age, education and religion. All respondents (100.00%) who had had Primary, Middle/JHS and Secondary/SHS education had heard of HIV while 94.1 percent who had no education were aware of the disease. This indicates a higher awareness of the disease among the educated respondents than those with no education. With regards to religion, awareness of the disease was high (99.2%) among the Christians compared to the Muslims (97.7%).

As part of efforts at fighting HIV, there is the need to correct misconceptions about how the disease is transmitted. One of such misconceptions is that HIV can be transmitted through witchcraft or supernatural means. Probing respondents on whether HIV can be gotten because of witchcraft or through supernatural means, 34 (about eleven percent) of respondents wrongly believe that HIV can be transmitted by supernatural means. This means that about 89 percent of women in the Tema Metropolis correctly believe that HIV cannot be transmitted through

supernatural means. For the respondents who believe HIV can be transmitted through supernatural means, it may be due to the religious teachings and beliefs that they may have imbibed by virtue of their affiliation to a religious group or perhaps on hearsays. These teachings may include the notion that it is the devil and his cohorts who inflict people with certain kinds of disease such as HIV and that a disease like HIV is one of the signs of the “last days” or the second coming of Christ.

Three Hundred and six of the respondents (about ninety four percent) said there was no cure for HIV whereas 19 (about six percent) said there was a cure for the disease. Eleven (about fifty eight percent) of the respondents who claimed there was a cure for HIV said the disease can be cured through spiritual means, 6 (about thirty two percent) asserted traditional medicine can cure HIV while 2 respondents claimed that the disease can be cured by western medicine. Although these respondents claimed people had been healed of HIV through traditional medicine, western medicine or spiritual means from responses gathered from an open-ended question posed, they were based on hearsays and the healed individuals were not personally known to them. This claim is in sharp contrast with empirical findings and existing literature which states that there currently is no cure for the disease (UNIADS, 2012).



Table 5.4: Respondents' knowledge about HIV

Background Characteristics	Population	Has heard of HIV Percent	HIV is incurable Percent	HIV can be acquired through supernatural means Percent
Age				
15-19	32	100.0	90.6	18.7
20-24	63	100.0	93.1	14.3
25-29	61	98.4	98.4	9.8
30-39	100	97.5	93.0	6.0
40-49	70	100.0	94.3	14.3
Marital Status				
Never married	138	97.9	93.4	12.3
Married	141	99.3	93.6	11.3
Divorced	26	100.0	96.1	15.4
Separated	18	100.0	100.0	0.0
Widowed	3	100.0	100.0	0.0
Education				
No education	17	94.1	88.2	11.8
Primary	6	100.0	83.3	0.0
Middle/JSS	30	100.0	90.0	16.7
Secondary/SHS	96	100.0	96.9	6.3
Technical/Voc.	53	98.1	96.2	9.4
University/Tertiary	124	99.2	93.5	15.3
Religion				
Christian	261	99.2	94.3	10.7
Muslim	65	97.7	93.9	13.9
Total	326	98.9	93.8	10.5

Source: Author's field Survey, May 2012.

Table 5.5 looks at the respondents' responses on their knowledge of how HIV is transmitted. Respondents were asked to list as many transmission mode of the disease they know. Out of the 326 respondents, 307 (about ninety four percent) listed unprotected sex, 304 (about ninety three percent) mentioned mother to child transmission and 283 (about eighty seven ninety percent) made mention of transmission through transfusion with infected blood. Thus, transmission through unprotected sex was widely known by most respondents relative to the other mode of transmission which may be due to the fact that in Sub-Sahara Africa and in Ghana, HIV is a sexually transmitted disease, and unprotected sex accounts for over eighty percent of infections

(Ministry of Health, 2009). Also, 20 (about six percent) mentioned hugging an infected person, 28 (about nine percent) mentioned shaking of hands with an infected person and 257 (about seventy nine percent) claimed HIV can be transmitted by kissing an infected person. Correct Knowledge about HIV transmission modes was higher among respondents who had attained Primary school education than among the other levels. For instance, all Primary level respondents knew that HIV cannot be acquired just by hugging an infected person in contrast with about seven percent of University/Tertiary level respondents who said otherwise.

Generally, awareness of HIV transmission modes was high among all levels of education. All women with at least Primary education had correct knowledge of the transmission modes of the disease, compared with about 94 percent of women who had no education. Also, correct knowledge of HIV transmission modes was relatively higher among the Muslim women than Christian women.

These responses are indicative that although most respondents have a correct knowledge of how the disease is transmitted, there is still more to be done in educating people on actions that does not transmit the disease. Thus, people's understanding of the fact that HIV cannot be transmitted by sharing food with an infected person, shaking hands with an infected person, hugging an infected person and insect bites will go a long way to avoid stigmatization of infected persons and consequently prevent the spread of the disease.

Table 5.5: Respondents' knowledge about HIV transmission modes

Background characteristics	Percentage of women who say HIV can be transmitted through:					
	Unprotected sex	Transfusion with infected blood	shaking hands with an infected person	kissing an infected person	Hugging an infected person	Mother to child transmission
Age						
15-19	96.9	87.5	8.1	84.4	3.1	96.9
20-24	93.5	91.9	4.9	88.7	3.2	90.3
25-29	94.7	83.6	5.3	72.1	3.3	95.1
30-39	96.0	88.0	7.5	72.0	6.7	96.0
40-49	95.0	87.5	13.3	76.0	5.0	95.0
Marital Status						
Never married	93.5	89.9	10.1	76.8	3.6	91.3
Married	95.7	83.7	6.4	77.3	7.1	94.3
Divorced	88.5	84.6	11.5	88.5	3.8	92.3
Separated	94.4	94.4	5.6	88.9	5.6	100.0
Widowed	98.9	66.7	22.2	100.0	33.3	100.0
Education						
No education	94.1	88.2	5.9	58.8	5.9	90.0
Primary	98.9	99.4	6.7	100.0	0.0	100.0
Middle/JSS	95.3	86.7	10.4	83.3	0.0	94.7
Secondary/SHS	97.9	89.6	11.3	76.0	5.2	96.9
Technical/Voc.	95.7	84.9	6.5	79.2	7.5	95.3
Univ./Tertiary	96.1	84.7	6.4	81.5	6.5	93.3
Religion						
Christian	93.5	88.1	8.8	80.1	5.4	91.6
Muslim	96.9	81.5	7.7	73.8	6.2	100.0
Total	94.2	86.8	8.6	78.8	5.5	93.3

Source: Author's field survey, May 2012.

On the knowledge of respondents about the symptoms of HIV as illustrated in Table 5.6, 277 (about eighty five percent) out of the total sample of 326 cited loss of weight as a symptom of HIV followed by 246 (about seventy five percent) of the respondents who mentioned headache. Rashes on the skin and opportunistic diseases were mentioned by 173 (about fifty three percent) and 124 (about thirty eight percent) of the respondents, respectively. Again, about forty one percent of the respondents mentioned fever whereas sixty one percent mentioned cough. Furthermore, thirty percent of the respondents mentioned anaemia as symptoms of the disease.

The mention of weight loss by most of the respondents, about 85 percent, may be due to the images of HIV positive persons they had seen which normally portray very lean and “almost dying” persons.

Table 5.6: Respondents’ knowledge about signs and symptoms of HIV

Background characteristics	Percentage of women who say HIV has the following signs and symptoms:							
	Headache	Fever	Loss of weight	Loss of appetite	Body weakness	Opportunistic diseases	Cough	Rashes
Age								
15-19	75.4	40.2	76.7	36.8	20.9	34.2	58.9	52.2
20-24	76.2	38.4	80.3	29.2	21.7	30.5	52.6	54.3
25-29	74.3	40.5	89.2	34.1	22.2	36.5	55.4	51.3
30-39	75.2	41.2	87.3	26.2	21.2	38.4	62.3	50.8
40-49	76.6	36.5	81.4	24.1	20.6	35.2	66.4	52.1
Marital Status								
Never married	73.3	36.1	82.5	26.1	24.3	36.5	69.2	53.7
Married	72.5	39.5	84.4	25.2	21.8	40.8	57.3	49.2
Divorced	75.2	40.7	87.3	27.2	20.2	41.2	70.4	50.6
Separated	71.6	41.3	86.9	28.7	22.3	38.9	52.3	52.1
Widowed	75.3	38.4	86.7	27.4	23.0	35.2	54.4	54.5
Education								
No education	69.4	34.2	74.6	28.9	21.8	40.1	56.9	42.3
Primary	73.2	35.2	85.2	34.1	22.3	41.3	51.2	54.3
Middle/JSS	74.1	39.7	86.1	28.7	21.5	38.4	54.5	56.0
Secondary/SHS	78.5	42.8	87.2	25.6	22.7	41.2	68.2	55.2
Technical/vocational	75.2	41.5	89.9	28.5	23.8	44.5	72.3	51.9
University/Tertiary	78.6	38.9	86.6	32.5	22.8	42.3	69.5	54.3
Religion								
Christian	76.8	40.5	85.6	29.8	23.5	36.5	62.3	55.7
Muslim	75.9	39.9	87.8	26.2	22.9	37.3	65.1	54.9
Total	74.8	40.5	84.8	28.8	22.2	38.3	61.1	52.5

Source: Author’s field survey, May, 2012.

Table 5.7, indicates that respondents are conversant with HIV prevention strategies which include abstinence, condom use for safer sex, limiting sexual intercourse to one HIV negative partner, use of disposable sharp edges and needles and screening blood before transfusion. Two hundred and ninety five (about ninety one percent) of respondents said HIV can be prevented by abstaining from premarital sex while 250 (about seventy seven percent) and 192 (about fifty nine

percent) mentioned condom use and limiting sexual intercourse to one HIV negative partner, respectively. Also, about thirty seven percent mentioned that a person needs to avoid sharing sharp edges and needles with other people to avoid being infected. About twenty one percent also said blood must be screened before it is transfused to another person. Table 5.7, again indicates that knowledge of HIV prevention methods is high at all levels of education relative to women with no education. However, there is not much disparity looking at percentage of women and their knowledge of HIV prevention methods with regards to the two religions. These findings confirm that many of the respondents were knowledgeable on how to prevent HIV.

Generally, across all categories of respondents (by age, marital status, religion and educational level), less than 50 percent mentioned the avoidance of sharing sharp edges and screened blood for transfusion as HIV preventive modes. This may be attributed to the fact that the conventional “Abstinence”, “Be faithful” and “Condom use” (ABC) campaign undertaken by the Ghana AIDS Commission has been assimilated by the respondents more than the other preventive modes.

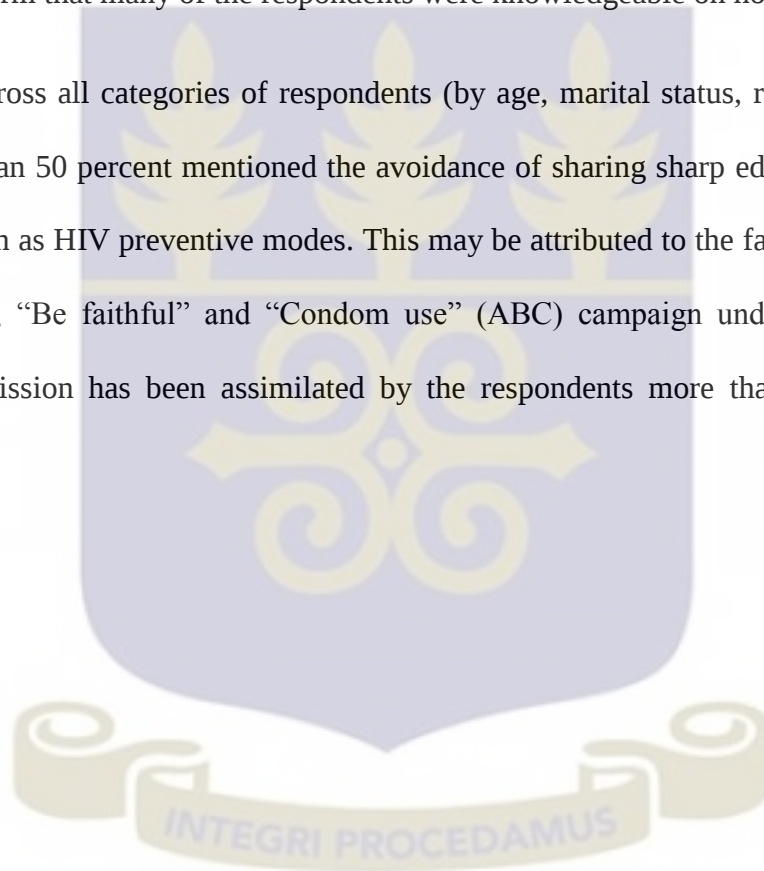


Table 5.7: Respondents' knowledge of HIV prevention methods

Background characteristics	Percentage of women who say HIV can be prevented by:				
	Abstinence	Using Condoms	Limiting sexual intercourse to HIV negative partner	Avoid sharing sharp edges	Screening blood before transfusion
Age					
15-19	90.5	76.7	58.9	36.8	20.9
20-24	93.5	80.3	52.6	29.2	18.7
25-29	94.5	79.2	55.4	34.1	18.2
30-39	90.6	77.3	62.3	36.2	21.2
40-49	91.2	81.4	63.4	24.1	20.6
Marital Status					
Never married	90.9	82.5	69.2	36.1	18.2
Married	94.7	81.4	57.3	35.2	17.8
Divorced	93.9	74.3	64.4	27.2	20.2
Separated	93.6	73.9	52.3	28.7	22.3
Widowed	96.1	76.7	54.4	37.4	23.0
Education					
No education	88.2	74.6	51.9	28.9	18.5
Primary	93.2	73.2	56.2	34.1	19.0
Middle/JSS	93.1	84.1	54.5	29.7	19.6
Secondary/SHS	93.5	87.2	68.2	31.6	20.7
Technical/vocational	91.2	79.9	68.3	35.5	20.8
University/Tertiary	93.4	76.6	69.5	32.5	22.8
Religion					
Christian	93.6	75.6	59.3	38.2	21.7
Muslim	92.3	76.8	60.1	36.2	20.9
Total	91.0	77.4	59.3	37.2	21.3

Source: Author's field survey, May 2012.

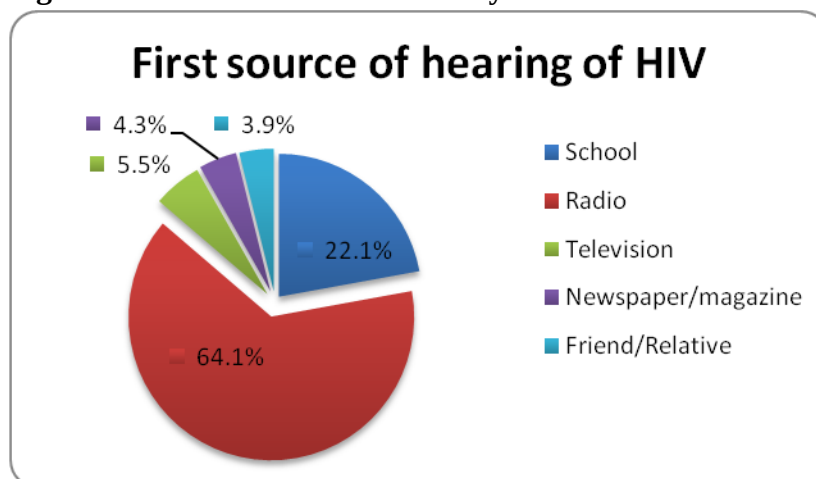
5.3 Education and HIV

The survey tried to find out the effects that education had had on the respondents' knowledge of HIV and sexual behaviour. Thus, to ascertain whether education had enhanced respondents' knowledge about HIV and whether it empowers them to make the right decisions when it comes to the issue of having sex and who to have sex with, questions were posed such as the source(s) from which they first heard and learnt about HIV, whether HIV lessons had been part of their formal education at any point in time, and their understanding of safer sex. Furthermore, the

researcher enquired from the respondents whether their understanding and knowledge of the disease had changed any misconceptions they had about the disease, their decisions about sexual relationships and their decisions about having sex.

Figure 5.6, looks at the source from which respondents first heard and learnt about HIV. For most of the respondents, their first source was the radio particularly for respondents who had no education at all. Fourteen out of the 17 respondents who had no education first heard of HIV on the radio. Two hundred and nine (about sixty four percent) of the total respondents first heard of the disease on the radio as against 72 (about twenty two percent) who first heard the disease from school. Thus, although about ninety four percent of the total respondents had had some level of education, only about twenty percent had firsthand information about HIV in school. The domination of radio as the first source of HIV knowledge and information for respondents may be due to the fact that it is relatively cheaper to own and use a radio set. In addition, radio has been found to reach a greater percentage of populations the world over and may be the most effective tool for information dissemination both to educated and uneducated populations since native languages are also used in radio broadcasts. Efforts at providing information about HIV in the school system must be intensified in the study area to augment the dominant role that radio is playing in HIV information dissemination. However, the fact that the school was not the first source of information on HIV for most of the respondents may not necessarily be indicative that HIV lessons had not been part of their formal education at some point in time.

Again from Figure 5.6, 18 (about six percent) of the respondents had first heard of HIV from the television whereas about four percent each first heard about HIV from the newspaper and relatives/friends.

Figure 5.6: From which source did you first hear of HIV

Source: Author's field survey, May 2012.

Table 5.8 looked at a cross tabulation of respondents' level of education and whether HIV lessons had been part of their education at any point in time. Apart from the 17 respondents with no education, majority of respondents who had had some level of education had HIV lessons being part of their education at some point in time. Thus, 232 (about seventy five percent) of respondents had HIV lessons as part of their education. This may be indicative that HIV lessons have been integrated into the curricula of educational institutions in and around the study area. Among the various educational levels, most respondents (about eighty four percent) who had had secondary/SHS education got the opportunity to learn about HIV at some point in school. Excluding respondents who had no education at all, 77 (about twenty five percent) of respondents who had had some level of education claimed HIV lessons had never been part of their education at any point in time.

Table 5.8: Distribution of respondents by level of education and HIV lessons as part of formal education.

		Has HIV/AIDS lessons been part of your formal education at any point in time		Total (%)
		Yes (%)	No (%)	
Level of education of respondent	Basic/primary	6 (100)	0 (0)	6 (100)
	Middle/JHS	19 (63.3)	11 (36.7)	30 (100)
	Secondary/SHS	81(84.4)	15 (15.6)	96 (100)
	Technical/vocational	35 (66.0)	18 (34.0)	53 (100)
	Tertiary/university	91 (73.4)	33 (26.6)	124 (100)
	Total	232 (75.1)	77 (24.9)	309 (100)

Source: Author's field survey, May 2012.

Table 5.9 provides information on the educational level of respondents and whether their knowledge of HIV had changed their decisions about sexual relationships positively. Eighty one percent of respondents including those with no education stated that their knowledge of HIV had changed their decisions about sexual relationships in contrast with 19 percent of respondents who said otherwise. This finding is an indication that respondents' knowledge of HIV to some extent motivates them to make informed decisions regarding their sexual relationships. Also, considering the fact that 12 out of the 17 respondents with no education had stated that their knowledge of the disease has changed their decisions on sexual relationships, then we can deduce that whether an individual is educated or not, once the person acquires the knowledge about the disease, her decisions with regards to sexual relationships is likely to change positively. In general, 264 (eighty one percent) respondents out of the total number of respondents for the study said their knowledge about HIV had influenced their decisions on sexual relationships while 19 percent said otherwise. From the Middle/JHS level of education through to the tertiary level, the percentage of respondents who claimed their knowledge has

affected their sexual decisions increases as one climbs higher the educational ladder (Table 5.9). This may mean that as people climb higher the educational ladder, their knowledge about HIV influences their decisions on sexual relationships positively or people are empowered and therefore more confident to take decisions on who to have sex with or create boundaries in their sexual encounters.

Table 5.9: Distribution of education level by decisions about sexual relationships.

		Has your knowledge of HIV influenced your decisions about sexual relationships		Total (%)
		Yes (%)	No (%)	
Level of education of respondent	No education	12 (70.6)	5 (29.4)	17 (100)
	Primary/basic	5 (83.3)	1 (16.7)	6 (100)
	Middle/JHS	23 (76.7)	7 (23.3)	30 (100)
	Secondary/SHS	75 (78.1)	21 (21.9)	96 (100)
	Technical/vocational	44 (83.1)	9 (16.9)	53 (100)
	University/tertiary	105 (84.7)	19 (15.3)	124 (100)
Total		264 (81.0)	62 (19.0)	326 (100)

Source: Author's field survey, May 2012.

In trying to determine the relationships that exist between educational levels and the respondents' knowledge and perceptions about the disease, cross tabulation was generated. Table 5.10, looks at respondents' educational level and whether their knowledge of HIV has changed any misconceptions they had about the disease. Two hundred and fifty four (about seventy eight percent) of the respondents said misconceptions they had about HIV had changed based on the knowledge they had acquired with regards to HIV whereas for 72 (about twenty two percent) of the respondents, no perception had been changed. With regards to those who claimed their knowledge had not changed any perception, it could be interpreted as either that these respondents had no prior wrong perceptions about the disease at the time they gained the HIV

knowledge or that they had chosen to hold on to whatever wrong perceptions they had about the disease due to personal convictions and beliefs.

About thirty percent of the respondents whose misconceptions had been altered specified the perception of getting infected when one shakes hand or hug an infected person whereas about seventeen percent said their perception of isolating persons living with HIV from the rest of society has been changed. The respondents also mentioned perceptions such as the view that a person can be infected with HIV by eating from the same bowl with an infected person. The perceptions that very sick persons were HIV positive and that infected persons die shortly after being infected had also been changed among the respondents. It is interesting to note that although 17 of the respondents had no education, about seventy seven percent of the respondents with no education had some wrong perceptions they had changed when they acquired HIV knowledge. Table 5.10, indicates that at all levels of education, some respondents had wrong perceptions changed, which may imply that formal education without comprehensive correct knowledge of HIV may not keep even the educated from holding on to certain wrong perceptions which fuels stigma and the spread of the disease. Consequently, if about seventy four percent of respondents who are educated had had certain wrong perceptions changed, it is indicative that efforts by stakeholders at integrating HIV lessons into formal education curricula may be yielding positive results among respondents.

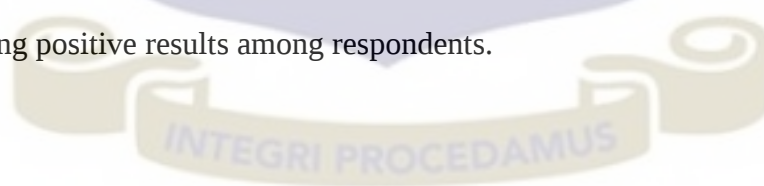


Table 5.10: Distribution of education level by corrected misconceptions about HIV.

		Has your knowledge of HIV/AIDS changed any wrong perception you had about the disease?		Total (%)
		Yes (%)	No (%)	
Level of education of respondent	No education	13 (76.5)	4 (23.5)	17 (100)
	Primary/basic	5 (83.3)	1 (16.7)	6 (100)
	Middle/JHS	21 (70.0)	9 (30.0)	30 (100)
	Secondary/SHS	77 (80.2)	19 (19.8)	96 (100)
	Technical/vocational	41 (77.4)	12 (22.6)	53 (100)
	University/tertiary	97 (78.2)	27 (21.8)	124 (100)
Total		254 (77.9)	72 (22.1)	326 (100)

Source: Author's field survey, May 2012.

As part of trying to ascertain respondents' HIV knowledge and how to practice safer sex for HIV prevention, a question was posed as to their understanding of safer sex. Safer sex basically involves the use of condoms and dental dams during sexual intercourse to prevent being infected with any sexually transmitted disease. However, the term has been expanded to envelope abstinence and faithfulness. Most of the responses centered on the conventional "abstinence", "being faithful to one's partner and "condom usage" HIV prevention modes. Table 5.11 shows the educational levels of respondents and their definition of safer sex. Two hundred and thirty eight (seventy three percent) of the total respondents mentioned condom usage as what constitutes safer sex while 38 (about twelve percent), 49 (fifteen percent) and 1 (less than one percent) respondents mentioned abstinence, sticking to one partner and faithfulness, respectively, as what safer sex meant to them. It is indicative that most of the respondents knew what safer sex is to some extent but the failure of all respondents to make mention of the use of dental dams must be of concern to stakeholders. The failure of any of the respondents to mention the use of dental dams may be due to the fact that it is not "popular" in our part of the world or the practice of oral sex is not common among the respondents.

Table 5.11: Distribution of educational level and understanding of safer sex.

		What does safer sex mean to you?				
		Condom usage (n)	Abstinence (n)	Sticking to one partner (n)	Faithfulness (n)	Total (n, %)
Level of education	No education	10	4	3	0	17 (5.2)
	Basic/primary	3	2	1	0	6 (1.8)
	Middle/JHS	25	2	3	0	30 (9.2)
	Secondary/SHS	72	12	11	1	96 (29.4)
	Technical/Vocational	36	6	11	0	53 (16.3)
	University/Tertiary	92	12	20	0	124 (38.0)
Total		238	38	49	1	326 (100)

Source: Author's field survey, May 2012.

5.4 Religion and HIV

This section looked at findings from the field survey on respondents' religious affiliation and its impact on their HIV knowledge, sexual behaviour and condom usage. Respondents were asked questions on their level of religiosity, whether their various religious groups teach them about HIV, whether their knowledge of HIV has change their sexual behaviour/decisions and their stance and belief on the use of condoms.

5.4.1 Religion and HIV knowledge Dissemination

From the responses gathered from the field it was obvious that many of the respondents had not had any platform at their various religious group activities to learn and discuss HIV. As many as 214 (about sixty six percent) out of the total respondents of 326 claimed their religious groups had never taught them about HIV and its prevention at any point in time. In contrast, 112 (about thirty four) of the respondents said they had been given some knowledge about HIV by their religious group (Table 5.12). Among the two religions used for this survey, about forty two percent of all Muslim respondents had been taught about HIV in their various mosques while about thirty two percent of all Christians interviewed had been taught about HIV by the religious

groups. This finding reveals that HIV education by the two religions in the study area is on the low side and the various religions need to be encouraged and equipped by the Ghana AIDS Commission to do more in that respect. Teachings on HIV may be absent in various religious groups due to the fact that they may not see it as a duty or the heads of the various religious groups may not have comprehensive correct knowledge to impart to their followers.

Table 5.12: Distribution of respondents by religion and HIV knowledge gained through their religious group.

		Has your religious group at any point in time taught you about HIV and its prevention		Total (%)
		Yes (%)	No (%)	
Religion of respondents	Christianity	85 (32.6)	176 (67.4)	261 (100)
	Islam	27 (41.5)	38 (58.5)	65 (100)
Total		112 (34.4)	214 (65.6)	326 (100)

Source: Author's field survey, May 2012.

5.4.2 Level of Religiosity and Safe Sex Decisions

Table 5.13 looks at the level of religiosity of respondents vis-à-vis their HIV knowledge and their decisions about having safe sex. To measure the respondents' level of religiosity, they were asked to choose between the following options: "very", "somewhat", "not very" and "not religious at all". From the responses gathered it was clear that majority of the respondents had been influenced positively by their various religious groups with regards to their sexual decisions. These decisions hovered around abstinence, chastity and faithfulness to one's partner(s) which are vital to HIV prevention globally. Two hundred and fifty two (about seventy seven percent) attested to the fact that their religious groups had impacted on their sexual decisions positively while 74 (about twenty three percent) said the opposite. This suggests that, the various religions that respondents practice affects their decisions about sex positively which goes a long way to help in the fight against HIV.

Behavioural change is central to HIV prevention and somehow, that is exactly what their religious affiliation seems to be offering them. At all levels of religiosity, it was realized that most of the respondents had had their decisions on sex influenced positively. These influences were shared as responses to an open-ended question by some of the respondents with regards to what their various religions has taught them about sex:

“At first I thought you can show a man that you loved him by having sex with him but now from teachings from church, I know that is not the case....”.

A Christian respondent, Community One, 24 years old.

“....My religion is very strict when it comes to issues concerning sex so some level of fear has been instilled in me not to be promiscuous”.

A Muslim respondent, Community One, 32 years old.

“Fornication and adultery are sexual sins that take whoever engages in it to hell. For me, my goal as a Christian is to make it to heaven and so I would not engage myself in it. Also, it is an honour to be married as a virgin”.

A Christian respondent, Lashibi, 37 years old.

“My church has taught me to be faithful to my husband no matter what, and so I never even think of having an affair with any other person apart from my husband”.

A Christian respondent, Community One, 27 years old.

Table 5.13: Level of religiosity of respondents by decisions about sex.

		Has your religious affiliation influenced your decisions about sex		Total (%)
		Yes (%)	No (%)	
Level of religiosity of respondents	Very	111 (82.2)	24 (17.8)	135 (100)
	Somewhat	101 (74.3)	35(25.7)	136 (100)
	Not very	38 (74.5)	13 (25.5)	51 (100)
	Not at all	2 (50.0)	2 (50.0)	4 (100)
Total		252 (77.3)	74(22.7)	326 (100)

Source: Author's field survey, May 2012.

5.4.3 Religious Denomination, Sect and Condom Usage

Pivotal to HIV prevention is having protected sex through the use of condoms. Research has proven condoms to be the most effective way to prevent HIV infections among people who cannot abstain or be faithful to one uninfected partner (UNIADS, 2012). The researcher tried to find out the level of condom usage among respondents and their sexual partners by asking them whether they had ever used a condom as well as ascertain whether their various religious denominations endorse and allow them to use condoms in the context of HIV prevention.

Findings from the survey revealed that all the religious denominations/sects that the respondents were affiliated with allowed them to use condoms for HIV prevention and to avoid unwanted pregnancies when they were married, with the exception of respondents who belonged to the Catholic Church. Thus, among all the religious groups that support condom use, the consensus is that it should be used only among married couples. Among the 63 respondents who said they were Catholics, 62 (about ninety eight percent) said their denomination frowned on condom use and only 1 (about two percent) said otherwise. This finding is an indication that the Catholic Church's stance on condom use has in a way influenced the thinking of majority of the respondents who were Catholics with regards to condom use. The Catholic respondents gave reasons why their church does not support the use of condoms and among these reasons were the

view that condoms encourage promiscuity and it is against human dignity, thus condoms change the beautiful act of love into a selfish sexual gratification venture while rejecting responsibility.

Box 5.1 presents some reasons given by some Catholic respondents in their own words when the question was posed as to why their denomination frowns on condom use.

Box 5.1: Reasons against Condom use from respondents who were Catholics.

“Condoms allow people to be unfaithful to their wives/husbands because they know they can avoid pregnancy to cover their sinful acts”

A Catholic respondent, Lashibi, 31 years old, Married.

“....it is just like masturbating and that is sin”

A Catholic respondent, Lashibi, 23 years old, Never married.

“....young people become promiscuous because of condoms. They also tend to be irresponsible and do not marry when they have to because they know they can have sex with condoms even when they are not married”

A Catholic respondent, Community One, 44 years old, Married.

“In the Bible, someone had sex and poured his sperm on the ground and God killed him, so if you use condoms, it is just like that and God will punish you for that.....”

A Catholic respondent, Lashibi, 37 years old, Divorced.

“.... Condoms collect sperm which is supposed to create a baby so it is like killing a baby. It also encourages fornication and adultery”

A Catholic respondent, Community One, 19 years old, Single.

Respondents were also asked whether they had had sex within the last 12 months preceding the time of the research and whether they used condoms, why they used condoms and who initiated condom use the last time they had sex. Out of the 326 respondents, 77 percent (251) had had sex before and about 61 percent (198) of them were sexually active at the time the survey was conducted.

With reference to Table 5.14, respondents who had had sex within the last 12 months were asked whether they had ever used condoms and their responses revealed only 94 (about twenty nine percent of total respondents) had ever used a condom. Thus, of all the 251 (seventy seven percent) of respondents who had had sex within the last 12 months, only 94 (about thirty eight percent) ever used a condom which is a little higher than the national figure of 25 percent (GDHS, 2008). However, unlike the Demographic and Health survey which is more representative of Ghana and considered higher-risk sexual intercourse (sex with more than one partner), this study looked at sex without any reference to it being high-risk or otherwise. This finding shows that condom use among the respondents for this survey although higher than the national figure is low and hence, must be of worrying concern to stakeholders involved in the fight against HIV.

However, this finding may be due to the fact that most of the respondents (nearly fifty percent) were married and therefore were less likely to use a condom due to several reasons. These reasons may include the desire to get pregnant, trust for one's partner, the notion that having sex with condoms is not 'pleasurable' and the fact that women in many cases are not able to insist on condom use when it comes to having sex with their partners. This finding is further indicative that although most of the respondents have knowledge about HIV and its prevention mainly through condom use when one is sexually active, their decisions and behaviour with regards to condom usage may not have changed significantly. Thus, a lot of education must be done on condom usage which is the single most effective tool for safer sex to bring to attention the overriding advantage of condom use over pleasure. For women, who may have unfaithful partners and at the same time want to get pregnant, a dilemma exist as to how to use condom for safer sex and still get pregnant.

Among the 94 respondents who said they used condoms, 49 (about fifty two percent) said they used condoms to avoid getting pregnant while 45 (about forty eight percent) used condoms to prevent HIV and other sexually transmitted diseases. This shows that many of the respondents

used condoms mostly to prevent unwanted pregnancies rather than preventing HIV and other sexually transmitted diseases.

Also, probing respondents on who initiated condom use the last time they had sex, their responses revealed that for 40 (about forty three percent) of the respondents, condom use was initiated by their partners, 37 (about forty percent) by themselves and 17 (about eighteen percent) by both parties. The fact that 37 out of the 94 respondents who used condoms were able to initiate condom use by themselves during their last sexual encounter shows that many more women can be motivated and empowered to insist on condom use by their partners through more education.

Table 5.14: Sexual intercourse in the last 12 months by condom usage.

		Did you use a condom?		Total (%)
		Yes (%)	No (%)	
Have you had sex in the last 12 months	Yes	94 (37.5)	157 (62.5)	251 (100)
	No	0 (0)	75 (100)	75 (100)
	Total	94 (28.8)	231 (70.9)	326 (100)

Source: Author's field survey, May 2012.

5.5 Education, Religion and Behaviour Modification

The research tried to find out the relationship between education, religion, HIV knowledge and behaviour change among respondents. The respondents were asked whether they were able to insist or negotiate condom use with their partners and also whether they would like to take the HIV test to know their HIV status vis-à-vis their knowledge of HIV.

Table 5.15 shows the educational level of respondents and whether they are able to insist on condom use when needed. About forty two percent of respondents including those with no education stated that their knowledge of HIV had influenced their ability to insist on condom use in contrast with about 39 percent of respondents who said otherwise. This finding is an

indication that respondents' knowledge of HIV to some extent motivates them to insist or negotiate condom use with their partners.

Table 5.15: Contingency table on education level and ability to insist on condom use

		Are you able to insist that your partner use condoms if needed?			Total
		Yes	No	Don't know	
Level of education of respondent	No education	6	9	2	17
	Primary/basic	1	4	1	6
	Middle/JHS	12	11	7	30
	Secondary/SHS	40	38	18	96
	Technical/Vocational	18	20	15	53
	University/Tertiary	61	45	18	124
Total		138	127	61	326

Source: Author's field survey, May 2012.

Owing to the fact that condom use is very essential to HIV prevention, the ability and willingness of women to negotiate or insist on condom use by their partners is what is narrowly termed as behaviour change in HIV prevention circles (World Bank, 2008). Table 5.16 looks at the association between educational level of the respondents (independent variable) and their ability and willingness to insist on condom use or bargain for safer sex (dependent variable). Thus, the correlation coefficient was computed to ascertain the association between their educational level and their ability and willingness to insist on condom use whenever the need arose.

Examining the correlation coefficient $r(326) = .466$, $df = 1$, $p = .005$ in Table 5.16, given p-value of .005 and an alpha level of .01, it indicates a moderate linear relationship between the two variables. The Pearson correlation coefficient of .466 indicates a moderate linear relationship between educational level of the respondents and their ability and willingness to insist on condom use when the need arose. The p-value of .005 indicates that the relationship between

educational level (independent variable) and ability and willingness to insist on condom use (dependent variable) is statistically significant. This indicates that a respondent's level of education to a certain extent shapes her sexual behaviour and decisions with regards to HIV prevention. Also, this finding supports the literature on HIV and education which says education enhances peoples' ability to modify their behaviour positively (World Bank, 2002).

However, even though, the likelihood for highly educated women to bargain for safer sex is high (World Bank, 2002), formal education may not be solely responsible for a woman's ability and willingness to insist or negotiate safer sex with a partner. Other factors including religious affiliation, fear of losing a partner and the desire to get pregnant may be responsible for a woman's willingness, ability and motivation to negotiate safer sex vis-à-vis her knowledge of HIV and educational level (Working Group on Higher Education (WGHE), 2006).

The promotion of safer sex the world over and for that matter Ghana has been done without considering the gendered landscape in which sexual relations are grounded (Adomako, 2006). Cultural norms, religious practices, traditions and societal values all play important roles when it comes to sexual relations of which the Tema Metropolis is of no exception. Education may motivate and enhance women's ability to negotiate and influence safer sex but may not be an end in itself when it comes to behaviour change through safer sex.

Table 5.16: Correlation between educational level and ability to insist on condom use.

		Level of education of respondent	Are you able and willing to insist that your partner use condoms, if needed?
Level of education of respondent	Pearson Correlation	1	.466
	Sig. (2-tailed)		.005
	N	326	326

Source: Author's field survey, May 2012.

**Correlation is significant at 0.01 level (2-tailed).

With regards to responses gathered from the respondents as to whether their various religious affiliations had had a positive impact on their sexual decisions, 252 (about seventy seven percent) said their decisions on sex had been positively influenced by their religious belief. With reference to Table 5.17, the sexual decisions and behaviour of majority of the respondents at all levels of religiosity had been positively influenced by their religious beliefs.

Table 5.17: Contingency table on level of religiosity and behaviour change

		Has your religious affiliation influenced your decisions about sex		Total s
		Yes	No	
Level of religiosity of respondents	Very	111	24	135
	Somewhat	101	35	136
	Not very	38	13	51
	Not at all	2	2	4
Total		252	74	326

Source: Author's field survey, May 2012.

To assess the relationship between religion and behaviour change, the correlation coefficient was computed. Table 5.18 shows the relationship between the respondents' level of religiosity and change in their sexual behaviour. Examining correlation coefficient $r(326) = .264$, $df=1$, $p=.031$ and an alpha level of .05, it indicates a statistically significant positive linear relationship between the two variables. Thus, the Pearson correlation coefficient (.264) computed with a p-value of .031 indicates a statistically significant positive linear relationship between level of religiosity of respondents (independent variable) and a change in their sex behaviour (dependent variable). Thus, the p-value of .031 indicates that the relationship between level of religiosity (independent variable) and ability and willingness to insist on condom use (dependent variable) is statistically significant, indicating that a respondent's level of religiosity to a certain degree influences her decision about having sex and for that matter safer sex decisions.

Table 5.18: Correlation between level of religiosity and behaviour change

		Level of religiosity	Has your religious affiliation influenced your decisions about having sex, positively?
Level of religiosity	Pearson Correlation	1	.264
	Sig. (2-tailed)		.031
	N	326	326

Source: Author's field survey, May 2012.

**Correlation is significant at 0.05 level (2-tailed).

Consequently, the study shows that religion and education are positively correlated with HIV knowledge and behaviour modification (defined broadly as adopting condoms, fidelity to a single partner, and sexual abstinence as a means to HIV prevention or forgoing risky sexual behaviours). However, when behaviour modification is defined narrowly as only adopting condom use as done globally by the World Bank, then education appears to have a stronger effect on behaviour modification than religion.

A logistic regression analysis was conducted to predict a change in sexual behaviour and decisions for the 326 respondents using education and religion as predictors. Creswell (2003) points out that logistic regression models the relationship between a prediction (dependent variable) and one or more predictors (independent variables) and allows us to look at the fit of the model as well as at the significance of the relationship between the predictors and the prediction that we are modelling. The researcher assigned the value of “1” to no education, “2” to Primary/Basic, “3” to Middle/JHS, Secondary/SHS, “4” to Technical/Vocational and “5” to University Degree/Tertiary for first independent variable (Education). ³The second independent

³ In the regression analysis, the coding of the degree of religiousness is the reverse of what is actually in the study questionnaire

variable (religion) was assigned the value “4” to very religious, “3” to somewhat religious, “2” to not very religious and “1” to not religious at all respectively. The dependent variable “has your HIV knowledge influenced your sexual decisions and behaviour” was assigned the value “1” to yes and “0” to no. The model for the logistic regression analysis was;

$$\text{Logit (P)} = \ln(P/1-P) = A + \alpha X + \beta Y$$

Where,

P = predicted probability of the event (behaviour change)

1-P = predicted probability of the other decision

A = a constant term (a person’s sexual behaviour with zero education and religion)

α = the coefficient of the level of education

β = the coefficient of the level of religiosity

X = level of education

Y = level of religiosity

With reference to Table 5.19, a test of the full logistic regression model against a constant only model was not statistically significant, indicating that the predictors (education and religion) as a set did not reliably influence behaviour change among the respondents (Chi-square = 3.087, df = 2, P = .214 (predicted probability of behaviour change), based on an alpha level of 0.1. The Nagelkerke’s R^2 of .015 indicates a weak relationship between the predictors and the prediction or dependent variable. Also, from the Cox & Snell results of .009, it points that 0.9 percent of the variation in the prediction is explained by the logistic model. Thus, religion and education in the logistic model together account for 0.9 percent change in sexual decisions and behaviour of

respondents. This may be indicative that other existing variables not in the model may also influence a change in sexual behaviour and decisions among the respondents.

Again, the Wald criterion demonstrated that religion ($p=.602$, $df =1$, based on an alpha level of 0.1) has no statistically significant effect on the prediction whereas education ($p=.088$, $df =1$, based on an alpha level of 0.1) has a positive but a weak statistically significant effect on the prediction. From Table 5.19 Exp(B) values indicates that for every one unit increase in educational level of a respondent, the likelihood of behaviour change increase slightly (by 1.18 times), after controlling for the other factors in the model. . Generally, the result from the logistic regression seems to indicate that education to some extent is a good predictor of behaviour change whilst religion is not a good predictor of behaviour change in relation to HIV prevention.

Table 5.19: Logistic Regression Analysis of behaviour change by education and religion

Predictor	B	SE β	Wald's X^2	df	P	e^{β} (odds ratio)
Constant	.630	.576	1.196	1	.274	1.877
Education	.167	.098	2.920	1	.088	1.181
Religion	.192	.368	.272	1	.602	1.211
Test			X^2	df	p	
Overall model evaluation						
Chi-square Test			3.087	2	.214	
Score test			3.180	2	.204	
Wald test			105.391	1	.000	
Goodness-of-fit test						
Hosmer&Lemeshow			.693	5	.983	

**Cox and Snell $R^2 = .009$ and Nagelkerke $R^2 = .015$

Source: Author's field survey, May 2012.

5.6 Knowing One's HIV Status

Knowing one's HIV status is very essential to HIV prevention because it may help individuals to make informative and decisive decisions in relation to sex (Kelly, 2003). Thus, knowing one's HIV status is essential to putting in place effective measures to avoid being infected and managing infected persons. The respondents were questioned on their willingness to take the HIV test to know their status with regards to their knowledge of HIV. Two hundred and twenty

seven (about seventy percent) of the respondents said they would not take the test while 99 (about thirty percent) said otherwise. This finding reveals that even though majority (325) of the respondents had knowledge about the disease, about seventy percent of them were unwilling to know their status. Also, out of the 326 respondents, 122 (about thirty seven percent) had tested for HIV before whereas 204 (about sixty three percent) had never tested. For those who had ever tested for HIV, about sixty seven percent of them were respondents who were married or were previously married. This may be due to the fact that in Ghana, many people are encouraged to know their HIV status before marriage. This finding reveals that most of the respondents of this study did not know their HIV status and were unwilling to get tested.

5.7 Discussion of findings

Findings from the study indicate that at all levels of analysis; univariate, bivariate and multivariate, education had influenced behaviour change positively among the respondent and therefore a relationship exists between education and behaviour change. That is, frequencies, percentages, correlation and regression analyses conducted all showed that education had influenced the behaviours of the respondents positively with regards to HIV prevention. However, with regards to religion, whereas univariate and bivariate analysis indicated that religion had influenced behaviour change positively, multivariate (regression) analysis showed that religion was not a good predictor of behaviour change.

The researcher also employed the use of both qualitative and quantitative analyses (mixed methods approach) in order to fulfil the study objectives. Narratives gathered direct from responses to the open-ended questions posed on religiosity and behaviour change revealed that more than seventy percent of the respondents had modified their sexual decisions and behaviour positively per their religious affiliation. Thus, the respondents' sexual decisions and behaviour had been influenced positively as also exhibited by results from the correlation analysis conducted although the logistic regression analysis revealed that religion is not a statistically good predictor of behaviour change in relation to HIV prevention. Also, responses gathered

qualitatively showed that majority of the respondents had correct HIV knowledge (HIV transmission modes, symptoms, and prevention methods) and had had certain misconceptions about HIV changed via education and religious teachings which supports findings from the quantitative analysis which indicated a near universal HIV correct knowledge among the respondents.

5.7.1 Linking the Conceptual Framework and the study findings.

The conceptual framework of the study looked at the relationship between education, religion and behaviour change in relation to HIV prevention. The framework postulated that a general basic education and religious beliefs on sex and sexuality may help an individual to gain the knowledge/information, motivation and the empowerment needed to change perceptions, make informed decisions and modify their sexual behaviour in relation to HIV prevention. Findings from the study support this assumption due to the fact that correlation analysis conducted revealed that education and religion with regards to HIV knowledge to some extent influences sexual decisions and behaviour of respondents positively. Also, regression analysis conducted indicated that education was a good predictor of behaviour change whereas religion may not be a good predictor of behaviour change statistically. Thus, majority of the respondents had adopted safer sex practices such as condom use, abstinence and making informed healthy sexual decisions.

Also, the framework suggested that between education, religion and behaviour change there are intervening variables that may aid in the process of behaviour change. Findings from the study showed that socio-cultural issues such as marital norms and negotiation skills of women come to play when it comes to condom use notwithstanding the educational or religious background of a respondent.

5.7.2 Implications of the Findings for the Development of the study Area

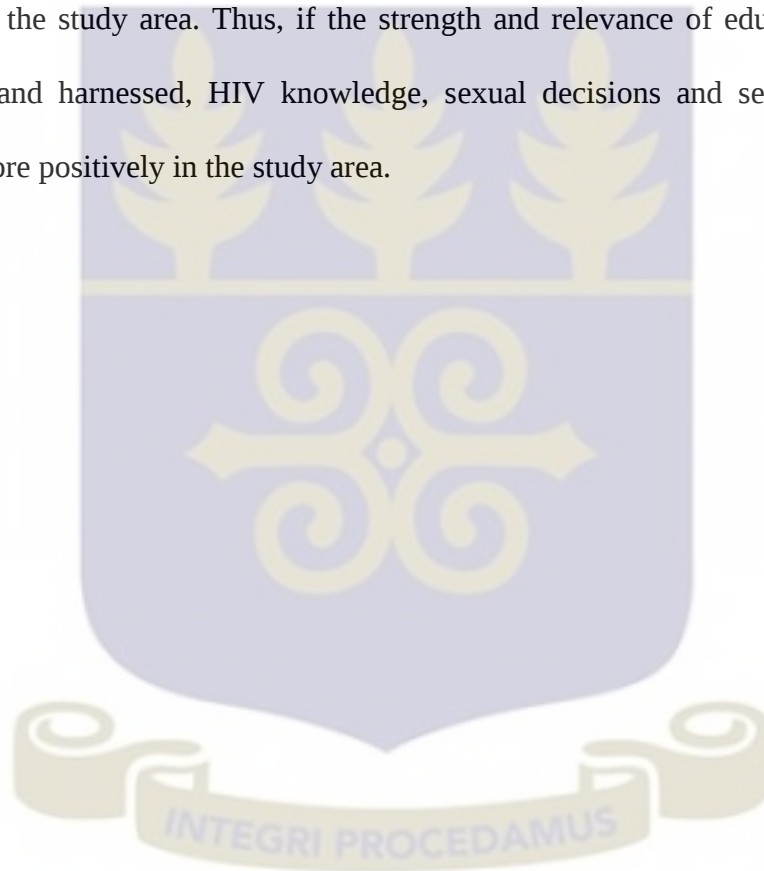
On the basis of the broad findings of the study, the following development implications can be drawn for stakeholders in Tema Community One and Lashibi. The study findings showed that formal education was high among the respondents, nearly 95 percent had had some level of education and their HIV knowledge, sexual decisions and behaviour had been positively influenced by their HIV knowledge gained through education. The World Bank (2002) has described a general basic education as an important preventive tool for HIV. Also, education in general has multiplier effects that can increase a society's socio-economic status and freedom of choice and consequently, lead to economic growth and development. Hence, the high education among the respondents may mean an avenue for behaviour change and HIV prevention and economic development of the area. The health service in the study area can therefore organize intensive skills-based educational programs to equip teachers in the area to be able to effectively impart and effect behaviour change among students. The comparative advantage of the mass media at reaching wider populations can also be explored to educate the general public in the study area to impart comprehensive correct knowledge about HIV for behaviour change.

Religion infuses meaning into an individual's knowledge, perceptions, decisions and behaviour. Findings from the study suggested that religion had to some extent played an important role in changing the sexual decisions and behaviour of the respondents in relation to their HIV knowledge. It is therefore evident that if religious bodies in the study area are brought on board in the planning of HIV programs and equipped, it will have far-reaching effect in complementing prevention efforts.

Also, findings of the study indicated that condom use for safer sex which is an integral part of behaviour change in HIV circles was low among the respondents. Just a little over one-fourth of respondents who were sexually active at the time of the study had ever used condoms. This may be an indication of low condom usage in Tema Community One and Lashibi. This could imply that condoms are not readily available universally, either free or at low cost in the study area or

that the respondents of the study had not internalized the comparative advantage of condom usage. Again, the study findings signified that although the respondents were willing to adopt condom use, they could only influence and not control its use. It will be therefore important for stakeholders in the area to promote safer sex by condom use considering the gendered landscape in Ghana within which sexual relations are grounded (Adomako, 2002).

Consequently, the findings of the research have shown that HIV knowledge gained through education and religious teachings can be an effective tool in behaviour modification and HIV prevention in the study area. Thus, if the strength and relevance of education and religion are drawn upon and harnessed, HIV knowledge, sexual decisions and sexual behaviour can be influenced more positively in the study area.



CHAPTER SIX: SUMMARY, CONCLUSION AND RECOMMENDATION

6.0 Introduction

This chapter summarizes the findings of the study. Conclusions, recommendations and direction for further research are also presented in this chapter. This study was undertaken in two communities in the Tema Metropolis in the Greater Accra region: Community One and Lashibi. The objectives of the study were: (i) to find the effects of education on the respondents' HIV knowledge, sexual decisions and sexual behaviour (ii) to assess the effects of religion on the respondents' HIV knowledge, sexual decisions and sexual behaviour. (iii) to examine the relationships between education and religion on HIV knowledge, sexual decisions and sexual behaviour among the respondents and (iv) to provide recommendations for policy formulation and further research.

6.1 Summary

6.1.1 Knowledge of HIV

All 326 (hundred percent) women who were surveyed had heard of HIV and knew what HIV is. More than three quarters of the respondents knew how the disease is transmitted, the symptoms of the disease and the fact that HIV is not curable. However, about six percent of the respondents claimed HIV is curable mainly through spiritual intervention, Western medicine and herbal medicine.

Majority of the respondents at all levels of education as well as those who had no education had correct knowledge of the disease. More than eighty percent of the respondents were well informed about the disease and had internalized the dangers of contracting the disease. It is interesting to note that, although about ninety five percent of the respondents had had some level of formal education, about sixty four percent of them had first-hand information about the

disease from the radio in contrast to twenty two percent who first heard of the disease from school. Also, about seventy five percent of the 309 respondents who had had some level of education had HIV lessons being part of their formal education at a point in time whereas it was otherwise for about twenty five percent of those respondents. Knowledge of HIV among the respondents had been gained through the mass media, friends/relatives and the school system.

6.2.1 Education and HIV

Education has been found over the years to be among the most efficient and effective tools for reducing the social and economic vulnerability that exposes women to a higher risk of HIV (World Bank, 2002). Findings from the study indicated that the respondents' knowledge of HIV had been enhanced through both the formal and informal forms of education. This was revealed by the fact that, more than three quarters of the respondents said their knowledge about the disease had corrected or changed certain wrong perceptions they had about the disease.

Again, about eighty one percent of the respondents stated that their knowledge of HIV had influenced and changed their decisions about sexual relations. About fifty two percent of the women mentioned the decision of sticking/being faithful to one partner as a positive influence that knowledge of the disease had had on them.

To some extent, owing to the fact that HIV knowledge was dominant among the respondents, more than three quarters of them knew what safer sex meant. Hence, their ability to list all the three key HIV prevention strategies which are condom use, sticking to one partner and abstaining from sex.

6.2.2 Religion and HIV

According to Aggleton (1996), religious criteria, beliefs and norms infuse meanings into sexual behaviour in society and thus, facilitate or impede both positive and negative changes concerning sexual relationships. Findings from the study indicated that many of the respondents had not had

any platform at their various religious group activities to learn and discuss HIV. Thus, HIV education by the religious groups of the respondents was not widespread. However, narratives gathered from direct responses from open-ended questions showed that majority of the respondents had been influenced positively by their religious groups in relation to their sexual decisions which include chastity and faithfulness to one's partner.

With the exception of respondents who were Catholics who formed about twenty four percent of the study sample, all other respondents from the various religious denominations/sects said condom use was permissible among their religious groups. Notwithstanding, findings from the survey suggest that among the religious groups that supported condom use, the consensus was that it should be used only among married couples.

6.2.3 Behaviour Modification

Behaviour modification in relation to HIV and AIDS prevention is narrowly defined by the World Bank (2008) as the ability to insist on condom usage during sexual intercourse as a way to avoid being infected with HIV and other STIs. Condom use among the respondents was low, out of the 251 respondents who had had sex before, 94 had ever used a condom. Majority of the respondents in the study could not insist on their partners using condoms whether they were educated or not. The study therefore revealed that education may be a means to HIV prevention but not an end in itself in this regard. Thus, the fact that the women were educated and consequently empowered to some extent did not mean their willingness and ability to bargain for safer sex by the use of condoms. Other economic and socio-cultural factors play an important role in sexual relations. For example, norms and practices that condone male promiscuity and control over women all play a part in determining a woman's capacity to bargain for safe sex. Most of the women felt they could not insist on condom use by their partner particularly when the partner was a husband or —a-to-be husband. This buttresses previous finding that most women in Ghana see sex as an inevitable part of a relationship with a man and feel obliged to

have sex with their boyfriends and partners when, and how the men want them to, even if they are unwilling (Adomako, 2002). Also, it supports the finding that many women erroneously believe their partners to be monogamous and thus may not consider themselves to be at risk and more so negotiate for safer sex (Adomako, 2006).

The study also tried to find out if there was a relationship between education and behaviour modification and religion and behaviour modification in relation to HIV prevention. Correlation analysis conducted revealed a statistically significant relationship between education and behaviour modification, and religion and behaviour modification. However, the logistic regression analysis showed that whilst education was a good predictor of behaviour change, religion was not a good predictor of behaviour change with regards to HIV prevention. Also, responses gathered from respondents of the study revealed that factors such as Ghanaian marital norms had an important role to play in determining a respondent's ability to negotiate safer sex. For instance, many of the respondents were of the view that their husbands had the final say in marital decisions and societal norms require women to obey and be submissive to the man even when it comes to decisions on sex. Thus, consequently, there may be other variables aside education and religion which influence sexual behaviour and decisions in relation to HIV prevention.

6.4 Conclusion

This research recognized the fact that religion and education generally to some extent have played vital roles in enhancing knowledge of HIV among the respondents of this study, affecting their sexual decisions positively, changing misconceptions they had about the disease and infected persons and to some extent, altering risky sexual behaviours amongst them. However, the study's findings indicate that the fact that a woman is educated and religious to a certain extent does not essentially mean her willingness and ability to modify her behaviour particularly with regard to sexual decisions. Thus, about one-fifth of the respondents at all levels of education

and religiosity had not modified their sexual behaviour in order to reduce their risk of being infected although they claimed to have knowledge about HIV and its consequences.

In this study, respondents who could not modify their sexual behaviour by sticking to one partner or abstaining from sex had the option of using condoms but they mentioned that their ability and willingness to use a condom or insist on a partner using a condom was not their prerogative for most of the time. Thus, from the responses gathered from respondents of the study, other factors such as Ghanaian marital norms had an important role to play in determining a respondent's ability to negotiate safer sex. For instance, many of the respondents were of the view that their husbands had the final say in marital decisions and societal norms require women to obey and be submissive to the man even when it comes to decisions on sex. There was also the question of how a respondent could insist on her partner using condoms when they are rightfully married. In this study, the respondents who had unfaithful partners and at the same time wanted to get pregnant had a dilemma as to how to modify their sexual behaviour or negotiate safer sex.

Consequently, many of the respondents based on their HIV knowledge were able to modify their behaviour when it came to decisions that involved only them but it was difficult modifying their sexual behaviour particularly when they were in a romantic relationship with men. Thus, behaviour change through safer sex decisions by the use of condoms was a problem for many of the respondents.

6.5 Recommendations

Education has been found to be among the most effective tools for reducing the social and economic susceptibility that exposes women to a higher risk of HIV than men. Girls' education can go a long way in slowing and reversing the spread of the disease by contributing to gender equality, women's empowerment, poverty reduction and an awareness of their human rights. Education generally enhances people's knowledge about the levels of infection in the population,

how HIV is transmitted and how to avoid contracting the disease. The knowledge acquired may induce some people who engage in high-risk behaviour to adopt safer sex behaviour.

With the growing recognition that attitudes and beliefs are formed early in life, more reproductive health programs must be implemented in primary schools with the primary objective of influencing students' behaviours before they become sexually active. Lessons about how HIV can be transmitted and prevented can be integrated into the Science, Social Studies and Moral Education curricula and also at all levels of education. It is important that these lessons focus on behaviour change rather than mere information provision.

Also, owing to the fact that the mass media including radio, television and print media has gained roots in the Ghanaian society and the fact that the study found out that about 74 percent of the respondents first heard and learnt about HIV from these sources, it is necessary to intensify HIV education and campaign on radios, television and in the newspapers in the fight against HIV. Mass media education on HIV may be one of the most powerful tools to behavioural change. Prime times on radio and television should be exploited advantageously to massively educate the public on HIV through documentaries, dramas, adverts, talk shows and other avenues available to compliment and strengthen already existing ones.

HIV lessons may have the objective of information exchange about the disease which may not necessarily alter high-risk behaviour of some people. Additionally, skills-based health education that aims at helping individuals develop the knowledge, attitudes, values and skills including interpersonal skills, critical and creative thinking, decision making and self-awareness needed to make sound health related decisions which has been integrated into the formal education system should be strengthened.

Condoms are highly effective in preventing HIV transmission. However, even people who are fully aware of the risks of HIV and of the protective benefits of condoms may not use them. The mention of the costs of condoms, quickly send signals of its price to many but the costs of

condoms include the potential inconvenience and embarrassment of obtaining and using one and for some people, reduced sexual pleasure. Measures must be put in place by stakeholders to reduce these costs of condom usage. This can be done through comprehensive education on the benefits of using condoms, improving access to condoms and technological improvements to increase sexual pleasure for its users.

Again, promotion and outreach activities are essential to create demand for and use of female condoms for HIV prevention. The Ghana AIDS Commission and for that matter the Government of Ghana should be ready to spend more money to subsidize female condoms, to enhance awareness and demand and beef up training women to use condoms correctly and consistently. Men should also be educated on the benefits of the female condom to them which includes the fact that the female condom is less prone to breakage, its use does not require an erection and there is no need to withdraw immediately after ejaculating.

Religion has played a role in how HIV is fought and viewed within respective social contexts since very early in the epidemic. Many religious groups are taking positive action to bring HIV information and support to individuals, families and communities but much work remains undone from the religious platform. The Ghana AIDS Commission should intensify efforts at drawing on the influence, strength and credibility of religious groups and leaders to shape social values with regards to sex and increase public knowledge about HIV and its prevention. For example, in Uganda, significant successes in preventing HIV have been made when Pastors and Imams from various churches and mosques around the country decided to include information about HIV in religious lectures. Religious groups in Ghana should be encouraged to redouble their efforts at including HIV education in their religious lectures and activities. Furthermore, religious organizations ought to be given more support in doing what they do best, namely promoting fidelity and abstinence from casual sex.

A number of future directions for research include a study that will look at both males and females for in-depth comparative analysis with regards to religion and education viz-a-viz behaviour change for HIV prevention. Also, the effect of varying demographic parameters such as sex and marital status on HIV and behaviour change deserves further inquiry.



REFERENCES

- Adomako A.A. (2002). “Does women’s education matter?: A case study of reproductive decision making from urban Ghana.” In Akosua Adomako Ampofo (2002) (Ed.) Teaching and learning in Ghana: Historical and contemporary perspectives; *Special Issue of Ghana Studies*, 5, 123-157.
- Adomako, A.A. (2006). “Intimate bargains: Sex workers and ‘free women’ negotiate their sexual space.” In Christine Oppong, Yaa P. A. Oppong and Irene Odotei (Eds.) Sex and gender in an era of AIDS: Ghana at the turn of the millennium. Accra, *Sub-Saharan Africa Publishers*: 137 – 167.
- Aggleton, P. (1996). Global priorities for HIV/AIDS intervention research. *International Journal of STD and AIDS*, 7(2): 13-16.
- Aggleton, P. (1997). *Success in HIV prevention*. England: AVERT.
- Agyei-Mensah, S. (2001). Twelve years of HIV in Ghana: Puzzles of interpretation. *Canadian Journal of African Studies*, 35, 441-72.
- Ahiadeke, C. (2008). *Research methodology: Theory and practice in the social sciences*. Accra: Sundel Services.
- Akwara, P. A., Fosu, B. G., Pav, G., Silvia, A., & Ani, H. (2005). *An in-depth analysis of HIV prevalence in Ghana: Further analysis of Demographic and Health Surveys data*. Calverton: ORC Macro.
- Ali-Akbar, V., Valerii, B., Moslem, B., Seyed-Javad, T., Arash, A., Amir, F., & Mohammad-Reza, M. (2007). Religious and cultural traits in HIV/AIDS epidemics in Sub-Saharan Africa. *Arch Iranian Med*; 10 (4): 486 – 497.
- Babbie, E. (1990). *Survey research methods*. Belmont, CA: Wadsworth Publishing Company.

- Barnett, T. & Whiteside, A. (2002). *AIDS in the twenty-first Century: Disease and globalization*. New York: Palgrave Macmillan.
- Bell, J. (2004). *Doing your research project: A guide to first-time researchers in education and social sciences*. Glasgow: Bell and Bain Ltd.
- Bharat, S. & Aggleton, P. (1999) Facing the challenge: Household responses to AIDS in India. *AIDS Care*, 11, 33-49.
- Blalock, H.M. (1960). *Social statistics*. New York: McGraw-Hill.
- Caldwell, J. (1995). *Rethinking the African AIDS epidemic*. Australia: Australian National University.
- Campbell, C.A. (1995). Male gender roles and sexuality: Implications for women's AIDS risk and prevention. *Social Science and Medicine*, 41(2), 197-210.
- Champion, D.J. (1970). *Basic statistics for social research*. Scranton: PA Chandler.
- Clarke, L. & Potts, M. (1988). *The AIDS reader: Documentary history of modern epidemic*. U.S.A: Brandon Publishing Company.
- Commission on HIV/AIDS and Governance in Africa. (2000). Africa: *The Socio-economic impact of HIV/AIDS*. Ethiopia: CHGA.
- Cornwell, A. (2005). *Gender in Africa*. United Kingdom: The International African Institute.
- Creswell, J.W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks. CA: Sage.
- Creswell, J.W. (2003). *Research design: Quantitative, qualitative and mixed methods approaches (2nd ed.)*. Thousand Oaks. CA: Sage.
- Dyson, T. (2004). HIV/AIDS and urbanization. *Population and Development Review*. Vol. 29, Issue 3.

- Elaine, M. Murphy. (2005). Promoting healthy behaviour. *Health Bulletin 2*, Washington DC: Population Reference Bureau.
- Fiaveh, D.Y. (2011a). *Male perspective on condom use: Implications for STI/HIV prevention*. Germany: Lambert Academic Publishing.
- Ghana Health Service.(2009). *Behavioural surveillance survey, 2006*. Accra, Ghana: National AIDS/STI Control Programme (NACP).
- Ghana Statistical Service (GSS), Ghana Health Service (GHS), ICF Macro. (2009). *Demographic and Health survey 2008*. Accra, Ghana: GSS, GHS, ICF Macro.
- Gifford, P. (1994). "Some recent developments in African Christianity". *African Affairs* 93:513-536.
- Glaeser E.L., & Sacerdote B.L. (2002). *Education and religion*. USA: Harvard.
- Greene, J.C., & Caracelli, V. J. (1997). *Defining and describing the paradigm issue in mixed method evaluation*. In Greene J.C., and Caracelli V.J. (Eds.), *Advances in mixed methods evaluation: The challenges and benefits of integrating divers paradigms* (5-17). San Fransisco: Jossey-Bass.
- Heise, L. & Elias, C. (1995). "Transforming AIDS prevention to meet women's needs: A focus on developing countries." *Social Science and Medicine*, 40(7), 933-943.
- Jenkins, C. (2002). *Situational analysis of HIV/AIDS in Papua New Guinea*: September, 2002 Global fund proposal.
- Kalipeni, E., Craddock, S., Oppong, J., & Ghosh, J. (2004). *HIV and AIDS in Africa: Beyond epidemiology*. U.S.A: Blackwell Publishing Ltd.
- Kelly, M.J. (2003). *The role of religion in HIV/AIDS epidemic (With special reference to Islam and Christianity*. New York: UNAIDS.

- Kelly, M. J. (2004). HIV/AIDS and education. *Newsletter, International Institute for Education Planning*, Vol. XXII, No. 2.
- Kinsey, R.T. (2007). *Knowledge versus power: Determination of condom use for haitan women*. Washington D.C: World Bank.
- Miller, W.R., & Thoresen, C.E. (2003). Spirituality, religion and health: an emerging research field. *Journal of Human Capital, University of Chicago press*, vol. 2(2), 188-215.
- Miller L., & Gur, M. (2002). Religiousness and sexual responsibility in adolescent girls. *Pubmed, Nov*; 31(5): 401-6.
- Ministry of Health.(2007). *HIV Sentinel Survey Report 2006*. Accra: Ministry of Health.
- Ministry of Health.(2009). *HIV Sentinel Survey Report 2008*. Accra: Ghana Health Service.
- Ministry of Health. (2009b). *National HIV Prevalence and AIDS Estimates Report, 2007-2012*. Accra: Ministry of Health.
- National AIDS Control Programme (NACP). (2004). *Report on AIDS Situation in Ghana, 2003*. Accra: Ghana Health Service.
- Neuman, W. L. (2004). *Basics of social research: Qualitative and quantitative approaches*. U.S.A: Pearson Education Inc.
- Newman, P.A., Duan, N., Rudy, E.T., Lee, S., Seidan, D.S., Kakinaih, & Cunningham W.E. (2006). HIV vaccine acceptability among communities at risk: The impact of vaccine. *Social Science and Medicine*, 24(12), 2094-2101.
- Nutbeam, D. (1997). Indicators of Adolescent Health: Expanding the Framework for Assessing Health Status among Young People. *Promotion and Education*. Vol. IV (4): 10-14
- Nutbeam, D. (1997). Promoting Health and Preventing Disease: An International Perspective on Youth Health Promotion. *Journal of Adolescent Health*, 20, 396–402.

- Oppong, C., Oppong, M.Y., & Odotei, I. (2006). *Sex and gender in an era of AIDS: Ghana at the turn of the millennium*. Accra: Sub-Saharan Publishers.
- Phiri, I. A., & Sarojini, N. (2006). *African women, religion and health: essays in honour of Mercy Amba Ewudziwa Oduyoye*. New York: Orbis Books.
- Planned Parenthood.(2004). *Safer sex*. U.S.A: Planned Parenthood Federation of America Inc.
- Poku, K. N. (2005). *AIDS in Africa: How the poor are dying*. U.S.A: Polity Press
- Rivers, K., & Aggleton, P. (1999). *Men and the HIV epidemic*. London: Institute of Education
- Sen, A. (1999). *Development in freedom*. New York: Anchor Books.
- Sheatsley, P.B. (1983). *Questionnaire construction and item writing*. Orlando: Academic Press.
- Sobo, E. (1995). *Choosing Unsafe Sex: AIDS risk Denial among Disadvantaged Women*. Philadelphia, PA: University of Pennsylvania Press.
- Sudman, S. (1983). *Handbook of survey research: Applied sampling*. New York: Academic Press.
- Svenson, G. (1998). *European guidelines for youth AIDS peer education*. Brussels: European Commission.
- Takyi, B. K. (2003). Religion and women's health in Ghana: insights into HIV/AIDS prevention and protective behaviour. *Social Science and Medicine*, 56, 1221-1234.
- Takyi, B.K., Gyimah, O. S., Tenkorang, Y. E., Adjei J., & Fosu, G. (2010). Religion, HIV/AIDS and sexual risk-taking among men in Ghana. *Journal of Biosocial Science*, 42, 531-547.
- Tema Metropolitan Assembly. (2009). *Development Plan 2006-2009*. Accra: Tema Metropolitan Assembly.
- Todaro, M. & Smith, S. (2009). *Economic Development*. England: Pearson Education Limited.

- Tweedie, I., Boulay, M., Fiagbey, E., Banful, A., & Lokko, K., (2002). Ghana's Stop AIDS Love Life Program Phase I: Evaluation Report February 2000 to June 2001. *The John Hopkins University, Bloomberg School of Public Health, Centre for Communication Programs.*
- Ulin, P., Cayemittes, M., & Metellus, E. (1993). *Haitian women's role in sexual decision-making: The gap between AIDS knowledge and behaviour change.* U.S.A: Family Health International.
- UN chronicle. (2004). Reaching Out on AIDS. *New York: United Nations.* Vol. xli, No. 1.
- UNAIDS. (2008). *A strategic approach: HIV and AIDS education.* Geneva: UNAIDS.
- UNAIDS. (2010). *UNAIDS report on the global AIDS epidemic.* Geneva: UNAIDS.
- UNAIDS. (2011). *Global HIV/AIDS response: epidemic update and health sector progress towards universal access.* Geneva: UNAIDS.
- UNAIDS.(2012). *World AIDS day report 2012.* Geneva: UNAIDS
- UNESCO.(2011). *UNESCO's strategy for HIV and AIDS.* France: UNESCO.
- UNICEF, UNAIDS, & WHO. (2002). *Young people and HIV/AIDS: Opportunities in crisis.* New York: WHO
- United Nations Department of Economic and social Affairs. (2009). *The Millennium Development Goals Report 2009.* New York: United Nations.
- United Nations Development Programme. (2000). *The Millennium Development Goals.* New York: UNDP.
- United Nations Development Programme. (2010). *Beyond the Midpoint: Achieving the Millennium Development Goals.* New York: UNDP.

- USAID. (2006). *Women's lives and their experiences: Changes in the past ten years*. America: DHS publications.
- WHO & UNAIDS. (2010). *Addressing violence against women and HIV/AIDS: What works*. Geneva: WHO
- WHO, UNICEF, &UNAIDS. (2009). *Towards universal access: Scaling up priority HIV/AIDS interventions in health sector. Progress report 2009*. Geneva: WHO.
- WHO, UNICEF, &UNAIDS. (2010). *Towards universal access: Scaling up priority HIV/AIDS interventions in health sector. Progress report 2010*. Geneva: WHO.
- Working Group on Higher Education (WGHE).(2006). *Higher education institutions in Africa responding to HIV/AIDS*. Accra: Association of Development of education in Africa.
- World Bank (2002). *Education and HIV/AIDS: A Window of Hope*. World Bank, Washington D.C: World Bank.
- World Bank. (2000). *Intensifying action against HIV/AIDS in Africa: Responding to a development crisis*. Washington D.C: World Bank.
- World Bank.(2006). *The Africa multi-country AIDS programme (2000-2006)*. Washington D.C: World Bank.
- World Bank. (2008). *The World Bank's commitment to HIV/AIDS in Africa: Our agenda for action (2007-2011)*. Washington D.C: World Bank.
- World Health Organization. (2003). *The world health report 2003: Shaping the future*. Geneva: WHO.
- Wyatt, G., Vargas, C., Loeb, T., Chin, D., & Gordon, G. (2000). Factors affecting HIV contraceptive decision-making among women. *Sex Roles* 42 (7/8), 495-521.

APPENDIX I

List of Enumeration Areas in Community One and Lashibi

Community One	Lashibi
Site 1	Lashibi Zongo
Site 2	Konkonsa
Site 3	Shalom Spot
Site 4	Vivian farm
Site 5	Highways
Site 6	FM
Site 7	Gas
Site 8	Transformer
Site 9	Roundabout
Site 10	Standard
Site 11	School junction
Site 12	
Site 13	
Site 14	
Site 15	
Site 16	
Site 17	
Site 18	
Site 19	
Site 20	

Source: Planning Unit, Tema Metropolitan Assembly, 2012.

APPENDIX II

Effects of education and religion on HIV knowledge and behaviour modification among women in the Tema Metropolis.

SURVEY QUESTIONNAIRE

Introduction

Good morning/afternoon. I am an Mphil student at the Institute of Statistical, Social and Economic Research (ISSER), University of Ghana, Legon. As part of my studies, I am doing a survey in your area where I want to ask you some questions regarding education, religion and HIV. Your replies will serve to improve HIV prevention strategies in Ghana. I do not sell anything; I do not work for government. The interview will take approximately 45 minutes. The answers given will be kept absolutely confidential and anonymous. I do not retain your personal data and will not give personal information to anyone. You can decide to participate or not in this survey but I would really appreciate it if you could spare some of your time for this interview. Thank you very much.

ID # of Questionnaire

Date

Name of Community

Section One: Demographic characteristics of respondents

1. Age

2. Level of education completed

- 1.None 2. Primary/Basic 3.Middle/JHS 4.Secondary/SHS5.Technical/Vocational
6. University Degree/Tertiary 7. Other (specify).....

3. Religion

1. Christian 2. Islam 3. Other (specify).....

4. If Christian, which denomination?

5. If Moslem, which sect?

6. Marital status

1. Single/Never married 2. Married 3.Divorced 4.Separated 5. Widowed

7. What kind of work do you do?

1. Professional/Technical/Managerial 2. Administrative/Clerical 3. Sales/Vending
4. Service 5. Agricultural 6. Production 7. Other (specify).....
8. Income Level per month
1. Less than GHC 200 2. GHC 200-500 3. GHC 501-1000 4. More than GHC 1000

Section Two: Knowledge/Perception about HIV

9. Have you heard of HIV?

1. Yes 2. No 3. Don't Know

10. Can people get HIV because of witchcraft or other supernatural means?

1. Yes 2. No 3. Don't Know

11. How does one get HIV? (tick as many).

1. Unprotected sex with person who is HIV+ 2. Transfusion with infected blood
3. Shaking hands with person who is HIV+ 4. From HIV+ pregnant mother to unborn child
5. Insect bites 6. Kissing an infected person 7. Hugging an infected person 8. Sharing sharp edges such as blade with an infected person.
10. Sharing food with HIV infected person 11. Other (specify).....

12. What are some of the symptoms of HIV? (List as many)

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.....

13. Is HIV curable?

1. Yes 2. No 3. Don't know

14. If Yes, by what means?

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.....

15. What can a person do to avoid getting HIV (tick as many).

1. Nothing 2. Abstain from sex 3. Use condom during sexual intercourse 4. Have only one uninfected sex partner 5. Avoid sharing needles and sharp edges 6. Other (specify).....

16. Can HIV be transmitted from a mother to her baby?

1. Yes 2. No 3. Don't know

17. Should people living with HIV be kept away from people who are not infected?

1. Yes 2. No 3. Don't know

18. If yes, why?

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.....

19. If no, why?

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.....

20. Is it possible for a healthy looking person to have HIV?

1. Yes 2. No 3. Don't Know

21. Have you heard of other disease(s) apart from HIV which could be transmitted through sexual intercourse?

1. Yes 2. No 3. Don't know

22. If yes, what disease(s)?

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.....

.....

Section Three: Education and HIV

23. From which source did you first hear of HIV

.....

24. From which sources of information have you learned about HIV? (tick as many)

1. School/Teacher 2. Television 3. Radio 4. Family/Home 5. Newspaper/Magazine 6. Friend 7. Church 8. Mosque 9. Other(specify).....

25. Has HIV lessons been part of any subject/course outline in your formal education?

1. Yes 2. No 3. Don't know

26. Has your knowledge of HIV changed any wrong perception you had about the disease?

1. Yes 2. No 3. Don't know

27. If yes, what perception?

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.....

28. Has your knowledge of HIV influenced your decisions about sexual relationships?

1. Yes 2. No 3. Don't know

29. If yes, in what way?

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.....

30. What does "safe sex" mean to you?

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.....
.....

31. In the last three (3) months, have you discussed the issue of HIV with your family, friends, or neighbors ?

1. Yes 2. No 3. Don't Know

32. If yes, with whom?

.....

33. What are your chances of getting HIV?

1. No risk at all 2. Small 3. Moderate 4. Great

34. Why?

1. Has one partner 2. Always use condoms 3. Trust partner 4. Never had sex
5. Other (specify).....

Section Four: Religion and HIV

35. What is your level of religiosity?

1. Very 2. Somewhat 3. Not very 4. Not at all religious

36. Has your religious affiliation at any point in time taught you about HIV and its prevention?

1. Yes 2. No 3. Don't know

37. Has your religious affiliation influenced your decisions about having sex?

1. Yes 2. No 3. Don't know

38. Does your religious affiliation frown on condom use?

1. Yes 2. No 3. Don't Know

39. If yes, why?

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.....
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40. Does condom use encourage immorality?

1. Yes 2. No 3. Don't Know

Section Five: Condom Usage and Behaviour Modification

41. Do you know about condoms?

1. Yes 2. No 3. Don't Know

42. Do you know of any place or person from which you can obtain condoms?

1. Yes 2. No 3. Don't know

43. Where or from which person can you obtain condoms?

1. Pharmacy 2. Hospital 3. Bar/Guest house/hotel 4. Friend/Relation 5. Shop
4. Other (specify).....

44. Have you had sex before?

1. Yes 2. No 3. Don't Know

45. Are you currently sexually active?

1. Yes 2. No 3. Don't Know

46. Do you use condoms?

1. Yes 2. No 3. Don't Know

47. If yes, why do you use condoms?

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..

48. If you use condoms, do you have any problems getting them?

1. Yes 2. No 3. Don't Know

49. If yes, what are the problems?

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..

50. Are you currently married or living with a man?

.....
...

51. Do you currently have

1. A regular sexual partner 2. An occasional sexual partner 3. No sexual partner at all

52. When was the last time you had sexual intercourse (if ever)?

1. Days ago 2. Weeks ago 3. Months ago 4. Years ago 5. Never 6. Don't know

53. With whom did you have the last sexual intercourse?

1. Husband/Regular sexual partner 2. Occasional sexual partner
3. Total stranger (someone you met for the first time)

54. Who initiated the sex act the last time you did?

1. Myself 2. My partner 3. Don't Know

55. The last time you had sex, was a condom used?

1. Yes 2. No 3. Don't know

56. Who initiated condom usage the last time you had sex (if you did)?

1. Myself 2. My partner 3. Don't Know

57. Is it necessary to take "safe sex" precautions when you are having sex with just one partner or someone you know well?

1. Yes 2. No 3. Don't Know

58. If yes, why?

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59. If no, why?

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60. Are you able to insist that your partner use condoms, if needed?

1. Yes 2. No 3. Don't Know

61. If yes, why?

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62. If no, why?

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63. Will you use a female condom to protect yourself if need be?

1. Yes 2. No 3. Don't Know

64. If no, why?

1. Religious beliefs 2. Partner refuses 3. Can't afford/expensive 4. Side effects
5. Difficult to use 6. Not sexually active 7. Encourages promiscuity
8. Other (Specify).....

65. Within the past two months, have you had sex with someone who is not your regular sexual partner?

1. Yes 2. No 3. Don't Know

66. If yes, who is this person?

1. Newly married partner 2. New boyfriend 3. Someone who paid/rewarded me for the sex other
4. Other (specify).....

67. If yes, did you use a condom with the sex partner you had sex with the past two months?

1. Yes 2. No 3. Don't Know

68. Why

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69. If you have had sex within the last two months, do you think the sexual partner involved is likely to give you a risk of being infected with HIV?

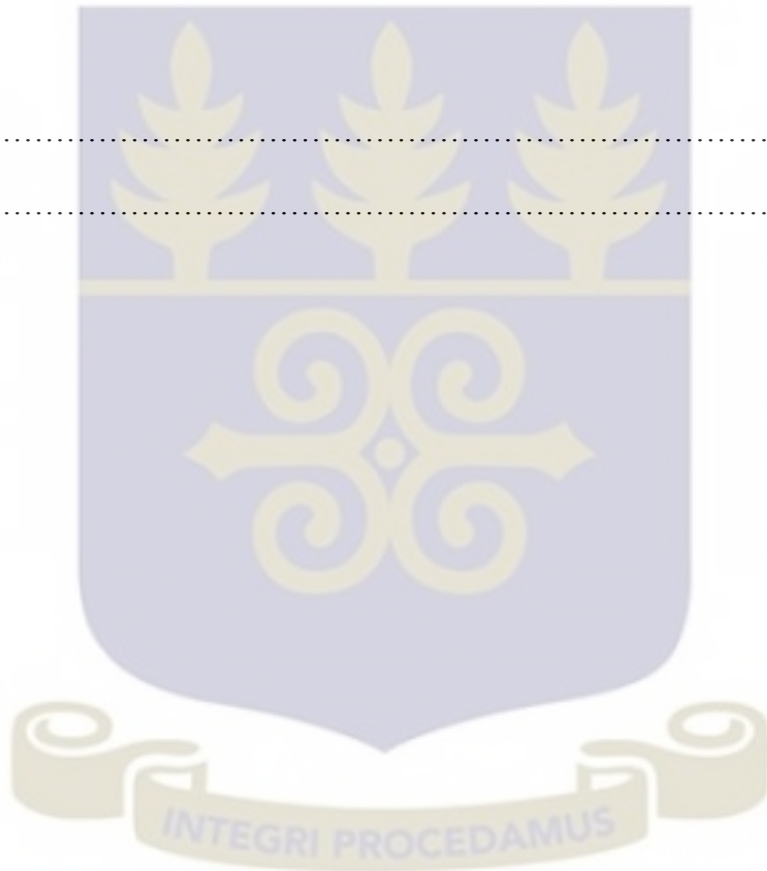
1. Yes 2. No 3. Don't Know

70. Why?

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.....



APPENDIX III

TEMA METROPOLITAN AREA

