

UNIVERSITY OF CAPE COAST

FACTORS ASSOCIATED WITH THE DECLINE IN HIV AND AIDS  
PREVALENCE RATE IN VOLTA REGION OF GHANA

BISMARCK TSORHE

2012

UNIVERSITY OF CAPE COAST

FACTORS ASSOCIATED WITH THE DECLINE IN HIV AND AIDS  
PREVALENCE RATE IN VOLTA REGION OF GHANA

BY

BISMARCK TSORHE

Thesis submitted to the Department of Health, Physical Education and Recreation of the Faculty of Education, University of Cape Coast in partial fulfilment of the requirements for award of Master of Philosophy Degree in Health Education

JUNE 2012

## DECLARATION

### **Candidate's Declaration**

*I hereby declare that this thesis is the result of my own original research and that no part of it has been presented for another degree in this university and elsewhere.*

Candidate's Signature..... Date.....

Name: Bismark Tsorhe

### **Supervisors' Declaration**

*We declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis work laid down by the University of Cape Coast.*

Principal Supervisor's Signature..... Date .....

Name: Dr. B. L. Boateng

Co-supervisor's Signature ..... Date .....

Name: Dr. J. K. Ogah

## **ABSTRACT**

The research aims at finding out the opinion of health and medical personnel in the Volta Region about the factors that contributed to the decline in HIV and AIDS prevalence rate in the region from 2006 to 2008. Three research questions were asked to guide the review of related literature on the above mentioned research topic.

Simple random sampling was used to select 10 hospitals in the region for the study. Simple random sampling technique was used to select 250 respondents, thus 25 from each of the hospitals sampled. Questionnaire was the main instrument for data collection which consisted of 30 close ended items. Percentages and frequencies were used to analyze the data collected.

The study revealed that in the opinion of 82.7% of health and medical personnel who responded to the questionnaire indicated that behaviour change contributed highly to the decline of HIV and AIDS prevalence rate in the Volta Region. Also, 84.4% and of 99.6% of the respondents agreed that specific HIV and AIDS interventions and HIV and AIDS education respectively contributed highly to the reduction in HIV prevalence rate in the Volta Region. The recommendations made were that the government and non-governmental organizations must intensify their strategies that are geared towards the behavior change of their members. They must also carry out specific intervention strategies to curb HIV and AIDS.

## **ACKNOWLEDGEMENTS**

I express my gratitude to my principal and co-supervisors Dr. B. L. Boateng and Dr. J. K. Ogah respectively for their patience, corrections and guidance which helped me to complete this research work. I also acknowledge the contributions of my co-tutors who helped in reading through the script. Also, I wish to thank my students who helped me to retrieve some of the questionnaire from the respective hospitals.

## **DEDICATION**

To my dear mother, Mrs. Celestine Adokumah–Tsorhe, my late father, Mr. Solomon K. Tsorhe, my siblings and friends especially Stella.

## TABLE OF CONTENTS

	Page
DECLARATION	ii
ABSTRACT	iii
ACKNOWLEDGEMENTS	iv
DEDICATION	v
LIST OF TABLES	ix
CHAPTER	
ONE INTRODUCTION	1
Background to the Study	1
Statement of the Problem	5
Purpose of the Study	6
Research Questions	6
Significance of the Study	7
Delimitation of the Study	7
Limitations of the Study	7
Definition of Terms	8
Organization of the Rest of the Study	9
TWO REVIEW OF RELATED LITERATURE	10
Behaviour Change	11
Specific HIV/AIDS Intervention	26
HIV/AIDS Education	64
Summary	78

THREE RESEARCH METHODOLOGY	81
Research Design	81
Population	82
Sample Size and Sampling Techniques	84
Instruments for Data Collection	88
Pre-testing of Instruments	90
Validity and Reliability of Instruments	90
Data Collection Procedure	91
Data Analysis	92
FOUR RESULTS AND DISCUSSIONS	94
Research Question 1: To what extent could behaviour change help people in the Volta Region to reduce the spread of HIV/AIDS infection?	95
Research question 2: To what extent could specific intervention strategies help people in the Volta Region to reduce the spread of HIV and AIDS infection?	102
Research Question 3: To what extent could HIV/AIDS Education help to reduce the spread of the disease in Volta Region?	107
FIVE SUMMARY, CONCLUSIONS AND RECOMMENDATION	111
Summary	111
Findings	113
Conclusions	113
Recommendations	113
Suggestions for Further Research	114



REFERENCES	115
APPENDICES	128
A: Questionnaire for Health and Medical Personnel	129
B: Letter of Introduction from the Department of Health, Physical Education and Recreation	136
C: Letter of Introduction from St Teresa's College	137

## LIST OF TABLES

Table	Page
1 Frequency and percentage distribution of respondents by sex	85
2 Frequency and percentage distribution of respondents by age	86
3 Frequency and percentage distribution of respondents by profession	86
4 Frequency and percentage distribution of respondents by marital status	87
5 Frequency and percentage distribution of respondents by academic qualification	87
6 Frequency and percentage description of respondents' professional experience	88
7 Medical/health personnel opinion about how behaviour change helped people in the Volta Region to reduce the spread of HIV/AIDS from 2006-2008	94
8 Health/medical personnel opinion about how specific interventions helped people in the Volta Region to reduce the spread of HIV/AIDS from 2006-2008	101
9 Health/medical personnel opinion about how HIV/AIDS education helped people in the Volta Region to reduce the spread of HIV/AIDS from 2006-2008	106



## **CHAPTER ONE**

### **INTRODUCTION**

#### **Background to the Study**

Historically, man's basic health concern was to eradicate diseases, particularly infectious diseases. In the 1950s, however, there had been improvements in public sanitation, the use of antibiotic drugs, and use of vaccinations as preventive therapy, which had led to a drastic reduction in the number of people who died from infectious diseases (Hahn & Payne, 2003).

According to Daniel (1996), Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (HIV/AIDS) has been considered the world's most serious health concern since the deadly disease, plague, killed one third of the population of Europe within the 14th century. He continued to say that unless something was done about HIV/AIDS, every person with the disease would finally die, since there was neither cure nor vaccine for the disease. The first case of AIDS was recognized in 1981 in America among young homosexual men (Adler, 1987). The cause and modes of transmission of AIDS were not known immediately after it was discovered. HIV was discovered in 1983 to be the virus that causes AIDS. Despite the fact that it is now known that HIV is responsible for causing AIDS, the origin of the disease is not known.

Some communities have been able to reduce the spread of HIV, but no community has been able to stop its spread (Lankinem, Bergstom, Makela & Peltomaa, 1994). HIV continues to spread from person to person in the Caribbean, and Central and

South America. By early 1993, HIV infected people in Africa had increased about five times, from 2.5 million to over 12 million within 6 years.

Currently, AIDS is not curable, but it can be prevented (Insel & Roth, 2002). One can protect himself by avoiding behavior that may expose him to the disease. This can be done through the making of good life choices about sexual behaviour. Avoidance of sharing of sharp objects can also help to prevent HIV/AIDS.

An HIV infected person shows no symptoms for years, but the disease will develop to its final stage called AIDS, which is characterized by several signs and symptoms (Williams, 1993). Symptoms of AIDS may vary from person to person. An individual who develops AIDS may show symptoms such as fever, headache, rashes, weight loss, fatigue and loss of appetite.

According to Hubley (1995) sexual intercourse with an infected person is the most common mode of HIV/AIDS transmission. Both vaginal and anal intercourse where the penis penetrates the vaginal or anus respectively can lead to the spread of HIV/AIDS. Artificial insemination can also lead to the spread of HIV/AIDS. An individual can be infected when he has sexual intercourse with an infected person. HIV/AIDS can also be transmitted through other means such as blood transfusions, and by sharing sharp and piercing objects.

There is no known cure for HIV/AIDS, however, medicines are available which can reduce the viral load, and also extend the life of an individual (Insel & Roth 2002). The antiretroviral drugs slow down the ability of the virus to multiply itself. For antiviral drugs to be effective, they are normally used in combinations called highly active centre viral therapy. Although, the antiretroviral therapy reduces the viral load in an infected person, it does not completely remove the virus, hence that individual still carries potentially transmissible HIV in his body.

The Acquired Immune Deficiency Syndrome (AIDS) is a disease which is caused by Human Immunodeficiency virus (HIV), which presents itself in two forms – HIV – 1 and HIV – 2 (Lankinen et al., 1994). In 1991, Sexually Transmitted Diseases (STDs) were of one of the ten leading causes of death in the United States of America (USA), particularly because of the high number of people who died from HIV/AIDS (Willis, 2002). However, the disease dropped from the ten leading causes of death in USA in 1998 because of the various drugs available to reduce deaths caused by HIV/AIDS. Willis further stated that it has been estimated that 1:1000 of the people in Central Africa has HIV, which is ten times the number of people infected with the disease in United States of America (USA).

Generally, women are more susceptible to HIV/AIDS infection (12 times susceptible than men in cases where the mode of transmission is sexual intercourse (Hahn & Payne, 1997). This is because there is higher concentration of HIV in semen than vaginal secretion.

Factors such as stigmatization and discrimination put more burdens on people living with HIV/AIDS. The stigma and negative opinions held about people who are infected with HIV/AIDS as well as social and economic burdens, create serious health problems that cannot be handled by only focusing on disease process (Fauiger & Hicken).

In Sub Saharan Africa, about 22 million people were living with HIV in 2007 (UNAIDS Health, 2009). About 1.5 million people in Africa died from AIDS in 2007 alone, leaving behind about 11.6 million orphans. In Ghana, 260,000 people were living with HIV/AIDS in the same year. Out of the 260, 000 infected people in Ghana, 150, 000 and 17,000 infected people were women and children, respectively. Moreover, about 21, 000 people died from AIDs in 2007 alone leaving about 160,000 orphans

behind. More than 2.5 million people were, however, infected with HIV worldwide in 2007 alone (UNAIDS Health, 2009). It was estimated that 33 million people were living with HIV/AIDS by the end of 2007. This year 2007 also registered 2 million deaths from AIDS in the world, even though there has been significant improvement in access to antiretroviral treatment.

The youths are most affected population as far as HIV/AIDS is concerned. In Ghana, 15 to 49 year group are mostly infected with the disease (Addo, 2009). These are the people who represent the highest productive group in the country. This, therefore, poses serious threat to both the private sector and the national economy.

In view of this, it is important for every nation to design strategies that will focus on how to prevent HIV/AIDS. In Ghana, fostering safer sexual practices, particularly among high risk groups as well as treatment and management of sexually transmitted infections (STIs) are some of the ways of guarding against new infection of HIV. To be able to prevent new infections, condom accessibility, availability and affordability need to be promoted. Awareness creation can also help curb new infection.

According to Addo (2009), HIV prevalence rate in Ghana declined from 1.9% in 2007 to 1.7% in 2008. Moreover, the 25 to 29 year group recorded the highest prevalence rate. Three Regions, Volta, Western and Upper – East Regions recorded a steady decline since 2006. They also stated that in 2008, HIV/AIDS site prevalence found that North Tongu again recorded 0.0% prevalence rate, while Agomenya recorded 8.0% prevalence rate.

A search of the available literature showed that in the past, studies on ways of preventing the spread of HIV/AIDS covered abstinence, condom use, delay in having sex, mutual faithfulness and avoidance of sharing sharp objects (Hahn & Payne, 1997; Willis, 2002). However, no study has been focused on the factors that have led to the

steady decline of HIV/AIDS prevalence rate in Ghana. This study was designed to fill the gap. It investigated the factors that have led to steady decline of HIV/AIDS in Volta Region.

### **Statement of the Problem**

Ghana AIDS Commission sets targets for reducing new HIV infections, tackles individual and societal susceptibility by using divergent and effective approaches (USAID, 2010). Multilateral and bilateral partners as well as Non- governmental organizations (NGOs), effectively get themselves involved in the national response of HIV/AIDS prevention. The Ministry of Education, Youth and Sports also introduced HIV/AIDS Education in the Colleges of Education in early 2000. This is to provide Teacher Trainees with knowledge and skills that will enable them to teach the HIV/AIDS in basic schools.

In Ghana, HIV/AIDS infection rate had dropped for the first time in five years in 2003 from 3.6% to 3.1%. Since then, there has been a steady decline in HIV prevalence rate in Ghana. From 2006, Ghana's HIV prevalence rate declined from 2.2% to 1.9% in 2007. (Society of West Africa – Ghana – PANAFRICA – Health, 2008). Ghana HIV prevalence rate dropped again from 1.9% in 2007 to 1.7% in 2008 (Addo, 2009). Three regions (Volta, Western and Upper -East regions) recorded a steady decline since 2006. Ability to either reduce or maintain the current HIV/AIDS level in the regions will basically depend on how knowledgeable Ghanaians are on the factors that promote the spread of the disease, and also research into those factors. Addo also talked about Ghana Health Service's annual report in 2009, which states that HIV prevalence rate among women attending anti-natal clinic in Volta Region also experienced a steady decline in 2007 and 2008, thus 2.0% to 1.7% respectively. These declines were attributed to a number of factors that need to be investigated and have prompted this study.



## **Purpose of the Study**

The purpose of the study is to ascertain the perceptions of health personnel on the factors that are responsible for the steady decline of HIV/AIDS in Volta Region from 2006 to 2008.

## **Research Questions**

The study is guided by the following research questions:

1. To what extent did behaviour change help people to reduce the rate of HIV/AIDS in the Volta Region?
2. To what extent did specific intervention strategies help reduce the rate of HIV/AIDS in the Volta Region?
3. To what extent did HIV/AIDS education help to reduce the rate of HIV/AIDS in the Volta Region?

## **Significance of the Study**

Findings from the study would contribute toward a clearer understanding and knowledge about the HIV/AIDS preventive measures that are practiced by Ghanaians which will help health educators and promoters to educate people more on other preventive methods and also promote them.

Secondly, the findings will put into public domain, whether factors mentioned above are responsible for the steady decline of HIV/AIDS or other factors such as deaths from AIDS. This would be useful to Ghana AIDS Commission and Ghana Health Service to intensify their intervention procedures as well as improve on them.

Appropriate suggestions and recommendations aimed at correcting people's misconceptions about the preventive measures would be made. Finally, the findings may open up other areas for further research on HIV/AIDS.

### **Delimitation of the Study**

The study covered 10 hospitals out of 25 hospitals in the Volta Region. The study was concerned with whether Ghanaians prevent the spread of HIV/AIDS through the various preventive means mentioned in the research questions. Therefore, the subjects of the study include health personnel who carry out the various interventions to prevent the spread of the disease. The study covered the period from 2006 to 2008 only. Even though, the scope of the study has been narrowed for inadequate time, it is hoped that some generalization can be made.

### **Limitations of the Study**

The major limitation faced was about the difficulty faced before I was permitted to administer the questionnaire to the respondents in some facilities, even though the researcher went to such facilities with an introductory letter from his department. This delayed data administration process. Also, I could not get data on the total number of doctors, nurses and pharmacists during the time of the study. Data was also not available on the gender of the health and medical personnel in some of the hospitals. This affected gender sensitivity during the sampling process. Again, since the study covered 2006 to 2008, there is a possibility that the respondents may forget some of the intervention strategies used to reduce the decline in HIV/AIDS prevention in the region. This may lead to some degree of inaccurate responses.

### **Definition of Terms**

Acquired: It means that you get the disease from somewhere else.

Deficiency: Lack of protection.

Discrimination: Preventing the person from taking part in some activities because of an observed condition.

Human: This means the virus is mainly found in human.

Homosexual: Man who has sexual intercourse with a fellow man.

Immune: This means the body's ability to fight sickness.

Immunodeficiency: Lack of protection against the HIV

Stigmatization: The powerful and discrediting social tag that radically changes the way individuals view themselves and are viewed by other persons.

Syndrome: A group of sicknesses that occur together when one contracts AIDS

Caesarian section: A surgical operation conducted on an HIV infected mother who is in to remove and save the baby

Counseling: A dialogue between a client and a service provider where the service provider provides alternative suggestions and helps the client to make an informed choice.

Virus: A germ that causes a disease.

Vertical Transmission of HIV: Mother-to-child transmission of HIV.

### **Organization of the Rest of the Study**

The rest of the study has been divided into four main chapters. Chapter two dealt with the review of literature relevant to the study. The views, findings, and suggestions made by earlier researchers on the topic for the study have been reviewed to support points raised in the study. Chapter three discussed the methods and techniques that were used to collect the data. Chapter four focused on analysis of data and discussions of findings and chapter five dealt with summary, conclusions and recommendations for the study.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

The study was intended to find out from medical and health personnel about the factors responsible for the steady decline of HIV/AIDS prevalence rate in the Volta Region of Ghana from 2006 to 2008. The review is divided into the following sub-headings:

1. Behaviour change
2. Specific HIV Interventions
3. HIV/AIDS Education

HIV/AIDS related issues have attracted the interest of many researchers all over the world. The review of literature covers step by step identification and analysis of documents that contain issues that are related to the research problem. A review of literature related to the subject under study would serve as a basis of conceptual

framework for the study. This will help to examine the factors responsible for the steady decline of HIV/AIDS in the Volta Region of Ghana. The purpose of this literature review is partly to provide a framework that will constitute the criteria for determining similarities and differences between the current survey and those of other identifying some of the variables that will be used to examine medical and health personnel opinion about the factors that contribute to the steady decline of HIV/AIDS.

### **Behaviour Change**

People who have sexual intercourse should use condom always because latex condom offers a high degree of protection against HIV (Insel, Roth, Rollins & Peterson, 1997). They went on and stated that condoms should also be used during oral sex. Experts recommend squares and dental dams, or rubber devices that provide barriers during oral, genital or anal sexual contact. Condoms that contain spermicides nonoxynol-9 may provide additional protection since spermicides kill HIV. If condoms are consistently and correctly used during vaginal, anal and oral sexual activities, they can drastically reduce an individual chance of acquiring as well as transmitting HIV to others (Hair, 2010) STIs create a lot of problems to the individual and the society, therefore, it is crucial to protect oneself and others against it.

According to WHO (2005), when condoms are used always and correctly during sexual intercourse, they are highly effective in preventing the spread of HIV and other sexually transmitted diseases. They went on and stated that researches have shown that correct and consistent use of condoms can help to reduce HIV and other STIs to 80% or more. Therefore, condoms are a major component of comprehensive HIV prevention programme. In case you cannot abstain or practice mutual faithfulness, the other best methods to protect yourself against the infections of sexually transmitted diseases is the

use of latex condom during sex (Robbins, Powers & Burgess, 2002). They however pointed out that though condom use is not 100% safe in preventing STDs, if used correctly, it can reduce the risk up to 98%. Mostly, condoms fail as a result of incorrect or inconsistent use. However, few people know how condoms are used, leading to more than 40% failure rate.

Mutual faithfulness is one of the effective ways of preventing the spread of HIV/AIDS. If you limit the sexual partners you have, taking into consideration their past sexual behavior can also limit your risk of contracting HIV (Insel & Roth, 2006). They also pointed out that questioning a partner about his previous sexual activities can be useful to the health of the individual, though, you cannot rely on such information always. Having sexual intercourse with only one partner who is mutually faithful and not infected is a safe alternative as far as HIV/AIDS prevention is concerned (Williams, 1993). The risk of HIV infection increases tremendously when one has sex with multiple sex partners. He went ahead to state that sexual relationships are things that involve a partner, therefore, you have a duty to protect yourself and your partner to form the habit of practicing safer sex because the dangers of not doing so by far outweigh the benefits.

According to Green (2003), most commonly reported sexual behavior change among married people is to restrict sex to one's spouse. For you to be sure that you are safe, you need to know your partner's infection status as well as his monogamous status (Sizer-Webb, Whitney & Debruyne, 1999). If you reduce the number of sexual partners over your lifetime and choose a partner who has had fewer sexual partners, it can help translate into less exposure to the danger of contracting STDs ( Rice, 1998).

Abstinence offers the highest degree of protection from HIV (Hahn & Payne, 2003). This is because HIV can spread very fast through unprotected sexual intercourse, which involves exchange of human body fluids such as semen and vaginal secretions.

HIV is easily transmitted through unprotected sexual activities such as anal or vaginal intercourse, which are the highest risk factors in HIV infection (Insel & Roth 2006). Therefore, HIV/AIDS can be best prevented by abstaining oneself from sexual activities. According to Robbins, et al. (2002), the best preventive measures for any STD is abstinence or having sex with only one partner that is not infected already. This is because there is no sex that is safe.

HIV is transmitted more through unprotected anal or vaginal intercourse than it occurs in other sexual activities (Insel, Roth, Rollin & Peterson, 1997). They went on to state that male- to – female transmission is more likely to occur than female – to –male transmission in vaginal sexual intercourse. This is because men can transmit HIV before they ejaculate, since the virus is found in their pre-ejaculation fluids.

Essentially, anal intercourse is a high-risk behavior as far as the spread of HIV is concerned, because HIV can enter the bloodstream through the tiny breaks in the lining of the rectum (Hales, 2003). AIDS is a disease associated with certain high risk behaviors (Donatelle, 2001). He also pointed out that a person who at anytime involves himself in unprotected sex with another person who has engaged in high risk behavior has a possibility of getting the disease (AIDS). Eighty five percent of all adults who are infected with HIV in developing countries are attributed to unprotected sexual intercourse (Insel & Roth, 2006).

Therefore, to ensure the greatest protection from HIV, one should abstain from sexual activities (Payne & Hahn, 2003). Sexual abstinence is the only 100% effective strategic method in preventing STIs (Sizer-Webb, Whitney & DeBryne, 1999).

Adolescents are very vulnerable to HIV/AIDS infection because most of them are sexually active, but age at first sexual experience is declining (Rice, 1998). However, other studies conducted in several countries, have documented that the average age at

first sexual intercourse for women is slowly rising (Green, 2003). According to Hales (2003), delay in sexual initiation is one of the ways of reducing the spread of HIV. Early Treatment of STIs: The individual that has STD has an increased risk of contracting HIV (Sizer-Webb, et al. 1999). This is because the open sore created by herpes or syphilis increase the access of HIV virus to the blood stream.

In case there are lesions, blisters or inflammation from other STIs in the genital organ, HIV is about nine times possible to be transmitted in cases of unprotected sexual intercourse (Insel and Roth 2006; Robbins, et al. 2002). According to Insel and Roth (2006), one cannot tell if someone has HIV or not by just looking at the person. Therefore, sexually active people must go for other STDs testing regularly because early detection and treatment of other STDs can help to reduce the possibility of HIV infection. One of the ways that HIV/AIDS can be transmitted is through blood transfusion. About 2% of HIV transmission cases were through blood transfusion (Cox, 1996). He went on to say that, the possibility of the spread of HIV through blood transfusion has been reduced through the testing of blood donations. Moreover, he admitted that the blood donation test is not 100% accurate, since there is a possibility of false positive and false negative results.

Blood and blood products that are used for medical treatment such as injuries, hemophilia and others transmit HIV if not properly screened (Insel et al., 1997). They went on to state that because of this risk, blood in all licensed blood banks and plasma centers in the United States of America (USA) is tested for HIV. However, it is not so in developing world.

In developing countries like Ghana, blood donors are not well screened before their blood is used. According to Insel & Roth (2005), in developing world, those who



donate blood are not well screened. They have also stated that HIV transmission in developing countries through blood transfusion is very high due to poor screening.

People who share sharp and piercing objects are at a high risk of contracting HIV. Sharing of needles among drug users, and using the same needle for more than one patient in the hospital is one of the risk factors of contracting HIV (Cox, 1996). He went on to state that complete avoidance of intravenous drug use is crucial to preventing AIDS. Although, needles can be decontaminated with substances such as a solution of bleach and water, it is not 100% safe, since HIV can survive in a syringe for a month or longer (Insel & Roth, 2002). They also advised that boiling the needles and syringes does not fully destroy HIV, therefore, the best preventive measure for people who inject drugs is to obtain treatment and stop using drugs. Also, in case you inject drugs, you should not share needles.

According to Insel et al. (1997), HIV can spread through subcutaneous and intramuscular injection of drugs. They also said that when blades and needles that are used in acupuncture, tattooing, ritual scarring, piercing of the earlobes, nose, lip, nipple and navel are used on more than one person, people are at a risk of contracting HIV. Targeting intravenous drug users can also help to reduce the spread of HIV tremendously. Experts believe that programmes that are designed to treat and prevent people from sharing syringes and using drugs can significantly reduce HIV infection rate (Insel & Roth, 2005).

Oil based lubricants can contribute to condom failure. If the male condom is correctly used without oil-based lubricants, it will serve as one of the best ways of HIV/AIDS prevention (Smith, Grohscop, Black et al 2005). They further stated that petroleum jelly, butter and lard should not be used with latex condom because they can dissolve latex and make the condom soft. They however recommended the use of water

based lubricants and suggested that oil based lubricants be used with polyurethane condom.

According to PATH (2006) studies have shown that female condom is very important in HIV/AIDS prevention. He also stated that preliminary studies have shown that the total number of people who use condom as a way of protecting themselves has increased drastically. PATH, however, stated that at the moment female condoms are comparatively not readily available, and the price is also high which prevents a lot of ladies from using them. PATH continued and mentioned that several studies conducted on couples that one of the partners is infected with HIV/AIDS had less than 1% infection rate because of consistent use of condom.

Men who are circumcised, have a lower risk of contracting HIV/AIDS when they have unprotected sex. According to Weiss (2007), randomized control trials (RCTs) among heterosexual men have shown an evidence of lower risk of HIV/AIDS infection among men that are circumcised. He further suggested that male circumcision should be encouraged particularly in countries where HIV/AIDS infection rate is high. Willis admitted that cultural as well as issues related to attitude towards male circumcision may prevent some men from the practice. He, however, stated that programs that are geared toward provision of condoms are 95 times more cost effective in sub-Saharan African than circumcision. Weiss further mentioned that there is a fear among experts that people who are of the opinion that male circumcision could lower the risk of HIV/AIDS infection may put them into risky behaviours which can rather lead to the spread of the disease. If the health care workers make it a point to constantly wash their skin just after they are contaminated with blood or other body fluids it may reduce their possibility of HIV infection. Finally, He suggested that health workers should carefully dispose of sharp objects, such as needles, glasses and scalpels.

It is good HIV/AIDS mother, avoids breastfeeding her baby in order to prevent the baby from contacting the disease. Center for Diseases Control (CDC 1987) suggested an alternative for babies born by HIV/AIDS infected mothers, since they considered it to be sustainable affordable and safer. They specifically mentioned that infected mother should stop breastfeeding her infant. However, they suggested that in case they take the option to breastfeed the child they should feed the child on exclusive breastfeeding particularly during the first month of the child and stop breastfeeding the child as early as possible.

Plans are far advanced in many countries to put injectable medicines into the patients systems without the use of needle sticks. United States of America Department of Health and Human Services (2010), stated that researchers in USA are at work to develop alternative ways by which patients can receive injectable medicines without the use of needle sticks, which they believe could lead to reduction in the spread of blood born disease.

Talking before having sex is one of the ways that can help people to protect themselves against HIV/AIDS infection. According to USAID (2009), if you talk with your sex partner before the start of sexual activities, it can help partners to prevent the misunderstanding that may occur during a moment of passion. They further stated that good people should make their sex partners know that they will not have sex until both of them are ready to use condom. Again, they suggested that nobody should accept any excuse from their partners in case they do not want to use condom.

Involvement of every community is essential in tackling gender norms that make people susceptible to HIV/AIDS infection (USAID 2009). USAID also stated that governments should be involved when dealing with gender norms, such as reduction in gender- based violence and increasing women legal protection. They further noted that

integrated multiple gender approaches; such as individualized counseling, live theatre, community mobilization and television drama can be used to guide people see the need to protect themselves against the diseases.

Every person must take a step to prevent the spread of HIV/AIDS. United Nations Programs on HIV/AIDS (UNAID 2001) noted that the current HIV/AIDS infection rate is not likely to be different unless those that are infected as well as those at risk begin to make attempts to protect themselves against the disease. This they said was because in exception of mother-to-child transmission of HIV/AIDS and accidental needle stick injuries among health care workers other ways by which the disease spreads are preventable. They noted that the disease is preventable if people are ready to change their behaviour and adopt positive lifestyle. This they said could be more dangerous because, the forces that direct and control human behaviour that are harmful to health are complex and poorly understood UNAID emphasized low attention is given to social and cultural factors that affect risk behaviours that are associated to HIV infection. UNAID also noted that in spite of the fact that ethical and moral issues that are related to HIV risk behaviour are common in all cultures, it is much more common in Muslim communities. They, therefore, suggested that people who live in Muslim communities be made to understand to roles that social and cultural issues play as far as HIV/AIDS infection are concerned. This they said will help them to develop and implement pragmatic programs to curb the spread of the disease.

Harm reduction is an effective principle that focuses on how to reduce risk at individual as well as community levels in connection with stigmatization, antisocial behaviours and illegal behaviours are concerned (Burning, Coutika, Van & Van, 1986). They noted that the idea of harm reduction in relation to HIV/AIDS prevention is equally important in both Muslim and other societies.

Moreover, the intervention strategies such as widespread use of HIV/AIDS counseling, testing and anti – retroviral treatment given to pregnant women and also during delivery had led to a drastic reduction in the rate of mother – to – child transmission of HIV/AIDS (Abraham , Werdon & Bertolli, 2001). According to Domeh (2006), accessibility to anti – retroviral treatment makes it possible for many children who were not expected to enter adolescent stage to get there. Conversely these children present devastating mental health problems (Ledlie, 2000). Even though anti – retroviral treatment can lead to reduction in the infected person’s viral load, it used have serious side effects. Slightly, nor adherence to anti – retroviral treatment can permanently affect the treatment process and lead to high level of resistance to medication (CDC, 2008). This they said may lead a situation by which adolescents may be put on multi drug resistant virus but will have poor health result.

At the end of 2007, an estimated 33 million people were living with HIV, the virus that causes AIDS (Avert, 2012). This number they said covered men, women, and children of all ethnic and social backgrounds. It is true that every country in the world has been affected by HIV. They also stated that an estimated 15 million children have lost one of their parents through death caused by AIDS. About 80% of these orphans live in sub-Saharan Africa, the continent that is mostly affected by HIV and AIDS. Avert said those children are usually supported by their extended families. However, the disease is currently very severe in some countries that family structures cannot cope with it. This compelled several children to live in child-headed households. They also said that in 2007, an estimated 370,00 children became infected with HIV. Most of the people infected with the virus got it from their mothers. HIV they said can have a powerful influence on children even if they are not themselves infected. When a family member falls ill, children often fill the duties of caretaker or wage-earner and so are

robbed of their education. Condom use is a crucial aspect in a comprehensive, effective and sustainable approach to HIV prevention and treatment (UNAIDS, 2009). They further stated that condoms are an integral and crucial aspect of comprehensive prevention and care activities and its promotion must be encouraged. UNAIDS also stated that in 2007, about 2.7 million people were newly infected with HIV. About 45% of them were young people from 15 to 24 year group, with young girls at a higher risk of infection than boys. UNAIDS also indicated that condoms have helped to reduce the number of PLWHA in societies where AIDS has taken hold, curbing the fast rate the virus spread in communities where the epidemic is still concentrated in specific populations. Condoms they said promoted safer sexual behavior generally.

Individual and small-group behavior –change programmes that are given by health care providers, and peers have been shown to drastically reduce risk behaviors among people who were diagnosed of HIV. This they said helped them not to transmit the disease to others (CDC, 2012). CDC also indicated that when partners who are not aware that they were exposed to HIV are duly notified, it will help provide them prevention and care services.

According to Krenn and Limaye (2009), even though there has been significant progress in HIV prevention and treatment since the time that HIV was first discovered, the virus continues to spread in many parts of the world. They further stated that in the past, steps to prevent the spread of HIV paid attention to knowledge, attitudes and practices of individuals that are at risk of infection. In the steps to design communication strategy, the variables contributing to behavior were found and a theory was designed to explain how these variable were linked together. Krenn and Limaye also stated that throughout the past 20 years, health communicators have studied that health communication strategies that are collaboratively and strategically designed,

implemented and evaluated can help to improve health in a significant and healthy way. Encouraging results were achieved by empowering people to change their behavior and by facilitating social changes. Individual, small-group and community intervention strategies can help people who are at high risk of HIV infection and can reduce the behaviors that put them at high risk of HIV infection.

According to Cichocki (2013) HIV – re- infection must be prevented and considered as important positive prevention behavior. He also stated that HIV positive individuals must disclose their status to those who want to date them but must first of all assess the relationship and person they want to disclose their status to. He further stated that HIV does not deny people of their desires, goals, or personality. He added that healthy and rewarding relationships can be possible for PLWHA. He encourages PLWHA not to compromise their standards and settle for anyone less than their desires for fear of that person being their only choice. Cichocki further stated that before the new relationship of PLWHA become sexual they must first disclose their HIV statuses. PLWHA must be ready for rejections, letdowns and feeling discouraged.

Owners of prayer camps and spiritual healing centers were warned to desist from admitting people with AIDS- related sicknesses into their premises and encouraged them to refer them to where they can get proper medical care (Asare, 2013). She added that such infected people are usually kept at such centers until they reach critical point before they are sent to hospitals. Asare revealed that some traditional drugs had the potency to relieve HIV infected individuals of pains and symptoms of the disease but may not actually cure or kill the virus.

According to Foundation for AIDS Research, (2003) people infected with HIV carry the virus in their body fluids, including blood, semen, vaginal secretions, and breast milk. The virus can spread if only these HIV infected fluids enter the blood of

another individual. This usually occur through the lining of the vagina, rectum, mouth or the opening at the tip of male genital organ. Injection of a syringe and breaking in the skin, such as cut or sore can also lead to HIV infection. They also indicated that most of the people infected with HIV and AIDS in the United States were infected through sexual intercourse, thus either vaginal or anal. Some individuals develop Mild, temporary flu- like symptoms or persistent swollen glands immediately after becoming infected with the virus. They however stated that symptoms are not enough indication that an individual is HIV infected because several people do not experience symptoms for several years. They stressed that even when a person looks and feels healthy, he could still be infected with HIV. Foundation for AIDS Research (FAR) indicated that an individual may be exposed to HIV infection in case he has unprotected sex or if the condom he used during sexual intercourse breaks. FAR stated that the most common HIV test is HIV antibody test, which takes one to two weeks to generate results. This test may produce false positive results. Therefore, HIV antibody test must always be followed by an antigen test to confirm the first test. Usually, it takes three months for an individual who is exposed to HIV infection to be tested positive. Since HIV antibody test cannot effectively confirm HIV infection earlier than three months and individual should take good care to avoid unprotected sex if he thinks he may have been exposed to HIV recently. FAR also indicated that many young people who are HIV positive do not know their status which means it will be impossible for them to take steps that will protect them and also protect others. They stated that in 2009, only 35% of young adults aged 18-24 had ever been tested for HIV and only 16% of those who had been tested in the last 12moths in 2006. About half of HIV positive adolescents were not aware of their HIV status. FAR stressed that it is reasonable to be tested at centers that provide counseling services, since counselors help you understand what your test result mean.



Anybody who feels he is HIV positive must do well to find out as soon as possible. They stated that the rate of HIV infection is higher when the viral load is high, thus when the individual is immediately infected or at the late stage of infection. When the individual begins medical care before he begins to get ill is crucial for prolonging his life span. The person that is HIV infected must see their doctor regularly and get tested for tuberculosis and other opportunistic infections HIV infected individuals must protect their immune system functioning by practicing good nutrition, have enough sleep, smoke cessation and alcohol cessation. HIV does not discriminate against people but can infect any individual that is exposed to. An HIV infected individual can appear healthy at the initial stage but can infect others. FAR stated that in 2007, African Americans represent 17% of teenagers in the local population but were responsible for 72% of HIV and AIDS cases in this age group. Among 20- 24 years group comprised 16% of the age group but were responsible for 31% of HIV and AIDS cases among teenagers, and 23% of HIV and AIDS among people age 20-24. Young men who have sex with men especially those of color have the highest HIV infection risk among the youth. From 2003- 2006, young men who have homosexual accounted for 54% of all cases of HIV and AIDS among those age 13-24. FAR also indicated that the presence of other sexually transmitted infections increase the risk of individual to HIV infection, since they may create sores or cuts which may allow easy entry of HIV virus .

According to WHO (2013), male circumcision shows high evidence of contributing to high risk of sexual infection in men by approximately 60%. WHO stated that 3 randomized controlled trials have shown that males circumcision provided by trained health professionals in properly equipped settings in safe. WHO and UNAIDS recommendations stressed that male circumcision is considered as an effective intervention for HIV and low male circumcision prevalence rate. Male circumcision does

not provide full protection to the individual and therefore must be considered as only one element of a comprehensive HIV prevention strategy. They said other intervention strategies, such as provision of HIV testing service, counselling services, treatment of sexually transmitted infections the promotion of safer sex practices through provision of both male and female condoms and promotion of correct and consistent use of condom during sexual intercourse.

According to WHO (2013), HIV infection among commercial sex workers is higher than infection rates among the general population. This they said was partly as a result of challenges such as stigma, discrimination and violence that sex workers experience when they want to access HIV related services. At the moment, WHO in partnership with UNFPA, USAIDS and the global network of sex workers projects launched new strategies to address HIV IN settings that prostitution is practiced. The strategies aimed at reducing the spread of HIV among prostitutes by helping to improve their access to health services with support of using human rights approaches. WHO also aims to release a review on the health sector progress in HIV by the middle of 2013.

USAID has carried out leading roles to research in area of behaviour change for the successful HIV and AIDS prevention, including a recently funded six- country study on ABC and has published an important paper analyzing the success of the ABC strategies in Uganda (USAID, 2009). USAID planned new studies to increase the implementation of ABC intervention strategies for the youth and at- risk groups. USAID also stated that researches are going on to find out whether male circumcision has a strong protective effect on HIV infection. USAIDS is supporting research in Hati, Zambia, Kenya and South Africa to study more about issues of safety and complication, acceptability and feasibility. Others include logical issues involved in developing pilot demonstration services for safe and affordable male circumcision as well as male

reproductive health. They also stated that in addition to the transfusion of HIV infected blood, HIV infection in health care setting can occur through unsafe infection and other unsafe practices including occupational exposure to blood by health and medical personnel. HIV infection also has influence on nutrition by causing reduction in dietary intake and critical metabolic alternative that may lead to weight loss, particularly in children.

USAIDS is beginning research on the impact and effectiveness of giving food supplements on adherence to antiretroviral therapy and willingness to return for HIV care, cost and feasibility of incorporating nutrition supplements into antiretroviral treatment programmes and nutrition and caloric formulation of nutrition supplements in children and adults.

According to USAID (2012) the world has reached an important turning point in HIV prevention since HIV new infection rates continue to reduce and new precaution tools are becoming available. Prevention of new infection remains the highest priority and also the greatest challenge in the light against HIV and AID. About 2.7 million individuals were infected with HIV in 2010 alone and sub-Saharan Africa accounts for more than 70% at this number. The numbers of new infections are more than the number of HIV infected individual receiving antiretroviral drugs, which is having negative effects, hence the urgent need to strengthen prevention efforts. They further stated that reduction in new infections would help to increase number of people receiving antiretroviral drugs. Increased access to antiretroviral drugs is emerging as a key to HIV prevention intervention.

### **Specific HIV/AIDS Intervention**

The Public Health Service recommends that people who had any STD, had sex with a prostitute, shared drug needles or anyone who had unprotected sex with three or

more partners is at risk (Robins et al., 2002). Therefore, they must go for counseling and testing for HIV/AIDS. Though, people are afraid to go for HIV testing because of the fear that they might be discriminated against by employers, insurance companies and medical staff in case they are tested positive, immediate treatment for the individual in the early stages of the disease is crucial (Donatelle, 2001). Therefore, early diagnosis and reporting are very important.

Early diagnoses of HIV infection is crucial in reducing the effect of the disease and also, minimize the likelihood of infecting other people (Insel & Roth, 2006). This is because there are effective drugs available, which give effective treatment to lengthen the period between infection and the onset of full-blown AIDS. Even though, AIDS cannot be cured, nor is there any vaccine to prevent it, there are antiretroviral drugs that can prolong the lives of AIDS victims (Williams, 1993). Drugs are also available, which can boost the immune system of AIDS victims.

An infected pregnant woman who is on antiretroviral drug therapy, before delivery has a reduced risk of transmitting the virus to the new born child through breast feeding (Hahn & Payne, 2003). According to Avert Organization (2010), HIV counseling and testing are basic for HIV prevention. They went on to state that people who are infected and know their status and have been counseled about safer sex are less likely to infect others. Moreover, in case a pregnant woman who has HIV is not tested, she is not likely to receive any intervention that might prevent her from passing on the disease to the child to be born.

Counseling helps to provide information about the AIDS and HIV (Rice, 1998). He also pointed out that counseling helps to eliminate myths about AIDS, which could clear thinking and may affect mood, behavior or both. If people know their HIV/AIDS status, they will like to change their behaviors to reduce the likelihood of infecting

others. According to Libman and Wizburg (1993), the steps that are involved in HIV counseling and testing present a vital opportunity for the medical personnel to dialogue with AIDS victims as one of reduction strategies.

You cannot say whether an individual has HIV or not, until that person is tested. Therefore, there is no sexual intercourse that is considered safe unless those involved are known to be free of infection (Levy, Dignan & Shirrefs, 1992). Knowing the HIV status of an individual can help you have sexual intercourse with him or not, hence can help prevent the spread of HIV/AIDS. According to Hahn and Payne (2003), HIV is preventable when one practices safe sex such as careful selection of a sex partner. However, this can only be done if only the one was tested.

One other major mode of HIV transmission is mother-to-child transmission. Mother-to-child transmission can occur in three main ways, such as during pregnancy; childbirth or breast feeding (Insel & Roth, 2002). They went on to state that, about 30% of children born to mothers that are not on HIV treatment programmes are infected with the virus. However, HIV treatment given to mothers can reduce this percentage of children that will be infected drastically.

An infected mother can transmit the disease to her newborn baby during the early days of breastfeeding if the infected mother is not treated (Hahn & Payne, 2003). They also said that drug treatment given to the mother before delivery as well as to the baby just after birth has a possibility of reducing breastfeeding induced mode of transmission tremendously.

In the developing world, one out of every three children born by HIV infected women is infected with the disease (Insel & Roth, 2005). They said that lack of HIV testing, treatment, and breastfeeding are responsible for this high rate of infection among newborn babies. Many people in the world do not know their HIV/AIDS status. Less

than 1% of sexually active people in the cities know their HIV/AIDS status (KumaranaNyake & Walts, 2001). They added that this proportion is lower in rural communities. They further stated that only 0.5% of pregnant women who attended health facilities benefit from voluntary counseling and testing as well as had the chance to receive their test results. This rate they said was lower in health facilities that are in rural communities, which led to screening of blood and blood products that are used for medicine and medical researches. They also stated that many medical laboratories use fourth generation screening test, which can even detect anti – HIV anti – body. This is because the detection of HIV anti – body in a sick person who was previously considered to have HIV/AIDS negative is a proof of HIV/AIDS infection.

Mansergh, Haddix, & Steketee (1996) stated that the cost of HIV anti – body testing is still one of the major problems in HIV/AIDS prevention. They stated that several cost effective approaches implicate the high cost of anti – retroviral drugs. They stated that one of such studies examined cost – effectiveness of introducing short – course Zidovudine in sub – Sahara African countries, where HIV/AIDS infection rate among pregnant women, are 12.5% for every 100, thus, for a pregnant woman, counseling and testing can be estimated to be \$ 1, 540, 00, which will be almost the same as three times the cost of zidovudine for HIV infected women. They also noted another study in which the cost of peri-natal prevention of HIV/AIDS programs, which involved mother and infant who received a single dose of nevirapine. The cost was calculated for 20, 000 women in a country in which HIV/AIDS infection rate is 15% to be \$ 83,333,33 less than a target if all the pregnant women were given the drug. This cost they said was 33% less than the program that was targeted, if therapy and counseling were given to only the women found to be HIV/AIDS positive.

However, USAID (2009), stated that every woman should undergo HIV/AIDS test particularly when she first seeks prenatal care early in her pregnancy. This they said was because anti – retroviral drugs work best when they are used early during pregnancy. They further noted that even if the mother begins taking anti – retroviral therapy drugs after birth and also gives it to her infant it can help reduce the possibility of transferring the diseases to the newborn child. Mother to child transmission of HIV/AIDS can occur within the last weeks of pregnancy and childbirth (Coovadium & Bland (2007). They noted that in case anti – retroviral therapy is not given to an infected pregnant woman, the possibility of her transmitting the disease to the child is 25%. But if the woman is put on anti – retroviral therapy and also gives birth by Caesarea operation, the rate of infecting the baby is 1%. This they said was because the risk of infection is largely controlled by the viral load of the mother during child delivery, thus when the viral load is high, the possibility of infecting the child is also high. They also noted that in case an infected mother breastfeeds her infant, she has 4% chance of transmitting the disease to it. They also added that voluntary HIV/AIDS test is supposed to be offered in an environment devoid of stigmatization. This they said was to motivate those people that are susceptible to HIV/AIDS infection to benefit from regular voluntary testing in order to seek early diagnosis, and treatment. They further stated that the national youth policy forbids conducting HIV/AIDS test for people without their knowledge except those who donated blood or show symptoms that suggest they may be infected with the disease. They also noted that plans are far advanced to provide highly subsidized anti – retroviral therapy to those that are in need of them and also increased the number of voluntary counseling and testing facilities. They also stated that the cost of first – line anti – retroviral drug per person for one year is about US\$ 300, while second – line treatment is about \$ 460 per person in a year. In 2003, they estimated that 52,000 people in Ghana

used anti – retroviral therapy, while their target number of people to be catered for was 26,000, thus 50% of the total number of Ghanaians were in need of the drugs. They further noted that government of Ghana declared a nationwide anti – retroviral therapy target of 30,000 people, thus by December 2005.

UNAIDS also noted that Ghana’s total anti – retroviral treatment needs had risen to as many as 61,000 people in 2005. Again, they also mentioned that in Ghana, about 40% of HIV/AIDS related services are at present provided by the government, 30% by non – governmental agencies, while another 30% is being provided by private sector. The public sector also began the provision of anti – retroviral drugs since 2003. Also, voluntary counseling and testing facilities had increased from 14 in 2003 to 113 by September 2005.

HIV/AIDS can be considered to be a disease that is family based, which calls for programmes that can focus on disease prevention at the family level. According to Coalition on Children Affected by AIDS ([CCABA] 2009), there are very few programs that focus on family based HIV/AIDS prevention and treatment. Most of the health facilities that aim at providing services at the family based settings only focus on mother – to – child prevention of HIV/AIDS transmission, general child health and the mental health of the child (Ross, Dick & Ferguson, 2007).

Through antiretroviral therapy given to people living with HIV/AIDS increases their life span, the health status of HIV/AIDS infected individual can never be completely restored. In societies where people can easily get access to anti – retroviral therapy and prevention interventions, HIV continues to cause serious damage to the health and wellbeing of both adult and children (Cotchick, Miller & Porehand, 1999). They went on and stated that the people affected by HIV/AIDS, which is considered to be a life threatening disease that attracts high level of stigmatization, largely live in urban



communities. They also added that the victims of HIV/AIDS usually are faced with high level of poverty, drug abuse and different kinds of violence.

Center for Disease Control and Prevention ( [C D C] 2009), noted that in USA, most of the people living with HIV/AIDS can be found by and large in cities where majority are African Americans. They further pointed out that this group constituted 51% of the total newly reported HIV/AIDS cases. C D C also stated that about 50% of the more than 40,000 HIV incident rate in the USA every year is among people who are 25 years or lower.

Most people who are infected with HIV/AIDS are not aware of their condition. Some part of Asia, such as South – East Region most PLWHA are not aware that are infected with the disease (Narian, 2004). He noted that if accessibility to HIV testing and counseling is expanded, individuals that are infested can have early access to anti – retroviral therapy. He further indicated that HIV testing and counseling is one of the ways by which the disease can be prevented, particularly, mother to child transmission of the disease. He also stated that in the south East Region of Asia, just about 28% of HIV infected women benefit from anti retroviral treatment, in order to prevent them from transmitting the disease to their children. He went on and pointed out that WHO had promised to provide support services to every country to meet the demands for expanding and improving HIV related services, so that there could be universal access to HIV related support and services.

The first national response of HIV/AIDS prevention in Ghana focuses on five main things, which are: new infection prevention, provision of care and support for people living with HIV/AIDS, creation of friendly atmosphere for national response, decentralized implementation of HIV/AIDS programmes and research, monitoring as well as evaluation of HIV/AIDS programmes, (Dames, 2010). Other national response to

HIV/AIDS prevention focuses on policy framework, advocacy and creation of enabling environment, prevention, treatment and care for people living with HIV/AIDS. USAID also stated that some cultural practices such as cleansing, which involves sexual intercourse with a woman who has lost her husband is decreasing in most communities in Africa. They also stated that orphan children who lost their parents as a result of HIV/AIDS need support offered in places such as orphanages as well as adoption by relatives or other community members.

According to USAID (2009), key strategic priorities are preventing HIV/AIDS in high risk populations, reducing HIV/AIDS transmission from high-risk individuals to the general population, addressing stigma and discrimination, providing comprehensive prevention and care for people living with HIV/AIDS, their partners and families. The preventive strategies focus on commercial sex workers, men who have sex with men and discordant couples. The report further stated that one of the responses to HIV/AIDS situation in Sub-Sahara Africa is home-based cure, which is expanding rapidly. This they said was due to the fact that hospitals and health institutions were not able to meet the increased demand for health.

Ghana has an effective body that controls the spread of HIV/AIDS. Ghana AIDS commission (GAC) was established since 2001 and has national strategy of using multi-sectoral approach to prevent HIV/AIDS (GAC, 2010). They noted that GAC national HIV/AIDS control programme is taking steps to develop an implementation plan that will regulate the provision on anti – retroviral therapy in Ghana. Also, GAC stated that every region in Ghana has HIV/AIDS prevention strategies. These multisectoral communities are also extended to the various districts in Ghana. The national intervention programs adopted by GAC include, increase access to condom, school based programs, counseling and testing services, work place interventions and prevention of

mother – to – child transmission. They further noted that GAC also provides monitoring and evaluation services in the various health facilities. HIV/AIDS surveillance strategies are going on in partnership with Ghana Health Service, WHO and the United Kingdom Department for International Development. GAC also stated that Ghana Health Service has designed a human resource plan nationwide to tackle the shortage of health personnel and also train health workers to administer anti – retroviral therapy services in line with national standard. Again GAC noted that human resource capacity is the main factor that is needed to help improve on the national HIV/AIDS intervention strategies. They however noted that many skilled personnel migrated to developed countries to seek greener pastures even though there is the need for services, such as Voluntary Counseling Testing (VCT) needs to be improved upon. They also noted that other areas, such as legal protection for PLWHA and establishment of referral services between the public sector as well as the private sector. GAC went ahead and stated that further to the declaration of United Nations General Assembly Commitment on HIV/AIDS reduction in 2001 Ghana government directed that 15% of Ghana’s health budget be channeled to HIV/AIDS activities. The government also directed every ministry to create an HIV/AIDS budget. GAC also pointed out that Ghana benefited from World Bank Multi-Country HIV/AIDS program meant for Africa, with US \$ 25 million funding approved for the period 2002 to 2007. Ghana is promoting ways by which it can get more support from other agencies to help support the HIV/AIDS intervention program. GAC further stated that Ghana also benefited from US \$ 57.5 million from the World Bank, the United Kingdom Development for international Department and other donor agencies to be spent on HIV/AIDS intervention programs.

Accra office of UNESCO, signed a convention in the GAC HIV/AIDS Education strategies in the country (Association of African Universities, 2010). They also pointed

out that Ghana is still one of the countries that have comparatively low number of PLWHA.

In Ghana, GCA is the policy maker, provides HIV/AIDS intervention in areas, such as public aware creation, planning, monitoring evaluation of issues related to prevention and control of HIV/AIDS (GAC, 2010). They further stated that the major strategy that they use is to design posters to educate young people to stop discriminating against people living with HIV/AIDS. GAC also emphasized that they had developed different posters, such as make me part of your world, which is used to promote showing love and compassion to help living with HIV/AIDS (PLWHA).

In Sub-Sahara Africa, a lot of strategies are designed to help reduce the rate of HIV/AIDS. Several programs are designed to interpret holistic gender interventions that will reduce men and women susceptibility to HIV/AIDS infection (USAID, 2009). This is because they have realized that gender plays a major role in the spread of HIV/AIDS and how people respond to how to prevent the disease. They further noted that the use of multiple strategies in preventing the disease is more effective than the use of only one approach. USAID therefore adopted strategies, such as reduction of violence and sexual coercion, tackling male norms and behaviours that may lead to the spread of the disease and increasing women's access to income legal protection and productive resources.

HIV/AIDS intervention strategies continue to increase (Busza, 1999). He noted that HIV/AIDS prevention and care for PLWHA is the focus at many HIV/AIDS intervention programs. He further suggested that effects of stigma and discrimination can also be carefully tackled. Busza further stated that under normal circumstances, people are supposed to go for voluntary counseling and testing in order to know their HIV/AIDS status without fear of any negative effects. This he said would help the people who are tested positive to receive the needed support and encouragement to adopt positive

lifestyle in order to protect themselves and others as well. Busza again stated that the society that discriminates against the PLWHA risk putting fear into people and making them unwilling to go for voluntary counseling and testing.

USAID also provides several intervention services, such as preventing the spread of HIV/AIDS among high risk individuals and also extend the same services to the general public in Ghana (USAID, 2009). They also noted that USAID tries to address issues such as HIV/AIDS related stigma and discrimination as provision of access to treatment services, to PLWHA. Their preventive services target high risk populations, such as commercial sex workers, homosexuals and couples whose partners are infected with the disease. USAID targeted 10,136 homosexuals in 2007 to offer them preventive services. They also targeted commercial sex workers and their clients. In the year, 2007, USAID was able to reach 30,709 sex workers and non-paying partners with HIV/AIDS prevention programs, such as VCT, prevention of vertical transmission of HIV/AIDS and treatment of tuberculosis. They also pointed out that the results of a survey conducted on services that are provided to Orphans and Vulnerable Children (OVC) in 2005 indicated that about 208,628 OVC are found in the various districts in the country. USAID indicated that out of the 208,628 OVC, only 133,779 were given the necessary supports. They however noted that several Ghanaian committees have accepted these children to be part of external family systems.

According to UNAID (2009), the general intervention to the spread of the disease over the past twenty years was to tackle things that will help to reduce HIV/AIDS prevalence rate in African societies. This they said put pressure on the various strategies designed to curb the disease, especially helping people to change their behaviour. They noted that behaviour change was necessary because of the fact that HIV seropositivity

has reached a high level, thus 35% or more in Southern Africa countries, such as Botswana, Zimbabwe and Swaziland.

Ministry of Education (MOE) has instituted peer education and HIV/AIDS life skill education programs into the curricula of Colleges of Education in Ghana (USAID, 2009) They again noted that the Ministry of Employment and Social welfare also undertake work place HIV/AIDS prevention programs, which is aimed at preventing the spread of the disease. USAID further indicated that GAC works in collaboration with other partners, such as technical working groups, district and regional AIDS Committees to solicit feedback on current programs so that they will be in the position to plan their national intervention strategies appropriately. USAID further indicated that Ghana is a signatory to the continental as well as international conventions, treaties and declarations on issues related to HIV/AIDS, including the Abuja declaration that took place in 1998. They also noted that Public Private Partnership (PPP) is currently a powerful instrument for strengthening health systems as well as providing several opportunities for PLWHA. They indicated that PPP also promotes HIV prevention programs. UNAIDS also stated that the Global Fund that is used to fight AIDS Tuberculosis and Malaria has spent US\$111.8 million, since 2003 to provide support services to pregnant women who are living with HIV/AIDS. They also noted the Global Fund disbursed US \$25.4 million to some governmental and non-governmental organizations in 2010, with the aim of promoting access to HIV/AIDS prevention. This Global Fund was also to be used to provide treatment care and support for PLWHA. Further to the above, UNAIDS also noted that United States Government (USG) alone provides about 30% of the Global Fund. UNAIDS also indicated that Ghana benefited from US\$ 14.3 million from USAID during the organization's fiscal year, thus for 2009 HIV/AIDS programs and services in

Ghana, includes the implementation the government of USA'S emergency plan for aids relief.

The effects of HIV/AIDS are mostly felt in Sub-Sahara Africa. This is because HIV/AIDS is one of the commonest diseases found among adults who are hospitalized in many urban health centers in developing countries and also a leading cause of death among young adults. The prevalence rate of HIV/AIDS has fallen in Southern Africa (Boafo, 2002). This he said was because some people do not report their HIV/AIDS status because of the fear of stigma and discrimination. He went on and stated that the reported cases of HIV/AIDS in Ghana are less than those cases that are not reported. The prevalence rate of HIV/AIDS in Sub-Saharan Africa ranges between 5 percent to 11 percent. For example, Burkina Faso has 6.5% infection rate; Togo has 6%; Nigeria has 5.8% and Benin has 3.6% infection rate. Boafo also stated that the effects of HIV/AIDS go beyond those that are infected and affect the lives of their family members, friends and community members. He again stated that children are mostly affected by HIV/AIDS. This he said was because 40 million children in developing countries are estimated to have lost one or both parents through HIV/AIDS infection.

HIV/AIDS can have a significant effect on the economy of Africa, since most infected people are from Africa (Brugha, 1994). He also stated that HIV/AIDS can affect the economy of a country in two ways – labour supply and cost. Thus, if people in their productive years are infected, it will reduce their levels of productivity whiles the direct cost in relation to HIV/AIDS infection is highly expensive on medical care, drugs and funeral. According to Boafo (2002), the children whose parents are infected may not get access to education, and might become drug addicts, prostitutes and may also commit certain crimes in the society.

HIV/AIDS has been accompanied by fear, denial, stigma and discrimination (Obeng, 2009). This he said was because those who were infected were rejected by their families, loved ones as well as their community members. Stigmatization and discrimination related to HIV/AIDS is closely related to stigma associated with sexuality, (Parker, Aggleton, Attawell, Pulerwitz & Brown, 2002). This they said was due to the fact that HIV/AIDS is mainly spread through sexual activities. Policy makers and program planners should therefore be aware of these, particularly of the fact that HIV/AIDS is not only a health or developmental problem, but can also affects all aspects of the society, (UNAID, 1999). This they said called for multi-sectorial approach to curb the spread of the disease.

A lot of Ghanaians have knowledge about HIV/AIDS and ways by which disease spreads, but there is still a high level of stigmatization and discrimination against PLWHA (USAID, 2009). These they note prevent PLWHA to hide their HIV status, which subsequently prevents them from going for anti – retroviral therapy. USAID Health further stated that factors such as blood transfusion, indiscriminate sexual activities among the youth, marriage and gender issues that make women vulnerable to HIV/AIDS infection put Ghana at a higher risk of the spread of the disease. They also pointed out that many children from all parts of Ghana are affected by the disease.

According to Aggleton (2002), Jonathan Mann Former Director of WHO outlined three areas of HIV/AIDS epidemic, which are stigma, discrimination and denial. he further stated that despite the attempts made by world bodies to tackle HIV/AIDS related issues, stigmatization continues to put a threat to the epidemic. HIV/AIDS can have direct effect on the human body. The most dangerous effects of HIV/AIDS is how it suppresses the T-helper cell, which finally leads to the cell's ability to function (WHO, 2005). He also noted that the B-cells may also not be able to produce enough anti – bodies which



will lead to the collapse of the immune system, hence AIDS related infections. Again, he stated that sentinel survey conducted in 2004, showed that 25 to 29 year group was most affected by HIV/AIDS, thus 4.5% infection rate 25 to 34 year group was the next affected group, with (4.4%).

According to Koester, Booth & Zhang (1996) the stigma the society attaches to HIV/AIDS is obvious in every society, including Muslim communities. This they said was as a result of the fact that Islam preaches against illicit sex and drug related issues. They further stated that there are more severe negative sanctions available for illicit sexual activities than it exists for drug related issues. They also noted that even if an individual is suspected of illicit sexual practices in Muslim communities, that person suffers discrimination and is also ostracized. Koester et al. further emphasized that the high level of stigma and discrimination in Muslim communities makes it in possible for Muslims to seek Voluntary Counselling Testing (VCTT), since this may expose their involvement in risky behaviours.

According to USAID (2010) the people of Ghana are well informed about ways by which HIV spreads from one to the other, but PLWHA are still stigmatized and discriminated against which have made them to hide their HIV status. This they said reduces their chances of benefiting from proper treatment. USAID also indicated that in a research conducted by GDHS in 2008 on people attitude towards PLWHA only 19.2% of men and 11.4% of women were identified to be ready to accept PLWHA. They went on and pointed out that children who suffered as a result of HIV/AIDS pandemic could be found in all parts of the country. About 140, 000 children were estimated to be orphans in 2008 and 2009 as a result of HIV/AIDS related deaths of their parents.

UNAIDS (2001) indicated that in less than twenty years, more than 65 million people were infected with the HIV/AIDS worldwide. They also noted that out of the 65

million people that were infected, 22 million of them had died as a result of HIV/AIDS related disease, and 17 million of the total number of people who died from HIV/AIDS was from Africa. UNAIDS also indicated that Africa remains the continent that is mostly affected by HIV/AIDS pandemic, since about 70% of all the people infected with HIV come from Africa. Further to the above, UNAIDS noted that the number of lives that are lost as a result of AIDS related illness could have drastic effects on Africa's economy; the structure of institutions; community integrity as well as how reliable families will be. They further stated that some nations in Africa find it extremely difficult to cope with the HIV/AIDS pandemic, since most African countries are facing daily challenges of lowering standard of living and a high possibility of an uncertain future. UNAIDS also noted that HIV/AIDS has two main characteristics in Africa, which when not addressed can negatively affect the ongoing HIV/AIDS prevention strategies and those that are yet to be designed. They also emphasized that throughout Africa, HIV/AIDS demonstrates itself as an immediate arising situation which requires an urgent intervention that calls for effective planning. They said it is a crisis because the rate at which the disease is spreading has is alarming. This is because in some African countries the numbers of people who are infected have increased from 4 to 20% within the last twenty years. In a country like Cameroon, the number of people who are infected with the disease has increased to about ten times within the past six years. UNAIDS also indicated that HIV/AIDS is a systematic condition, since it affects mostly the productive areas of African economy, thus the disease deprives children of heir parents, and the nation of skilled personnel.

HIV/AIDS affects how long people live on earth. United Nation Population Division ([UNPD] 2005) stated that deaths from HIV/AIDS have some effects on age structure of the human population. This they said was because in developing countries

which have low level of HIV infection rate most deaths that occur among the youth are as a result of HIV/AIDS infection. UNPD further noted that AIDS basically attacks adults, thus people that were infected at their adolescent age, die during their adult years, which consequence affects the age structure. They also pointed out that in Southern part of Africa about three out of every five deaths in between 2000 and 2005, were among 20 to 49 years group as against 1 out of every 5 deaths between 1985 and 1990. This they said was because deaths from HIV/AIDS- related illness are more pronounced among people who are 25 to 49 years of age. The societies that have high HIV/AIDS prevalence rate they said lost quite a number of parent and skilled personnel. UNPD further stated that in sub – Sahara Africa and among the Caribbean, where the disease is largely transmitted through heterosexual intercourse more women are infected with HIV/AIDS than men. They pointed out that people who live in the same household with PLWHA usually face the immediate effect of the disease, since they provide immediate care to people who suffer from AIDS related illness. UNPD also outlined that a household may dissolve as a result of the death of a parent who dies from AIDS- related illness. They noted that health facilities may also experience some challenges, especially those in developing countries, such as Africa where the health -care system was not even effective before the discovery of the pandemic.

HIV/AIDS has increased the health expenditure of most countries, particularly those that are seriously affected by the disease. UNAID (2009) noted that expenditure on the treatment of optimistic diseases among PLWHA has increased tremendously. They further indicated that HIV/AIDS related illness may divert peoples` attention from other areas of health condition, since the cost of treating an HIV infected person may be born by either the government, private sector or the households of the infected person. Several sectors of the economy are affected by the presence of HIV/AIDS. This was indicated by

UNAIDS who found out that sectors such as Agriculture and other Businesses also have been affected by the disease, since most of their employers who are infected by the disease absent themselves from work and some sectors may spend their resources on providing health care to their members. The economic benefits derived from small scale farmers and commercial farms may also suffer certain degrees of compromise by a loss of farm personnel. UNAIDS further made a reference to the study conducted by Food and Agricultural Organization (F. A. O.) in 10 African countries, that were mostly affected by the HIV/AIDS pandemic, which predicted that the Agricultural personnel will decrease in their number by 2020 as a result of HIV/AIDS related illnesses and deaths between 10% and 26%. They also talked about another study that indicated that countries, such as Kenya, Malawi, Tanzania and Zambia which suffer slow growth of agricultural production as a result of the HIV/AIDS situation in their country may experience a growing food shortage by 2010. UNAIDS noted that economic prospects may face several challenges particularly in countries where more people are infected with the disease, since in many seriously affected regions studies have indicated 1 to 2% drop in annual gross domestic product (G. D. P. ). They also stated that the long term effect of HIV/AIDS may be more serious than the immediate effects of HIV/AIDS infection, since human capital, such as the education of children nutrition and health issues may suffer directly as a result of HIV/AIDS.

UNAIDS also emphasized the level at which HIV/AIDS affects women is a critical issue as far as reproductive health is concerned since the total number of 59% of women form part of the total number of women infected with the disease. They further pointed out that young ladies between 15 to 24 years in Sub – Saharan Africa are between 2 to 6 times more likely to be infected with the disease than men of the same age group. UNAIDS also noted that factors such as economic, cultural biological as well

as physical, make women more susceptible to the disease than men, since the choices of women are so limited, thus unable to negotiate when to have sex, whom to have sex with and whether to use condom or not during sexual intercourse. They added that since most women who are infected with HIV/AIDS are in their childbearing age, they have the possibility of transmitting the disease to their children and therefore may face problems with childbearing. Women according to UNAIDS are also affected by the disease since they find themselves as care givers in their immediate and distant families and for children whose parents have died as a result of the disease. They finally indicated that based on the above - mentioned challenges faced by women in the face of HIV/AIDS prevention, the women need to be empowered as a way of trying to curb the pandemic.

According Avert (2012), AIDS stigma and discrimination exist in the whole world, despite the fact that they manifest themselves differently in various countries, societies, religions and among individuals. Avert said stigma does not only makes it more difficult for people who are trying to come to terms with HIV and manage their illness on an individual grounds, but it also affects the attempts to fight the AIDS pandemic. At the national level, the stigma associated with HIV can discourage governments from taking quick and effective steps to prevent the spread of the disease. According to Avert, UN secretary – General, Ban Ki Moon says: “Stigma remains the single most important barrier to public action. It is the main reason why too many people are afraid to see a doctor to determine whether they have the disease, or to seek treatment if so. It helps make AIDS the silent killer, because people fear the social disgrace of speaking about it, or taking easily available precautions. Stigma is a chief reason why the AIDS epidemic continue to devastate societies around the world”

Avert also stated that societies must create enabling environments to accommodate PLWHA as a way of reducing stigma. The presence of treatment can also

make the case easier because this will give opportunity to those infected to live a fulfilling and long life. Even though death cannot be prevented, the life span of individual infected with HIV has significantly increased with the use of new antiretroviral drugs (Walden University, 2008). The various antiretroviral drugs which are generally advised in combination are effective ways of preventing the replication of the virus at certain level. Walden University further stated that the doctor may give instructions on other specific treatments and further investigations based on the type of infection or condition on individual who is suffering from. The antiretroviral drugs may be used to prevent HIV infection in those individuals who have been exposed to HIV through sexual activity, injection drug use or an accident. They also stated that the treatment should begin within 72 hours after a high-risk behavior with someone known to be infected with HIV or who is already ill from AIDS related sicknesses. They further stated that the antiretroviral drugs last for 28 days. However, this is not effective in individuals who fall in the high risk categories, such as having unprotected sexual intercourse with an HIV infected person. Walden University also stated that death in patients with AIDS is generally related to widespread opportunistic infections, which may not respond effectively to treatment or the development of unusual cancers.

According to UNAIDS (2009), condom use is more likely when individuals can have access to them at no cost or at a very low price. Effective condom promotion must cover more than general population and must also include people who take higher risk to expose them to HIV infection. Women, young people, sex workers and their clients, injecting drug users and homosexuals must also be targeted with condom promotion programmes.

The success story of antiretroviral drugs in developed countries in reducing AIDS – related illness and prolonging the life span can end the perception of risk associated

with HIV infection (Gremy & Beltzer, 2004). A perception of low-risk and sense of complacency can encourage people to have unprotected sexual intercourse or inconsistent condom use. Gremy and Beltzer further stated that promotion of correct and consistent use of condom alongside with antiretroviral therapy in addition to reproductive health and family planning services, are crucial to reduce further chances of HIV infection. They also stated an increased HIV testing and counseling programmes must meet the needs of every population, thus those that are HIV positive or negative.

HIV and AIDS still do not have any cure but treatment has improved significantly since, the middle of 1990s (Avert, 2012). People who are living with HIV now take combination of three antiretroviral therapy and this help most of them improve on their health and live many years without accelerating to AIDS status as long as they continue to take the drugs on regular basis. Avert also stated that in 2010, about 34 million PLWHA and every year, about 2.7 million die of AIDS. They said sub-Saharan Africa is a region where the virus is spreading very fast. Though many people know how to prevent and also manage HIV AIDS, many of them do not have access to the needed services. They said countries such as Cambodia, Chile and Cuba have achieved universal treatment access. However, in low and middle income countries, only 47% of individuals who need antiretroviral drugs get access to them. They further stated that access to preventive tools such as condoms, HIV education, clean needles and programmes to prevent vertical transmission of HIV and AIDS is not enough. Avert also indicated that in 2010, only 35% of pregnant women in low and middle income nations had access to HIV test and only about 48% of pregnant women living with HIV and AIDS had access to effective antiretroviral therapy to prevent HIV transmission to their newborn. According to them, Umunthu Foundation provides comprehensive VCT

services in three centers in Bogwe and Limbe. These services are fully part and parcel of the community and had provided VCT to 21, 026 people between 2010 and 2013.

According to CDC (2012) in the middle of 1990, introduction of highly effective antiretroviral drugs had tremendously extended the life span of PLWHA and had reduced drastically AIDS related deaths in USA. They however stated that without an effective medical care HIV will surely lead to AIDS and subsequently kill those that are infected. They indicated that, since the discovery of disease, AIDS related illnesses killed more 600, 00 people in USA. Currently, about 18,000 people die of HIV and AIDS every year in USA. According to CDC, AIDS related deaths occur when those infected with HIV and AIDS do not get access to testing, treatment and care that they need. HIV and AIDS treatment helps people to live longer, healthier, and also greatly reduces the chances of passing HIV on to others. The sad news is that only 28% of people infected with HIV in the United States are effectively keeping their virus under control. CDC also indicated that many people are also diagnosed too late which affects their access to life expanding treatment. Treatment given to PLWHA will drastically reduce their possibility of infecting others with the virus. CDC also stated that clinical trial in 2011 showed that PLWHA which began HIV treatment before their immune systems begin to be significantly weakened enjoyed 96% reduction in their risk of infecting others, particularly their partners. CDC further indicated that effective substance abuse treatment that can assist people stop injecting drugs can help by reducing the rate of HIV infection. This they said can be done through sharing of needles to the drug users.

Epidemiological data indicates that the AIDS epidemic is beginning to change its course as the number of people who are newly infected with HIV is reducing and AIDS related deaths are also reducing (UNAIDS, 2010). In most of the countries that are highly affected by HIV and AIDS, HIV infection among young people have also reduced



drastically. UNAIDS indicated that these sectors contribute to stabilizing the total number of people living with HIV. They also stated that United Nations Population Fund (UNFPA) provides funds and also work to increase HIV prevention strategies using rights-based and evidence-informed intervention strategies which included attention to the gender inequalities that add fuel to the rapid spread of the disease. They also stated that UNFPA fund is used to provide leadership role in condom promotion and HIV prevention among young people and women. The fund also provides support for other vulnerable groups. UNAIDS also stated that the fund provides reproductive health care as a strategy to attain its goal of universal access to HIV prevention, treatment, care and support.

As HIV and AIDS epidemic is showing signs of reversal in the world, the WHO and nations are currently working towards zero new HIV infection, zero deaths from AIDS related sicknesses and zero discrimination against PLWHA (WHO, 2012). To accomplish this goal, the WHO has stressed the need for people to learn about their HIV status, and more efforts to reach and support the youth, homosexuals, commercial sex workers, those who are most vulnerable to HIV and AIDS. WHO also indicated that the total decline in the various regions calls for increased optimism, complacency should be considered as the greatest enemy and must not be encouraged.

They further stated that those who are most vulnerable to HIV infections are generally the least empowered in our societies. These vulnerable people must be provided with care and treatment services which must also be made available and accessible to them. WHO also stated that one major factor that contributes significantly to the decline in HIV infection is increased access to antiretroviral drugs and expansion of HIV prevention programmes.

HIV makes it difficult for your body to fight against sicknesses (United States food and drug Administration [USFDA] 2013). There are cells in the blood called “CD4 cell” which are also called “t cells” which help to protect the human body from diseases. USFDA indicated that HIV kills T cell which makes people who are infected with HIV not to have enough of the t cells as a healthy person. They further indicated that drugs are in the market that can be used to treat HIV and help infected people to live longer. These medicines help to reduce the rapid replications of the virus in the human body, but do not prevent the infected person from infecting others. They also indicated that PLWHA need to use 3 or more different drugs each day. They stressed that the individual can get very sick in case he refused to take his drugs every day.

The US national institute of health (NIH) had released research findings that could have direct effect on the well- being of several children (Owusu, 2013). The significance of the finding focused on the total number of young people who are living with HIV and AIDS in the world. Both WHO and World Bank released publication which estimated that 5 million adolescents and young adults are infected with HIV and most of these people do not know their status. UN Children’s Fund also estimated that 370,000 children were born in 2009 with HIV. Owusu also indicated that language disability in HIV infected children that were exposed to the virus before birth was twice possible than it occurs in the general population. He further stated that HIV infected children who received little or no treatment were almost three times likely to be exposed to language disability than those who received appropriate treatment. Among those who were not infected with HIV, treatment was possible. He also stated that individual who are in their teens and 20s, may depend on anti – HIV treatment for several years to come.

Despite the fact that HIV prevalence rate is stabilizing and reducing in some countries, southern Africa remains the heavily affected country in the world (World

Bank Group, 20011) South Africa experienced 31% new infection rate of HIV and 34% death in 2009. Women are more infected with HIV than men with 61% infection rate. African children under 15 years who are living with HIV and AIDS in the world. An estimated 14.8 million children lower than 18 years have lost one or both parents to AIDS related sicknesses in Africa. World Bank group (WBG) further stated that treatment coverage in Sub-Saharan Africa is far below the 80% universal access goal. This makes new infections to be more than those that are receiving treatment, thus for every one person that is on antiretroviral treatment, two individuals are newly infected with HIV and AIDS. Prevention therefore remains crucial to effective way of curbing the pandemic, particularly among high risk individuals. They also stated that despite the rise in AIDS funding within the past years, there is still the need for more funding, since greater part of the funding goes into treatment services. As the virus continues to spread in some countries, it becomes very difficult to sustain HIV donor supports to provide prevention services. They further indicated that since 2000, the World Bank has provided 2 billion for HIV prevention, treatment, care and support in more than 30 sub-Saharan African countries and also provided 5 regional programmes. Since 2006, the bank supported and provided services that helped 4.3million adults to receive HIV counseling and testing. The bank also funded over 65,000 civil society projects and allowed 3 million pregnant women to receive free antenatal care. They also stated that the bank will continue to support national AIDS programmes such as paying attention to social protection services such as addressing vulnerable groups, gender integration and linking with sexual and reproductive health. Through lending and technical support as well as analytical work, the bank increases steps to strengthen aspects of health system which will improve HIV results, sustainable prevention strategies and social support protection services. These they hope will address gender issues, vulnerable groups and working

effective in threatening and conflict nations. The bank also continues to support key areas, such as education transport, energy and infrastructure. As one of the 10 USAIDS cosponsors, the bank has decided to lead organizations in offering support to strategic, high priority and cost effective national plans, such financial management, human resource, supply chain management capacity and infrastructure development. They also indicated that the bank's investments in HIV/AIDS in Africa face challenges in areas such as mitigating against negative effects of the financial crisis in scaling up access to HIV treatment, addressing the HIV – TB co epidemic especially in south Africa. Others are sustaining supports for HIV prevention efforts and to strengthen weak national systems and civil society capacity. In line with economic problems, the bank provides support to countries through technical support and collaborative efforts for a joint response by assessing the fiscal consequences of scaling up national AIDS Programmes in Botswana ,South Africa ,Uganda and Swaziland.

According to America Public Health Association (2009), US enter the third decades of AIDS epidemic and the rates of people who are newly infected with the virus continue to increase among African Americans as compared to those of other ethnic groups. For that matter, the centre for disease control and prevention has proposed a heightened national response to the HIV and AIDS crisis for African Americans. They further stated that among the population as whole interventions that were applied have achieved some result in reducing HIV related risks and infection rates. Despite dealing with biomedical and behavioral issues related to the transmission of HIV/AIDS some of the related cultural bond protective interventions and their historical roots are not routinely included in HIV prevention strategies for African Americans.

According to Teilingen (2009), limited resources and administrative capacity coupled with high demands for health services particularity HIV and AIDS treatment and

prevention has created serious challenges to the government of Nepal. HIV intervention strategies such as building individuals skills needed to use prevention strategies available well, medical intervention and preventive programmes, must all be targeted at different levels. He further indicated that programmes that prevent HIV transmission usually are in competition with programmes to treat people that are infected with the epidemic, such as management issues and deep rooted cultural challenges. He also indicated that Nepal is faced with several difficult issues. He said most important preventive measures are condom use, proper testing and counseling and targeting behaviour change through socio- cultural change. In spite of several efforts by Nepal government, HIV prevention and treatment services are not able to reach the at- risk populations because of the gap between top levels and grass root levels. This calls for planning by policy makers to translate the plan into action to help prevent and treat the overwhelming number of people living with HIV and AIDS. Teijlingen said, there is urgent need to take those issues and challenges and strengthen the whole spectrum of health systems through collaborative approach to accomplish the millennium development goals. He said there is the need to address cultural challenges which many abstract the use of services offered due to antipathy within or between groups of sufferers and population as a whole without preventing people who are most at risk of HIV epidemic.

There is growing recognition that interventions for communities that are seriously affected by HIV and AIDS are crucial (Family Health International, 2005). The risk between movement of people from one place to another and HIV vulnerability is also increasing around highways and borders have been recognized as environment of higher HIV vulnerability. For instance HIV prevalence among antenatal clinical climate at Beitbridge – southern Africa’s major border crossing is about 50%. They indicated that because migration transcends international boundaries. The US agency for international

development must partner governments and organizations and initiated the “corridors of hope initiative”. The Corridors of Hope Initiative wishes to develop the refine and package a standard assessment methodology that would enable planners to risk recognized prevention opportunities and develop grounded coordinated regional prevention initiatives.

According to Debis et al. of (2004), mother-to-child transmission of HIV through breastfeeding is the main difficulty mothers are facing in resource poor setting where HIV prevalence rate is high. Nearly every infants in developing countries are initially breastfed and most children continued to take breast milk until they are at least six month old in Asia and sub-Saharan Africa. They stated that in December 2002, international researchers covered in Belgium to discuss mechanisms for HIV rates and high risk factors and strategies to prevent them through breast feeding. Assessment of uptake of a nutritional intervention, promoting exclusive breastfeeding with cessation between three and four months of age to reduce the risk of postnatal transmission of HIV and AIDS in Abidjan, Cote d’Ivoire between 2001 and 2003 revealed that HIV infected pregnant woman received prenatal antiretroviral were systematically offered prenatally two infants feeding intervention and artificial feeding during three months and early cessation of breastfeeding for two years. The results among 557 mothers enrolled, 262 (47%) initiated breast feeding. Out of this number, the possibility of practicing exclusive breastfeeding from birth was 18% and 10% at 1 and 3 month of age, respectively (Becquet et. al., 2005). They said complete cessation of breast feeding was obtained in 45% and 63% by 4 and 6 months of age, respectively. They also indicated that environmental factors such as living with partner’s family were related to failure to initiate early cessation of breastfeeding. They further indicated that acceptability of exclusive breastfeeding was low among urban population.

Sub-Saharan Africa is unique contently (Asante, 2013). The social, economic and cultural contexts within which HIV infects individuals and spreads across the continent differ tremendously from people in other parts of the world. He said that they should therefore take caution when prescribing policies that are used in other parts of the world to be used in sub-Saharan Africa. He also emphasized that it is important to remove barriers that militate against HIV testing and counseling in sub-Saharan Africa. Issues such as lack of access to antiretroviral drugs, inadequate health and medical personnel, culture of poor use of health services and widespread stigma and discrimination against PLWHA must be carefully addressed. He also stated that to a very large extent, HIV and AIDS is behaviour induced disease and just like all similar intervention strategies depend on the willingness of the individuals to change his or her behaviour. United States provided 15 billion toward HIV and AIDS prevention care and treatment in 12 African and Caribbean and one south American countries to be used within 5 years (Feldman & Brockport, 2006). Religious rights and conservative politicians in the US have vehemently debated that both domestically and in Africa, condom use promote immoral behaviours such as pre- marital sexual intercourse and extra marital affairs. Thus, they argued that HIV prevention funds must be channeled to promotion of abstinence among young people who are not yet married and fidelity among married couples. According to them with the help Edward C. Green, Bush administration and the republican dominated congressional house have realized that Uganda could serve as a perfect model in President Bush made certain that Uganda was on the schedule for his five –nation Africa tour where he commended their abstinences and fidelity – booked interventions. Arguments were made in favor of applying the Uganda model to all other African nations by stressing sexual abstinence before marriage and marital fidelity during marriage, while disregarding condom use and treatment of sexually transmitted infection

treatment programmes. They further stated that this political dimension approach to HIV prevention strategies in Africa is based on several false perceptions of what actually occurred in Uganda that caused the HIV seroprevalence rate to reduce the nature of the epidemic in Africa and the values of condom use and ways to treat STIs in HIV prevention strategies. They emphasized that in Uganda, the government and the national strategies in 1986, vehemently promoted HIV related stigma reduction programmes by talking about the epidemic openly. They organized public discussions about HIV and AIDS issues in schools public meeting and in work places. The issues of demand faced by HIV infected people in other nations were drastically reduced in Uganda. They also stated that both male and female condoms are generally one most effective way by which HIV and AIDS infection can be reduced drastically. Feldman and Breckport also stated that WHO recent analysis indicated that there is truly a 10% risk associated with use of condom thus, condom use is not 100% safe. The hope that if everybody in Africa who is sexually active uses condom, especially if they are not ready to give births will help in reduction of the epidemic.

In 2000, 24 million Africans were living with HIV and AIDS (Brown, 2000). He also stated that in absence of effective drugs to treats people who are infected with the diseases, almost everybody will die since several Africans die from AIDS. He further stated 11,000 are infected each day.

According to Avert organization (2012), HIV prevention is the use of a lot of methods to reduce or eliminate the risk of HIV transmission among people. They added that HIV is usually transmitted through sexual intercourse with an infected person, transfusion of unscreened blood and mother to child transmission of HIV and AIDS. They indicated that testing and counseling, condom use, circumcision, family planning and sex education were universally accepted to help prevent the spread of the epidemic.



HIV prevention strategies aim to implement and increase HIV prevention approaches at the community, local and national levels. In recent times, treatments given to HIV infected individual is considered very crucial in HIV infection strategies. Adherence to antiretroviral therapy can lower the quantity of the virus in the body which will subsequently reduce the risk of HIV infection. Avert emphasizes that HIV prevention strategies must be comprehensive and make use of appropriate interventions that are known to be effective in HIV and AIDS prevention.

A successful HIV and prevention programmes do not only give information to people, but also give people skills and provide access to vital commodities, such as condoms or sterile injecting equipment. They stressed that many individuals do not fit exactly into only one HIV and AIDS prevention strategies and must be offered several alternatives to be to prevent the spread the epidemic. For instance, injecting drug users need access to condoms and safer sexual counseling and support to help reduce the risk of HIV transmission through blood. Avert further stated that HIV prevention in the world needs much improvement to achieve desired results. This is because progress in some areas is very low. There is not only one best way of HIV prevention. The preventive strategies must be designed to suit local situations and nature of the epidemic. There should be programmes that will promote open discussion about the epidemic and the same time, dealing with stigma and Discrimination reduction. There must also be pragmatic strategies instead of just trying to eliminate certain types of sexual behaviours and drug use. They recognize that some individuals will continue to do these things and that they should be helped to do same more safely. Emphasis must also be laid to the programmes that target the needs of specific communities. This calls for the work of small community-based organizations. Avert also indicated the need for an effective leadership in HIV prevention programmes. This calls for involvement of political

leaders, religious leaders and other authorities in HIV prevention programmes. They should ensure that every world leader is committed to HIV prevention strategies. Avert organization further stated that an individual can eliminate or reduce his chances of HIV infection by making the choice to abstain from sex or delay in having sexual intercourse. The individual can be faithful to one partner that is not already infected and use of condoms when having sexual intercourse. They also stated that female condoms are made available and distributed worldwide within the past. In 2009, about 26 million female condoms were provided through the assistance of international and non-governmental funding. They however indicated that the number of female condoms distributed is by far less than that of the male ones distributed. Avert further indicated that trafficking of people, especially women and children who are sometimes compelled to move from one place to another. A lot of women and children that are trafficked are forced into prostitution. Even in regions where HIV infection is low, trafficked women are still vulnerable to HIV infection because seldom are they able to negotiate for use of condoms during sexual intercourse.

According to WHO (2013), since the beginning of HIV infection, the epidemic has infected more than 60 million people worldwide. The epidemic has also caused the death of about 20 million people in the world. In spite of increased international response to curb the pandemic, HIV continues to spread, causing over 14,000 new infections every day. About 95% of these infected people are from developing countries. At the moment, AIDS is the number one cause of death in Africa and fourth in the world. As it is always with infectious disease, effective and efficient vaccine is critically required to complement and promote the efficacy of current HIV infection strategies. WHO further stated that medical male circumcision contributes to about 60% reduction in the risk of female-to-male sexual transmission of HIV and AIDS. WHO and UNAIDS have

recommended voluntary medical male circumcision in 2007 as an additional response to prevent the spread of the epidemic, especially in settings where HIV prevalence rate is high. Medical male circumcision offers excellent value for money in settings where HIV prevalence rate is high but has low male circumcision rates. The practice they said saves cost by reduction in new HIV transmission which subsequently reduces the number of people who will be treated with HIV and AIDS. Medical male circumcision also provides males life-long partial protection against HIV and other sexually transmitted infections. Medical male circumcision must be recognized as one of the comprehensive strategies to prevent individuals from HIV infections. Fourteen priority nations where HIV prevalence rate is high and low levels of male circumcision is practiced are trying to increase voluntary medical male circumcision. These countries are: Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, south Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. WHO also stated that in connection with the world's goals such as millennium development goal 6 to curb and reverse the spread of HIV and the WHO global health sector strategy on HIV and AIDS, thus a five-year joint strategic action framework to accelerate the increased voluntary medical male circumcision to reduce the spread of the epidemic in eastern and southern Africa between 2012-2016 was developed by WHO and UNAIDS. The US President's Emergency Plan for AIDS Relief (PEPFAR), the World Bank and in consultation with National Ministry of Health provide a framework that requires an intensified response by countries and partners to catch up with men 15 to 49 year group who were not already circumcised. They also aimed at providing sustainable infant and adolescent's services. The intervention framework also encourages country ownership of the programme as well as promoting combination of interventions and strategic coordinated actions. WHO estimated that by the end of 2011, more than 1.3 million voluntary medical male

circumcisions was conducted for HIV prevention, with nearly a doubling of the number from 2010 to 2011. Despite the current increased rate in medical male circumcision, efforts must be made to achieve the number of medical male circumcision for an increased public health impact on HIV and AIDS. They suggested that advocacy at all levels must be promoted, use of innovative approaches to service delivery including medical devices for adult circumcision.

According USAID (2009), strategies to prevent HIV infection are not available to many women in developing countries. Microbicides are a newly discovered health products that would provides women with an efficient chemical barrier to sexually transmitted HIV. USAID's response to promote the development of microbicides is to focus support on the advanced testing of the most promising candidates.

In the period when about 33million individuals are HIV infected and women of childbearing age account for nearly half of the population of PLWHA, family planning has a crucial role to play in reducing the number of people infected with the epidemic (USAIDS, 2012).

Integration of programmes which will provide opportunities to reach important groups of people with crucial information and services. USAID's family planning and HIV and AIDS main areas for integration cover prevention of vertical transmission of HIV and AIDS, voluntary counseling and testing, use of antiretroviral drugs and the development of effective contraceptive and new technologies, such as microbicides. Integrated family planning and HIV and AIDS service have the efficacy to reduce missed opportunities and provide comprehensive reproductive health care that addresses the double risk of HIV infection and unintended pregnancy.

According USAID (2012), about 3 million people are living with HIV and AIDS in Nigeria in of out of about 155 million national population. Nigeria has the third largest

HIV burdens in the world. Currently, all the states in Nigeria are affected with the epidemic. The causes of the spread of HIV in Nigeria includes: commercial sex works, multiple sexual partners, inability to identify high risk situations and lack of established STI programmes designed for high risk populations. USAIDS further stated that there are several complex issues related to the introduction and the effects of antiretroviral drugs in resource constrained settings.

Current research examines strategies that promote easy administration, adherence to antiretroviral therapy and strategies to decrease drug tolerance and side effects of the drugs. USAIDS also supports project designed to support orphans and vulnerable children aimed to increase a family's ability to provide care and support to children affected or infected by the epidemic. USAIDS supports research to recognize successful approaches, include learning: the effectiveness of strategies to help parents and families affected by HIV and plan for their children's future care; psycho-social matters affecting adolescent orphans and vulnerable children; and different models to promote food security and nutrition in programmes assisting orphans and vulnerable children. USAID also provides intervention on sexual and reproductive health of women living with HIV and AIDS. This intervention include availability and access to services that support healthy sexuality and reproduction such as services and support to help women plan their families. This service includes pre-conception attention to infertility and cervical cancer screening and treatment. Since the launch of USAID's HIV and AIDS prevention programme in 1986, the USAIDS has been playing a leading role around the globe to curb the HIV and AIDS crisis. Currently more than 34 million people are infected with HIV. USAID is a major partner in the U.S. President's Emergency Plan for AIDS Relief. This emergency plan provides the largest and most diverse HIV and AIDS prevention, care and treatment initiative in the world. Further to president's emergency plan for

AIDS relief, USAID and other partners implementing the plan, provide life saving AIDS treatment to more than 4.5 million people and HIV counseling and testing to more than 40 million individuals. They also provided support to more than 9.8 million pregnant women with HIV testing and counseling and provided prevention of vertical transmission of HIV to more than 660,000 HIV positive women. These interventions made it possible for 200,000 infants who were born to be free of HIV and AIDS. About 13 million individuals benefited from the care and support services given by USAID.

USAID mission in Ghana also seeks to reduce the number of new HIV infections and expands as well as promotes the care and treatment of PLWHA, strengthening the policy environment and strengthen health systems at both national and community levels (USAID, 2011). States government (USA) focuses its prevention efforts on most-at-risk population. Male and female sex workers including those engaged in homosexual sex and their clients and partners, especially the 70% in discordant relationships, and their partners. United State Government's prevention strategy with these groups emphasizes 10 key behaviors to achieve prevention goals, namely: correct and consistent use of lubricants with condoms during every sexual intercourse; testing to know your HIV status. Other key behaviour factors are : encourage regular sexual partners to get tested to know their status; disclose to their partners about their HIV status and also protect their partner; encourage PLWHA to achieve involving themselves in HIV and AIDS programmes and intervention strategies; encourage PLWHA to eat healthy foods and protect themselves against infectious diseases such tuberculosis, malaria and diarrhea.

### **HIV/AIDS Education**

HIV/AIDS was first discovered among homosexuals and later found in long term injection drug users as well as their sex partners who did not necessarily use the drugs (Discovery Communication, 2010). They continued to state that at the moment, about 26

different clinical conditions are used to define whether or not an individual has developed AIDS or not.

It is generally accepted that HIV was introduced to human population by certain animals (Hales, 2003). This is because HIV- 1 is genetically similar to a virus called Simian Immuno-deficiency Virus in chimpanzees. According to them, it is believed the virus has introduced into the human population through the hunting, preparation or bites from these animals. HIV/AIDS can be transmitted from one person to another through unprotected sex, mother-to-child, blood transfusion of HIV infected blood or blood products and sharing of sharp objects with an infected person. As a result of lower levels of HIV-2 viral load at early stages of infection, HIV-2 is comparatively less transmissible sexually than HIV-1. However, most of the children who are living with HIV/AIDS, acquired it from their mothers. Moreover, mother-to-child transmission of HIV-2 is comparatively lower than that of HIV-1. Mother-to-child transmission of HIV-1 is between 20 and 42 percent. Also, HIV/AIDS can be transmitted through the reuse of medical equipment without sterilization. Few, but significant number of health workers were infected through this mode when there is needle stick injury.

According to Hasnai and Levy (2005) in 2003 HIV and AIDS killed an estimated 3 million people worldwide while about 5 million acquired HIV that year. They stated that 700,000 of the people infect were children. AIDS is a disease that affect human beings and it is caused by HIV. According to Lo (2008), this disease slowly reduces the way the immune system of human beings function and predisposes the individual to opportunistic disease Lo indicated that in 2007, 33.2 million people were estimated worldwide to be living with HIV/AIDS. Out of this number, the disease killed about 2.1 million people among which 330,000 are children. Lo stressed that three-quarters of these deaths occurred in Sub-Saharan Africa.

According to USAID (2009) Ghana's estimated number of adults living with HIV/AIDS in 2005 was 2.3 percent. USAID Health indicated that after HIV/AIDS was discovered in Ghana in 1986, the disease spread slowly, but steadily until 2003 when prevalence rose to 3.1 percent. USAID Health emphasized that between 2000 and 2006, HIV prevalence data from antenatal care clinics ranged from 2.3 to 3.6 %.

A sentinel survey conducted in Ghana in 2004 the most severely infected age group is from 25 to 29 years, thus 4.5 percent (WHO, 2005). From 30 to 34 years group followed 25 to 29 year group in terms of HIV prevalence rate, thus 4.4 percent. WHO also stated that 15 to 19 years group are becoming increasingly vulnerable to HIV/AIDS prevalence rate, thus 2.0 %. while HIV/AIDS prevalence rate among 20 to 24 years group is 2.7 %. USAID indicated that adolescents, sex workers mobile populations, miners and Kayayei, thus young female porters who have migrated from rural to urban areas are the most vulnerable groups. This they said was because, HIV prevalence rate among prostitutes rose from 2 % in 1986 to almost 40 % in 1991. WHO also indicated that within 1997 and 1998, 74 % of sex workers in Tema and Accra who are home based was living with HIV, while 27 % of roaming sex workers were living with the disease. They further indicated that in 1999, 82 % of sex workers in Kumasi were living with HIV while HIV prevalence rate among people who attended sexually transmitted infection clinic in Accra increased from 2 % in 1988 to almost 9 % in 1991. WHO further emphasized that in 1998, HIV prevalence rate among women who attended sexually transmitted infection (STIs) clinics who were tested in Adabraka in the Greater Accra Region had increased to 27 %. However, in Southern Region, the HIV prevalence is 24 % among people who attended STIs clinics and 3 % among blood donors.

According to Burning et al. (1986) HIV/AIDS prevalence incident and mortality data in Muslim communities are low because many Muslim countries either do not



report their statistics or under report them. They also indicated that Africa, particularly Southern part continues to have the highest HIV/AIDS prevalence and incidence rate in the world. HIV/AIDS indicated and prevalence rate varying from country to country in Africa. The number of people living with HIV/AIDS particularly adults range from 6 to 10 % in Nigeria and 10 to 18 % in Ethiopia (Hasnai, 2004). He stated that in the two countries mentioned above most of the people are Muslims. He also indicated that by 2010 those Muslim communities that had high prevalence rate were likely to have HIV/AIDS prevalence rate as high as 40 %.

Muslim countries like Sudan and Nigeria have already shown evidence of explosive spread of the disease (Siemon, 2004). He also emphasized that the under reporting of HIV/AIDS prevalence in Muslim countries has serious implication on disease surveillance and monitoring. He also indicated that in Eastern Mediterranean Region out of the 700,00 people who are estimated to be living with HIV/AIDS in 2004 only 14,198 cases were officially reported, which indicated under detection, under-reporting and surveillance.

In 2003 complete data on HIV prevalence rate was not available from 9 out of 22 countries in Eastern Mediterranean Region (WHO, 2005). USAID indicated that data from two other countries had to be rejected because of reporting problems? USAID also stated that even though the number of adults living in Eastern Mediterranean Region, (0.3 percent) was almost the same as the prevalence rate in Western Europe, the number of estimated new HIV/AIDS cases in 2003 is almost 60 percent higher in Eastern Mediterranean Region (55,000 cases) than Western Europe (35,000 cases). This was as a result of the fact that Muslim countries are exposed to speculation, since Islam puts a strong value on chaste life and also prohibits its people from sexual intercourse outside marriage, adultery and homosexuality. However, some of the Muslims in spite of Islamic

teaching, involve themselves in activities that expose them to HIV/AIDS infection. They indicated that some Muslims engage in risky behaviours such as premarital or extra-marital sex and have the potential of transmitting STIs to their unsuspecting partners. He also emphasized that the sex workers do not have adequate self support and are not serene for STDs, which may lead to the spread of such disease.

According to Koester, Booth and Zhang (1996) in most of the Muslim communities, there exists power in balance between men and women, thus gender inequality. This they said can be seen in heterosexual relations and both economic and social aspect of life where men appear to have more power than the women. They further indicated that most women in Muslim societies are not educated and are deprived of resources that will make them aware of their civil, legal as well as sexual rights. As a result of these inequality, and women` dependence on men, women are more vulnerable to HIV/AIDS contraction, since they are less likely to be able to negotiate with their partners who may be infected with HIV/AIDS.

HIV/AIDS is a disease that attracts a lot of stigmatization. African Journal of AIDS Research (Boulay, et. al., 2008), stated that local and national level regions bodies continue to encourage Ghanaians to show compassion to PLWHA. They also stated that people`s attitude toward PLWHA has improved as a result of various campaign against stigmatization. They further stated that a survey conducted in 2003 had shown that 20% more respondents are willing to care for their relatives who are infected with HIV/AIDS than that of 2000. Boulay further noted that the respondents that were exposed to HIV/AIDS campaign are 45% more likely to care for an HIV/AIDS infected relative than those that are not exposed to the campaign. However, 43% of the respondents who were involved in HIV/AIDS campaign program are more likely to believe that a female teacher who is infected with HIV/AIDS should be permitted to teach than those who did

not benefit from the campaign program. They also pointed out that the results of the above mentioned study shows that mass media and religious leaders can play a significant role in reducing stigma attached to HIV/AIDS.

Studies that describe HIV/AIDS risks in Iran emphasized sharing of injection equipment by both prisoners and non-prisoners as the major mode of HIV/AIDS transmission (MAP, 2004). They went on and stated that a study conducted on 320 drug users who have a record of sharing needle to inject drug, reported 49.8% infection rate.

In the world every year, more than half of the people who are infected with HIV are within the ages of 15 and 24 years (UNAID, 2009). They also stated that 6,000 young people between the ages of 15 to 24 are infected with HIV thus about 250 youth are infected every hour. Out of the 250 that are infected every hour 2 of them are the youth of USA. About 12million youth living with HIV/AIDS in the world in 2002. UNAIDS also noted that about 28% of the 42 million people living with HIV/AIDS in 2002 are young people below 24 years. They also noted that 62% of all infected people in the world are females. They added that more than 15 million STIs, while more than 6 million occur among youth between ages 20 to 24. At least 1 in 3 sexually active individual is likely to contract an STI. However, HIV/AIDS is spreading with a very high rate in most parts of the world. Narain (2004) noted that HIV/AIDS has reached epidemic level in most parts of South-East Asia. He further noted that South- East Asia accounted for the second highest prevalence rate after Sub-Saharan Africa.

In Ghana, the spread of the disease is put under control up certain extend USAID (2010) noted that increasing the number of people who have access to anti – retroviral therapy as far as PLWHA are concerned, and the number of men who are circumcised have contributed to the HIV/AIDS prevention and treatment programs. USAID, however, pointed out that factors, such as commercial sex work, high – risk sexual

activities among the youth as well as gender issues that put women at a disadvantage as far as sexual issues are concerned are threats to HIV/AIDS prevention program. They also pointed out that urbanization, high level of poverty and inaccurate perceptions of personnel can also affect the HIV/AIDS prevention programs. They emphasized that blood transfusion contributed to 5% of all HIV infections in Ghana. They made specific reference to females who have sex with men for money and homosexuals are mostly infected by the disease. USAID also made reference to the study conducted on Female's Sex Workers (FSWs) in 2006 by strengthening HIV/AIDS Response Partnerships (SHARP), reported that 52% of commercial sex workers who stationed at one place and 37% of those who move from one place to the other were infected with HIV/AIDS. Finally, they noted that a research conducted in 2010 indicated that condom use among commercial sex workers has increased to about 98%, while condom use among other partners, such as boyfriends and husbands was just 33.7%.

In spite of these figures the prevalence rate of HIV/AIDS has began to increase. Ghana's HIV/AIDS infection rate has increased to 0.2% in 2009, thus an increase from 1.7% in 2008 to 1.9% in 2009 (Asante, 2010). Moreover, experts say that, in spite of the increase Ghana's epidemic level was still under control. Ghana wet went ahead and pointed out that 40 to 45 year group accounted for the highest prevalence Rate, while 15 to 19 year group accounted for the lowest prevalence rate. The number of young people between 15 to 24 years who are now infected is 2.1%, when compared to the previous years, the highest prevalence rate was among the 25 to 29 years group, while the lowest was among 15 to 19 years group. Ghana Web also stated that HIV prevalence has also increased among pregnant women, with an increase from 2.2% in 2008 to 2.9% in 2009. They emphasized variations among the various regions which range from 0.7% in North Tongu to 5.8% in Koforidua and Agomenya. They further stated that apart from Eastern

Region, all other regions in Ghana experienced an increase in HIV/AIDS prevalence rate in 2009 as compared to that of 2008, thus Upper West Region recorded the highest increase (from 1.6% to 3.1% representing 94%). The Eastern Region which was considered to be the region with the highest prevalence rate in the past is still leading as far as the regional prevalence rates are concerned, thus 4.2%. Eastern Region was followed by Ashanti Region, which has a prevalence rate of 3.9%. Also, Asante indicated that Greater Accra Region accounted for the third highest prevalence rate of HIV/AIDS with 3.2% which is directly followed by Western Region which has 3.1% infection rate. HIV/AIDS prevalence rate in the Central Region is 3.0% followed by Brong Ahafo Region which has a prevalence rate of 2.9%. He further noted that HIV/AIDS prevalence rate in the Volta Region is 2.6%, while that of Upper East Region is 2.2%. They stated that Northern Region is the region that has the lowest prevalence rate of 2.0%. He also noted that about 267,069 people were then living with HIV/AIDS in Ghana, and 25,666 of them are children. They also stated that 25,531 people are newly infected with HIV/AIDS, while 20,313 people were reported dead from HIV/AIDS in Ghana with 2,566 being children.

The primary goal of HIV/AIDS prevention is provision of knowledge about ways by which the disease can be transmitted and steps to avoid infection (Levy, Dignan & Shirreffs, 1992). They went ahead to state that one of the ways of HIV transmission is sexual activity, therefore, people must have knowledge about the safety of sexual behavior. By the help of education and with age, AIDS and other STDs may eventually be conquered (Levy et al., 1992). According to Libman and Witzburg (1993), at present, education is the only way to effectively control the AIDS epidemic.

We are all at risk of contracting HIV, therefore, people must be informed through basic HIV/AIDS education so as to prevent them from contracting the virus (Avert,

2010). They also pointed out that in trying to prevent HIV infection, the focus should be on the various groups of people such as children, the youth, women, men, sex workers and homosexuals. Sex education that concerns itself with life skills, which involves healthy ways of talking about sex and safer sexual activities are vital ways of helping the youth to protect themselves against HIV infection. According to Avert organization (2010), organizations that started with the prevention of the spread of HIV among homosexuals found that there was the need to provide them with education and skills that will enable them to practice safer sex as well as how to negotiate safer sexual relationships. They realized that the method was very effective in helping many men.

Human attitude is directly influenced by education therefore, HIV/AIDS education is one of the ways of effectively controlling the spread of the disease. According to Willis (2002) the only hope that the world has is education on HIV/AIDS prevention. HIV and AIDS education can be held in all settings (schools, workplaces, hospitals, clinics and homes) (Avert, 2010). They also stated that people who are at risk will be exposed to accurate information about HIV/ AIDS. Also, they stated that young people are at a higher risk of contracting HIV/AIDS therefore, they need to be educated on ways by which the disease can be transmitted before they get into situations that might put them at risk.

Few people know how to use condoms, which lead to more than 40% failure rate (Robins, Power and Burgess, 2002). Therefore, HIV/AIDS education can provide the individual with knowledge, skills and attitudes needed for him to use condoms to protect himself against HIV infection. Interventions such as HIV/AIDS education on correct and appropriate use of condom can promote behavioural change (Adler, 2001).

According to Adler, Cowan, French, Mitchell & Richens (2004), health education needs to make people aware of the advantages of discriminate and safer sex and the means to avoid and put to minimum indiscriminate sex.

Education can help people to avoid certain behaviours that might put their health into problems. Lakhanpal Ram (2008), noted that one of the ways by which people can be made to avoid risky behaviour is through health education on healthy sexual practices. They also stated that education is said to be effective only if it provides a higher health literacy and holistic mental ability. This mental ability they said could help people to understand the relationship between various risky behaviours and HIV/AIDS contraction.

Many people learn from their peers in several ways. According Diclemente (1992), several studies have shown that young people, particularly adolescents who believe their peers use condom are also more than two times likely to use them than those who do not believe their peers use condoms. He further noted that in the USA peers education programs that focus on black females living in urban centres who are between 11 to 20 years has contributed significantly to improvement of knowledge about HIV/AIDS as well adopting the behaviour that leads to prevention of the disease. He also pointed out that before the peer education program, 44% of the participants that are sexually active reported that they were not using condoms, while after the program, the percentage of participants who had had sex in the past two weeks fell from 21% before the program to 14% during the follow-up.

When a peer education program was evaluated in Cameroon, it was revealed that there was an increase in the use of scientific contraceptive techniques, and also an increase in the number of people who used condom during their recent sexual intercourse among the program participants (Brieger et al 2001). They further stated that the peer

education program was more effective among the young people that were out of school. They also noted that the West African Youth Initiative (WAYI) put into action peer education programs in both school and outside school settings in Ghana and Nigeria. The evaluation revealed that peer education had increased the number of young people who had reported that they used modern contraceptive techniques. This figure had increased tremendously from 47% to 56%. Most teenagers trust their peers more than adults. Peer educators that are given some form of training can provide credible information to some young people than adults, since they communicate relatively clearer ways and also serve as mentors who remove the misconception that most youth are having sexual intercourse (Rickert et al, 1991)

According to National Hemophilia Foundation (1994), a study which compared peer led education with adult led education had revealed that peer counselors produced better attitudinal change of teenagers attitude to individual high risk behaviour that might lead to HIV/AIDS infection. They further indicated that peer led education also urged teenagers to take steps that would make them prevent the spread of the disease. They also noted that the same study revealed that adolescents in were counseled by their peers were likely to involve themselves in discussions that were interactive, than the people that were counseled by adults, and those who educated their peers also benefited from the peer education program.

HIV/AIDS can affect the individual as well as the entire society in several ways. When HIV/AIDS infects an individual, it invades the immune system paving way for opportunistic diseases to enter his or her body (Discovery Communication, 2010). The effects of diseases such as malaria become more severe in HIV infected women, particularly when the woman is pregnant (Parry, Godfrey, Mabeg & Grill, 2004). They



went on to state that generally, severe malaria is not common among HIV/AIDS patients in malaria endemic zones.

According to Avert (2012), HIV – related stigma and discrimination seriously affects steps to effectively fight against HIV and AIDS. Some people who are infected with HIV and AIDS are evicted from their homes by their relatives for fear of infecting others in the family. Avert further stated that the stigma that people attach to HIV and AIDS, can be extended to children of coming generation. They again said combating stigma and discrimination against PLWHA, is crucial to preventing and controlling the spread of the pandemic. Avert also stated that stigma can be reduced to some extent through policy and law to protect the rights of both the infected and affected. Education they said can play very important role, especially in educating both the infected and affected on their rights.

According to UNESCO Bangkok (2012), stigma takes years to form. Over an extended period of time and it deeply grounded itself in the various societies. They further stated that stigma can be complicated and fuel the spread of the disease and it will be very difficult to eliminate.

According to UNAIDS (2009), HIV prevention education and condom promotion must be used to overcome the problems of complex gender and cultural issues. They said, young men and women are regularly and repeatedly prevented from getting information and access to condom. Usually, they do not have the power to negotiate the use of condom. They further stated that in many societies, men are resistant to the use of condoms. This they said needs to be identified in planning condom promotion programmes. Female condom can help women to have more control in protecting themselves. Moreover, women will remain highly exposed to HIV infection

until both men and women share equal decision – making powers in their interpersonal relationships.

Through effective community based HIV prevention, Umunthu Foundation is providing HIV prevention and awareness promotion, such as radio, debates, drama and songs (Avert 2012). Umunthu encourages people to change their behavior and also promotes steps to reduce stigma and myths surrounding the virus. Umunthu's office also provides support for groups of PLWHA and encourages home-bases care takers to meet regularly to share their experiences, knowledge and also have access to treatment. Avert further stated that Umunthu Foundation has also started community dialogue between men and women to reduce the occurrences of gender base violence and may establish links between violence and HIV. The foundation they said also provides psychosocial support as well as referrals to legal services for their victims of gender –based violence. The foundation also pays attention to young people in the community and organizes several anti – AIDS youth groups involving those who are either in school or out of school to give young people the opportunity to talk openly about HIV and sexual health.

Biomedical and social cognitive model driving HIV prevention programmed in sub-Saharan African are mostly based on factual and accurate knowledge about the epidemic (Tenkorang, 2012). A lot of people in Africa have knowledge about HIV and AIID however, a lot of individuals still believe in several myths associated with the HIV epidemic which seriously contradict and negatively affect preventive efforts in the sub region.. Tenkorang again stated that using 2008 demographic and health survey and application of logit models, it was realized that beliefs and myths have serious effects on HIV preventions programmes in Ghana. He further stated that results of the study conducted using the model show that knowledge about how HIV is transmitted had lower odds of endorsing myths of the epidemic. When this was compared with less

educated and poorer Ghanaians, those who were educated and richer were less likely to accept myths about the epidemic. Also compared to the Akan tribe, respondents identifying with other tribes, were significantly less likely to accept myths associated with HIV. The findings show that the policy makers provide accurate information about how the disease is spread to eliminate myths that are surrounding the epidemic.

According to avert organization (2012), there are several effective ways to encourage individuals to adopt safer sexual behaviour, including media awareness creation, social marketing, peer education programmes and small group counseling which should be carefully planned to be relevant to the needs and circumstances in a particular area. They also stated that although commercial sex workers are mostly infected with HIV and AIDS in most parts of the globe, they are also one of the groups that are more likely to respond to HIV prevention awareness creations. HIV prevention education targeted prostitutes not only to reduce the number of infection that occurs through paid sex, but also to use them in HIV prevention programmes. Sex workers have generally higher number of sex partners, which in itself does not necessarily increase their possibilities of HIV infection in case they use condoms consistently and correctly. The problem is that sex workers and their partners do not use condoms. Despite the fact that prostitution is to some extent legal in some countries, they are not protected by any specific laws. For instance, a sex worker who is raped may find it difficult to bring charges against their attackers.

### **Summary**

HIV/AIDS can be prevented in several ways such as the use of condom during sexual intercourse, mutual faithfulness, delay in having sex' abstinence, transfusion of unscreened blood and avoidance sharing of sharp and piercing objects. Abstinence is the sufferer's way of preventing the spread of the disease. Research has also shown that if

condoms are used consistently and correctly, it can prevent the spread of the disease to almost 98%. The youth are more susceptible to HIV/AIDS infection, since most of them are sexually active, and the disease is said to spread mostly through sexual intercourse.

VCTT is crucial in the control and prevention of HIV/AIDS. This is because early diagnoses of HIV infection are very important in reducing the effects of the disease on the individual. For this there are anti – retroviral drugs available which can help to prolong the life span of AIDS victims. An infected pregnant woman who takes anti – retroviral drugs has a reduced chance of transmitting the disease to her child. Counseling also helps to provide information about HIV/AIDS and also eliminates mythical concepts. One can not say an individual is infected with HIV/AIDS by just looking at that individual. Therefore, it is imperative that people go for HIV/AIDS test in order to know their status.

Epidemiology can be define as scientific way of studying the occurrence of a disease or health condition in a human population, which helps to control or prevent the disease. Human population as mentioned above could be whole world or could be a comparatively small group of people such as a single primary school. Epidemiology of HIV/AIDS is therefore the study of how the disease spreads among human population and the ways by which it can be prevented. HIV/AIDS was discovered in humans, in 1982/83. It was believed that the HIV virus was introduced into human population through the hunting preparation or bites from chimpanzees. The main ways by which the disease spread are through unprotected sexual intercourse, mother-to-child (vertical transmission) blood transfusion and sharing of sharp objects. Sexual intercourse accounts for more than 70% of the transmission of the disease thus the highest mode by which the disease spreads.

The basic goal of HIV/AIDS prevention is to provide people with knowledge about the disease and education is the most effective way of providing people with knowledge. This is because we are all at risk of contracting the disease, therefore, people must be educated on ways by which the disease spread and how it can be prevented, since human attitude is directly influenced by education. Education can also provide people with certain basic skills that will help in the prevention of the disease, such as the technique of wearing condom before sexual intercourse. HIV/AIDS prevention strategies focuses on five main areas, which were new infection prevention, provision of care and support for people living with HIV/AIDS, creation of friendly atmosphere for national response, how to decentralize implementation of HIV/AIDS programs and research monitoring and evaluation of HIV/AIDS programs. The preventive strategies focused more on commercial sex workers, homosexual and discordant couples.

The effects of HIV/AIDS cannot be overstated. However, the effects of HIV/AIDS are usually felt in Sub – Saharan Africa, since most of the people that are infected with the disease came from that region. The disease affects more than the infected individual, since the family and the society which an infected person lives also share in the health status, the economy and productivity of both the individual and the entire society in which the infected person lives. Though, there is widespread information about how the disease spreads, the disease is still associated with stigmatization and discrimination.

### **CHAPTER THREE**

## **METHODOLOGY**

The study assessed the factors that were responsible for the steady decline of HIV/AIDS in the Volta Region of Ghana during the period of 2006 to 2008. This chapter therefore, dealt with the following procedures:

1. Research design
2. Population
3. Sample and sampling method
4. Instruments
5. Data collection procedures
6. Data Analysis

### **Research Design**

The study was a descriptive survey involving 10 hospitals. According to Earl (1989), descriptive survey describes data and the way a given population or event that is being studied behaves or occurs. Descriptive survey answers questions, such as who, what, where, when and how. Earl further indicated that although the data that descriptive survey describes is factual, accurate and systematic, the one conducting the research cannot describe what actually caused a given situation. This means that descriptive survey cannot be used to establish cause – effect relationship.

According to Creswell (2003), descriptive survey approach is a fundamental research method that studies the situation, as it occurs in its present state. Creswell further contends that in descriptive survey, the researcher tries to capture current occurrences.

The purpose of descriptive survey is to count, especially when everybody cannot be counted, it only counts some of the people, which are used to make inferences about

the population (Oppenheim, 1996). Oppenheim further stated that descriptive survey describes the number of people in a given population that have a particular characteristics or how often certain phenomenon occur. Descriptive survey therefore cannot make any generalization beyond the group that was observed.

The main aim of descriptive survey is to get first hand information from respondents, which is purposeful and structured (Dencombe, 2003). Dencombe also stated that descriptive survey enables the researcher to gather a lot of information, which he uses to determine the nature of the population to be studied as it exists during the period of the research. Descriptive survey allows itself to the use of questionnaire, which can generate a lot of information as far as quantitative data is concerned. Descriptive survey according to Dencombe also saves time, and less expensive. Dencombe, however stated that even though survey cover a wide range of gathering information, the researcher may not be able to check on the accuracy and honesty of the various responses.

### **Population**

Population includes every individual or item which has certain characteristics one devises to understand. Macmillan (1996), stated that population is a group of items, which could be people, events, or objects that conform to a particular criteria and to which an individual intend to generalize the result of the research.

The Volta Region is one of the ten administrative regions located at the eastern part of the Ghana. The northern region bounds it to the north, the south by Gulf of Guinea, west by Volta Lake and the east by the Republic of Togo. The region occupies a surface area of about 205750 square kilometers. The population of the region based on the 2010 National Population and Housing Projected Census was 1901179 with an annual growth rate of 1.9%. Although the population growth rate varies in the various

districts, the largest population district is Ho Municipality with a population of 214612, followed by Hohoe Municipality with a population of 181297. The least populated district is Jasikan with a population of 58483 people.

Volta Region has a total of 336 health institutions out of which 242 are Ghana Health Service administered ones. Eighteen of them are mission owned. One facility is quasi-government, thus military hospital at the Medium Mortar Regiment in Ho and 65 privately owned. Out of these health institutions, 25 of them are hospitals.

The target population for the study was the various categories of nurses and medical doctors and pharmacists in the various health facilities in Volta Region. About 95% of the medical doctors were males. About 75% of the pharmacists were males. However, about 75% of the nurses involved in the study were females. In all the accessible population was about 700. The nurses, the pharmacists and the doctors were selected because they were directly involved in HIV/AIDS prevention strategies in the hospitals in the Volta Region. These health and medical personnel came from various tribes and religious backgrounds in the region. The accessible population also consisted of mixed gender group, and I hope that this was a true representation of the target population.

### **Sample and Sampling Technique**

The sample size was 250 respondents. This comprised 25 health and medical personnel from each of the 10 health facilities I sampled. Out of 250 respondents, 75 of them were males whiles 175 of them were females. According to Webster (1985), a sample is smaller aspect of a statistical population whose properties are studied to get knowledge about the total population.

Kalton (1983) further stated that every sample is hoped to reflect the group from which it comes, moreover there is no guarantee that every sample truly represents the



population from which it comes. Kalton further stated that usually, it is not practicable to conduct a research on the entire target population due to cost and time limitations. He, therefore stated that sampling a subset of the target population can help curb these problems and help generalization to be made to the total population. He also mentioned that sampling is the act or process of selecting a subset of a group to be studied within a population of people which is believed to provide knowledge about the entire target population, especially for the purposes of making predictions based on statistical inferences. They further stated that sampling is an essential part of data collection. They also outlined three importance of sampling, thus the cost involved is cheaper, it allows faster data collection processes and it ensure homogeneity, which promote or improve on the accuracy and the quality of the data collected.

I used convenient sampling technique to select 10 out of the 25 hospitals in the region for the study. This was to enable the researcher to select only district hospitals that provide HIV and AIDS services. Finally, I used simple random sampling technique to select the 25 respondents from each of the health facilities sampled. This was to help me make some generalization about the respondents. This I did by taking their sampling frame from the health administrators of each of the 10 hospitals selected for the study. The researcher selected 25 respondents from each of the 10 district hospitals selected for the study because there was no significance difference between the population of health and medical personnel in the various hospitals.

According to Black (2004), simple random sampling is the only justified process for selecting single objects to be used as a basis of making generalization. He went ahead and stated that simple random sampling is generally the only acceptable way of arriving at the truth. Sampling technique in which every member of the group has a chance of being chosen in the sample. He further stated that this technique reduces bias and also

makes analysis of results simpler. He, however emphasized that simple random sampling can be susceptible to sampling mistakes because the randomness of the selection may lead to a sample that does not reflect the target population. Also, simple random sampling may be too difficult to conduct when a researcher is selecting from an usually large target population.

**Table 1: Frequency and Percentage Distribution of Respondents by Sex**

Sex	Frequency	Percentage
Male	75	30
Female	175	70
<b>Total</b>	<b>250</b>	<b>100</b>

Table 1 shows that out of the total of 250 respondents, 75 (30%) were males while 175 (70%) were females. This shows some degree of gender sensitivity in the study.

**Table 2: Frequency and Percentage Distribution of Respondents by Age**

Age Range	Frequency	Percentage
20 – 30	41	16.4
31 – 40	149	59.6
41 – 50	21	8.4
51 – 60	39	15.6
<b>Total</b>	<b>250</b>	<b>100</b>

Table 2 shows that out of the total of 250 respondents, 41 (16.4%) were between 20 – 30 years, 149 (59.6%) were between 31 – 40 years, 21 (8.4%) were between 51 -60 years. This indicates that all respondents were adults.

**Table 3: Frequency and Percentage Distribution of Respondents by Profession**

Profession	Frequency	Percentage
Health Personnel	218	87.2
Medical Personnel	32	12.8
<b>Total</b>	<b>250</b>	<b>100</b>

Table 3 shows that out of the total of 250 respondents, 218 (87.2%) were health personnel, while 32 (12.8%) were medical personnel. This shows that respondents were either health or medical personnel.

**Table 4: Frequency and Percentage Distribution of Respondents by Marital Status**

Marital Status	Frequency	Percentage
Single	127	50.8
Married	166	46.4
Divorced	7	2.8
<b>Total</b>	<b>250</b>	<b>100</b>

Table 4 shows that out of the total of 250 respondents, 127 (50.8%) were single, 166 (46.40%) were married while 7 (2.8%) were divorced. This shows the study covered people of varied marital status.

**Table 5: Frequency and Percentage Distribution of Respondents by Academic Qualification**

Academic Qualification	Frequency	Percentage
SSSCE/WASSCE	46	18.4
Diploma	171	68.4
1 <sup>st</sup> Degree and above	33	13.2
<b>Total</b>	<b>250</b>	<b>100</b>

Table 5 shows that out of 250 respondents, 46 (18.4%) were either SSSCE or WASSCE certificate holders, 171 (68.4%) have Diploma while 33 (13.2%) have either bachelor degree or above. This indicates that all the respondents had some level of education

**Table 6: Frequency and Percentage Distribution of Respondents' Professional Experience**

Professional Experience	Frequency	Percentage
4 – 14	190	76.0
15 – 25	28	11.2
26 – 35	18	7.2
36 and above	14	5.6
<b>Total</b>	<b>250</b>	<b>100</b>

Table 6 shows that out of 250 respondents, 190 (76%) were in the health service from 4 to 14 years, 28 (11.2%) were in the health service from 15 – 25 years, and 18 (7.2%) of them were in the service for 36 or more years. These figures indicate that all the respondents were in the health service during the period that the decline in the HIV and AIDS prevalence rate occurred in the Volta Region.

### **Instrument for Data Collection**

I used self-developed questionnaire to collect data from the respondents. I selected questionnaire as the main instrument for collecting data because it offered the respondents little interference on my part. It offered quick results and could be completed at the convenience of the respondents. (Sarantakos, 1988). Sarantakos also stated that questionnaire has a higher level of transparency and accountability than other

data collection instrument such as interview technique. He, however, stated that though, the questionnaire has several advantages, the questionnaire may not give room for probing, prompting and clarification of questions. Sarantakos further stated that in using the questionnaire, there is a possibility that the respondents would compare their responses with their colleagues. This he said could detract from the independence of the responses given.

In order to ensure the validity and reliability of the questionnaire, I was guided by HIV/AIDS related issues that prevailed in the literature. Issues that related to knowledge about epidemiology of HIV/AIDS, HIV/AIDS prevention, VCTT, HIV/AIDS Education, HIV/AIDS intervention strategies and effects of HIV/AIDS were measured. The questionnaire I used consisted of mainly close-ended items, which requested from the respondents to just tick responses that best applied to them. I used close-ended items because it provided uniformity in the response and therefore assured objectivity.

Most of the items in the questionnaire were formatted on the attitude scale. I used four points Likert scale, which I considered very appropriate. These were Agree, strongly agree, disagree and strongly disagree. Though, close – ended items restricts the responses of the respondent, its use guarantees effective editing and analysis of data. I also collected demographic or biographic data from the respondents. The characteristics I considered were gender, age, academic qualification and profession.

The final questionnaire I constructed was a six – page document. Page one consisted of a cover page and a cover letter requesting participants to participate with free mind. The cover page included the purpose of the study and also assured respondents of their anonymity and confidentiality. Pages 2–6 contained the body of the question in 7 sections. The various sections contained the following:

Section A: Demographic data; items 1–6 contained both open and close – ended items; Section B contained close–ended questions on behaviour change issues of HIV/AIDS using Likert scale. Also, in section C and D, I used close – ended questions involving the attitude scale. Section C covered questions on HIV/AIDS prevention, while section D covered HIV/AIDS education.

### **Pre-Testing of Instrument**

During the review of literature on earlier studies to similar problems, I realized the need for a pilot study to ensure acquisition of adequate knowledge about the health facilities. The pilot study was meant to pretest the instrument to identify any loopholes, and to determine which periods will be most suitable for the main survey. Ten health personnel and medical personnel were randomly selected from each of the 10 health facilities I have conveniently selected for the study. I have used simple random sampling to select the 10 respondents from each of the 10 health facilities that I have sampled for the actual study.

However, the respondents I selected for the pilot study constitute those who were not selected for the actual study. These health and medical personnel were selected because I considered them to be having the same characteristics with those that I selected for the actual study. I attached extra sheets of paper to the copies of the questionnaire for the respondents to comment on any identified inaccuracies and inadequacies. The respondents carefully read the items on the questionnaire and pointed out those that were difficult to understand and ambiguous. In line with their comments, I carefully studied and evaluated unclear, biased and inaccurate items and come out with those that were simply worded, free from ambiguities and self explanatory.

### **Validity and Reliability of Instrument**

In order to establish the validity and reliability of the instruments, the data I collected were analyzed using SPSS version 13.0 for window. The coefficient alpha, which measures an internal consistency, was used in the determination of the reliability of the main instruments. The instruments covered attitude/opinion items. The opinion items yielded internal consistency, reliability coefficient 0.66. This coefficient was within the range of those that other studies reported (Perry-Casler et al., 1997). For the actual study, I re-examined the questionnaire by restructuring some of the items. The internal consistency reliability was improved to 0.76. This was considered to be acceptable since in the views of Frankel and Wallen (2000), reliability should be at least 0.70 and preferably higher. The coefficient alpha was deemed appropriate since the items in the questionnaire were multiple scored on the attitude scale.

#### **Data Collection Procedure**

I collected an introductory letter from the Department of Health, Physical Education and Recreation to enable me obtain permission from the Heads of the health facilities I selected for the study. The pilot study and my own observation revealed that the best period for contacting the health personnel was during their break periods. I collected the list of names of the health and medical personnel from the heads of the various health facilities that I conveniently selected for the study. I personally administered copies of the questionnaire to all the health and medical personnel whose names corresponded to the numbers picked during the simple random sampling process. I gave copies of the questionnaire to the respondents and asked them to state the time when it would be ready for collection. With the help of five students from St. Teresa's College of Education, Hohoe, I used a minimum of three weeks for the administration and collection of the copies of the questionnaire. The various heads in the health

facilities I randomly sampled were very instrumental in the data collection process. This yielded 100% retrieval rate with all the questionnaire (250 questionnaire) useful.

### **Data Analysis**

I analyzed all the items in the instrument using the Statistical Product and Service Solution (SPSS) windows statistical software version 13.0. Descriptive surveys do not actually require complicated statistical analysis (Ary, Jacobs & Razavieh, 1990). In view of this, I used simple method of analyzing the data I collected involving percentages, frequencies and means.

The most frequently used technique for analyzing survey data are frequency distributions and descriptive statistics. Frequencies tell you how many people responded to a survey question in a particular way. Descriptive survey involves counting. Creswell (2003), stated that quantitative survey requires data collection such that the information collected can be quantified and subjected to statistical scrutiny to see whether it will support or refute alternate knowledge claims.

The first thing I did when analyzing the data of this study was to number the answered copies of questionnaire serially, and then edited them. I then coded the edited responses 1, 2, 3 and 4, for agree, strongly agree, disagree and strongly disagree, respectively.

Also, I coded the biographic data on the respondents and reported them in percentages. I used SPSS windows version 13.0 to analyze all the items in the instrument. Also, I used percentages and frequencies to analyze research questions 1 to 3. The next thing I did was to test the research questions. I calculated the counts for all the variables that conformed to the research questions. The analyses of research question 1,2 and3 revealed that in the opinion of health / medical personnel, behavior change,



specific HIV/AIDS intervention and HIV/AIDS education contributed highly to the decline in HIV/AIDS prevalence rate, respectively.

**CHAPTER FOUR**  
**RESULTS AND DISCUSSION**

The purpose of this study was to find out about the factors that were responsible for the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

This chapter is designed for presentation and discussion of results.

**Table 7: Medical Personnel opinion about how Behaviour Change helped people in the Volta Region to reduce the spread of HIV from 2006 to 2008.**

<b>Behaviour Change Statement</b>	<b>Very High (%)</b>	<b>High (%)</b>	<b>Low (%)</b>	<b>Very Low (%)</b>
Abstinence	138 (55.2)	45 (18.0)	20 (8.0)	47 (18.8)
Delay in having sexual				
Intercourse	125 (50.0)	45 (18.0)	27 (10.8)	53 (21.2)
Mutual faithfulness	128 (51.2)	83 (33.2)	9 (3.6)	30 (12.0)
Reduced number of				
sex partners	139 (55.6)	62 (24.8)	8 (3.2)	41 (14.4)
Avoidance of sharing				
sharp and piercing objects	137 (54.8)	99 (39.6)	4 (1.6)	10 (4.0)
Condom use	136 (54.4)	93(37.2)	1 (0.4)	20 (8.0)
Avoidance of homosexuality	84 (33.6)	57 (22.8)	52 (20.8)	57 (22.8)
Care and support for PLHWA	148 (59.2)	61 (24.4)	8 (4.18)	33 (13.2)

**Continuation from page 94**

Glove use by health and

medical personnel	118 (47.2)	123 (49.2)	5 (2.0)	4 (1.6)
Transfusion of screened				
blood products	142 (56.8)	92 (36.8)	3 (1.2)	13 (5.8)
Showing love to PLWHA	145 (58.0)	73 (29.2)	12 (4.8)	20 (8.0)
<b>Total</b>	<b>131 (57.6)</b>	<b>76 (33.3)</b>	<b>14 (8.8)</b>	<b>29 (1.3)</b>

Percentage Range: Low 0 – 40, Moderate 41 – 60, High 61 – 100

**Research Question 1: To what extent could behaviour change help people in the Volta Region to reduce the spread of HIV/AIDS infection?**

Generally, it is evident from Table 7 that responses of health and medical personnel on their opinion on the contribution of behaviour change statements varied. It was realized that 73.3% of the respondents indicated that abstinence either contributed very high (55.2%) or high (18.0%) to the decline of HIV/AIDS in Volta Region from 2006 to 2008, while 26.8% of the respondents indicated that the contribution of abstinence was either low (8.0%) or very low (18.8%). This implies that abstinence contributed highly to the decline of HIV and AIDS in the Volta Region from 2006 to 2008.

This finding corroborates the findings of Hahn and Payne (2003) that abstinence provides the highest degree of protection against HIV and AIDS. According to Robbin, Powers and Burgess (2002), the best preventive measure for any STD is abstinence, since there is no safer sex. The responses of the respondents also indicated that 68% of them agreed that delay in having sexual intercourse either contributed very high (50.0%) or high (18.0%) to the decline in HIV and AIDS prevalence rate in Volta Region from 2006 to 2008. However, 32% of the respondents indicated that delay in having sex either contributed low (10.8%) or very low (21.2 %) to the decline HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This is evident that delay in having sex had

contributed highly to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

Hales (2003) shares the same notion and states that delay in sexual initiation is one of the ways of reducing the spread of HIV. Green (2003) also indicated the average age at first sexual intercourse for women was slowly rising. The responses of the respondents indicate that a total of 84.4% of them agreed that mutual faithfulness either contributed very high (51.2%) or high (33.2%) to the decline in HIV/AIDS prevalence rate in Volta Region from 2006 to 2008. Moreover, a total of (15.6%) of the respondents agreed that mutual faithfulness contributed either low or very low to decline in HIV and AIDS prevalence rate in Volta Region from 2006 to 2008. This shows that, mutual faithfulness contributed highly to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

Williams (1993) shares the same opinion on mutual faithfulness and stated that having sexual intercourse with only one partner who is mutually faithful and not infected is a safe alternative as far as HIV and AIDS prevention is concerned. Most commonly reported sexual behaviour change among married people is to restrict sex to one's spouse.

Again, a total of 80.4% of the respondents agreed that reduction in number of sex partners either contributed very high (55.6%) or high (24.8%) to the decline in HIV and AIDS prevalence rate in Volta Region from 2006 to 2008, while a total of 19.6% of the respondents indicated reduction in the number one's sex partners contributed either low (3.2%) or very lowly (14.4%) to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This points out that reduction in the number of one's sexual partner had contributed highly to reduction of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. It was also found out that 94.4% of the respondents

agreed that avoidance of sharing of sharp and piercing objects had contributed either very highly (54.8%) or highly (39.6%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, a total of 5.6% of them stated that either avoidance of sharing of sharp and piercing objects had contributed either low (1.6%) or very low (4.0%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This indicates that avoidance of sharing of sharp and piercing objects contributed highly to decline in HIV and AIDS prevalence rate. Insel and Roth (2005) share the same view and indicate that programmes that are designed to treat and prevent sharing sharp objects such as syringes and using drugs can significantly reduce HIV infection rate. They also indicated that targeting intravenous drug users that use syringes can help to reduce the spread of HIV tremendously.

Table 7, also indicates that a total of 91.6% of the respondents agreed that condom use contributed very highly (54.4%) or highly (37.2%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, a total of 8.4% of the respondents indicated that condom use contributed either low (8.0%) or very low (0.4%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This shows that condom use contributed high to decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

This view is shared by World Education/Ghana (2009), which stated that when condoms are used always and correctly during sexual intercourse, they are highly effective in preventing the spread of HIV and other sexually transmitted diseases. Insel, Roth, Rollin & Peterson (1997) also added their voice and stated that condoms that contain spermicides noxoxynol – 9 may provide additional protection, since spermicides kill HIV.

As many as (56.4%) of the respondents had agreed that avoidance of homosexuality had contributed either low (20.8%) or very low (22.8%) to the reduction in HIV and AIDS in the Volta Region from 2006 to 2008. This shows that homosexuality contributed moderately to the decline of HIV and AIDS in the Volta Region from 2006 to 2008.

Weiss (2007) shares the same view and indicated that since homosexuality contributed very high to HIV prevalence rate in developed countries targeting homosexuals to change their habit, will lead to reduction in HIV prevalence rate. Also, the responses of the respondents indicate that a total of 83.6% of the respondents agreed that care and support given to PLWHA had contributed either very highly (59.2%) or highly (24.4%) to the decline in HIV and AIDS in the Volta Region from 2006 to 2008. however, a total of 16.4% of the respondents indicated that care and support given to PLWHA either contributed low (3.2%) or very low (13.2%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. this indicated that care and support given to PLWHA had contributed high to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

Abraham et al. (2001) share the same opinion and point out that care and support in the form of counseling, testing and making available antiretroviral drugs for use particularly during pregnancy had led to drastic reduction in HIV and AIDS prevalence rate. Domeh (2006) also added his voice to the need for care and support for PLWHA and stated that accessibility to antiretroviral treatment makes it possible for many children who were not expected to enter adolescent stage to get there.

A total of (96.4%) of the respondents agreed that glove use by health and medical personnel when providing services to patients who are bleeding had contributed either very high (47.2%) or high (49.2%) to the decline of HIV and AIDS prevalence rate in the

Volta Region from 2006 to 2008. However, 3.6% of the respondents said in their opinion, glove use by health and medical personnel, either contributed low (2.0%) or very low (1.6%) to the decline in HIV and AIDS prevalence in the Volta Region from 2006 to 2008. This indicates that in the opinion of the health and medical personnel, glove use by them when they were providing service to patients who were bleeding contributed highly (96.4%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. McAllister et al (2008) share the same opinion when he stated that health workers can protect themselves against HIV and AIDS infection if they could take precaution, such as putting on gloves, which prevents blood borne pathogens from having contact with their bodies.

Again, a total of 93.6% of the respondents, agreed that transfusion of screened blood products had contributed either very high (56.8%) or high (36.8%) to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. On the other hand, 6.4% indicated that in their opinion, transfusion of screened blood products had contributed either low (1.2%) or very low (5.2%) to the decline of HIV and AIDS prevalence rate in the Volta Region in 2006 to 2008. This indicates that glove use contributed highly to decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

This is supported by Insel et al. (1997) who stated that blood and blood products that are used for medical treatments are properly screened to prevent HIV infection. Cox (1996) also added his voice and indicated that the possibility of the spread of HIV through blood transfusion had been reduced through the testing of blood donation.

Finally, a total of 87.2% of the respondents said in their opinion, showing love to PLWHA had contributed either very high (58.0%) or high (29.2%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, a total of

12.8% of them indicated that in their opinion, showing love to PLWHA had contributed either low (4.8%) or very low (8.0%) to the decline in HIV and AIDS prevalence rate in the majority of the respondents (87.2%), the contribution of showing love to PLWHA to the decline in HIV and AIDS prevalence rate is high, (87.2%). Boulay et al. (2008) shares the same opinion and states that local and national level religious bodies continue to encourage Ghanaians to show love and compassion to PLWHA.

Generally, it is evident from Table 7 above that responses of health and medical personnel opinion about the contribution of behaviour change to the decline of HIV and AIDS prevalence rate in the Volta Region was high (82.7%). Specifically, the respondents indicated in 10 out of the 11 items under research question 1 which asks to what extent behaviour change could have contributed to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. The answer was that behaviour change contributed highly to the decline of HIV and AIDS in the region during the concerned period. However, 1 out of the 11 items (contribution of homosexuality to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008) indicated moderate contribution.

**Table 8: Health/medical personnel opinion about how specific interventions helped people in the Volta region to reduce the spread of HIV and AIDS from 2006 to 2008.**

Specific Interventions Statement	Very High(%)	High (%)	Low(%)	Very Low(%)
Care for AIDS orphans	133 (53.2)	45 (18.0)	8 (3.2)	64 (25.6)
Reduced stigmatization	136 (54.4)	80 (32.0)	6 (2.4)	28 (11.2)
Organizational care and support to PLWHA	145 (58.0)	64 (25.6)	3 (1.2)	38 (15.2)
Availability of VCTT services	140 (56.0)	95 (38.0)	3 (1.2)	12 (4.8)



Utilization of VCTT services	148 (59.2)	68 (27.2)	5 (2.0)	29 (11.6)
Prevention of mother to child transmission of HIV and AIDS during delivery	129 (51.6)	51 (20.4)	23 (9.2)	47 (18.8)
Availability of antiretroviral drugs	124 (49.6)	94 (37.6)	8 (3.2)	24 (9.6)
<b>Total</b>	<b>136 (56)</b>	<b>71 (28.4)</b>	<b>8 (3.2)</b>	<b>35 (12.4)</b>

Percentage range: Low 0 – 40, moderate 41 – 60, high 61 – 100

**Research question 2: To what extent could specific intervention strategies help people in the Volta Region to reduce the spread of HIV and AIDS infection?**

Generally, it is evident from Table 8 that response of health and medical personnel on their opinion on the contribution of specific intervention strategies statement varied. However, for all the items under the research question 2, the respondents agreed that specific HIV and AIDS intervention contributed highly (84.4%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, 15.6% of them disagreed. The details are as follows;

It was realized that a total of 71.2% of the respondents indicated that in their opinion, care for AIDS orphans contributed either very highly (53.2%) or highly (18.0%). While, a total of 28.8% of the respondents indicated that in their opinion, care for AIDS orphans had contributed either low (3.2%) very lowly (25.6%) to HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This means that care for AIDS orphans had contributed highly to the decline in HIV and AIDDS prevalence rate in the Volta Region

from 2006 to 2008. USAID (2009) also shares the same view and has provided care and support to 133,779 out of 208,628 orphans and vulnerable children in Ghana as one of their strategies towards reduction of HIV and AIDS in Ghana. They also integrated orphans and vulnerable children that they could not support to their extended families.

It was also noticed that a total of 86.4% of the respondents stated that in their opinion, reduction in stigmatization against PLWHA had contributed to either high (54.4%) or very high (32.0%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. Also, a total of 13.6% of the respondents indicated that in their opinion, reduction in stigmatization had contributed low (2.4%) or very low (11.2%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This implies that reduction in stigmatization had contributed high to the decline in HIV and AIDS prevalence rate in 2006 to 2008.

This corroborates the findings of Brugha (1994) which indicated that the effect of stigma can be carefully tackled. Brugha further stated that under normal circumstances people were supposed to go for VCT in order to know their HIV status without fear of any negative effects. This he said would help the people who are tested positive to receive the needed support and encouragement to adopt positive lifestyle in order to protect themselves and others as well.

The responses of the respondents also indicate that a total of 83.6% of them agreed that organizational care and support to PLWHA had contributed either highly (58.0%) or very highly (25.6%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, a total of 16.4% of the respondents stated that organizational care and support to PLWHA had contributed either lowly (15.2%) or very lowly (1.2%) to the Volta Region from 2006 to 2008. This means that in the opinion

of the respondents, organizational care and support to PLWHA had contributed highly (83.6%) to the decline in HIV and AIDS prevalence rate.

This shares the same idea with USAID (2009) which noted that the contribution of USAID toward HIV and AIDS prevention. USAID stated that USAID preventive services target high risk population, such as commercial sex workers, homosexual's, couples whose partners are infected with the disease. USAID was able to reach 30,709 sex workers and non-paying partners with HIV and AIDS prevention programs, such as prevention of vertical transmission of HIV and AIDS and treatment of tuberculosis.

Again, a total of 94.0% of the respondents agreed that in their opinion availability of VCTT services either contributed highly (56.0%) or very highly (38.0%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. But a total of 6% of the respondents said in their opinion, availability of VCTT services contributed either low (1.2%) or very low (4.8%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This implies that in the opinion of the respondents, availability of VCTT services had contributed highly(94.0%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

This shared the same opinion with Avert Organization (2010) which states that HIV counseling and testing are basic for HIV prevention. They went on to state that people who are infected and know their status and have been counseled about safer sex are less likely to infect others.

A total of (86.4%) of the respondents indicated that in their opinion, utilization of VCTT services had contributed either highly (59.2%) or very highly (27.2%) to the decline of HIV and AIDS prevalence rate in the Volta Region. However, 13.9% of them indicated that in their opinion, HIV and AIDS had either contributed low (2.0%) very low (11.6%) to the decline in HIV and AIDS prevalence rate. This means that in the

opinion of the respondents, utilization of VCTT services, had contributed highly to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

This shares the same opinion with Insel and Roth (2006) which indicate that early diagnoses of HIV infection are crucial in reducing the effect of the disease and also, minimize the likelihood of infecting other people. This they said was because effective drugs are available which give effective treatment to lengthen the period between infection and onset of full-blown AIDS.

Also, in the opinion of the respondents, a total of 72% of them indicated that prevention of mother-to-child transmission of HIV and AIDS had contributed either highly (51.6%) or very highly (20.4%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, a total of (28%) of them indicated that in their opinion the contribution of prevention of mother- to-child transmission of HIV and AIDS prevalence rate is either low (9.2%) or very low (18.8%). This implies that the contribution of prevention of mother-to-child transmission of HIV and AIDS to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008 is either low (18.8%) or very low (9.2%). This corroborates with the study conducted by Hahn and Payne (2003) and stated that an infected pregnant woman who is on antiretroviral drug therapy, before delivery has a reduced risk of transmitting the virus to the new born child through breastfeeding. It is evident in their study that when a pregnant woman takes antiretroviral drugs, it helps reduce her viral load and will subsequently reduce her possibility of transmitting the disease to the new born.

Again, a total of 87.2% of the health and medical personnel indicated that in their opinion availability of antiretroviral drugs had contributed either highly (49.6) or very highly (37.6%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However a total of 12.8% of the respondents indicated that in their opinion

availability of antiretroviral drugs had contributed either low (3.2%) or very lowly (9.6%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. This implies that the availability of antiretroviral drugs had contributed highly (87.2%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

**TABLE 9: Health/medical personnel opinion about how HIV and AIDS education helped people in the Volta Region to reduce the spread of HIV from 2006 to 2008.**

HIV Education Statement	Strongly Agreed	Agreed	Disagreed	Strongly Disagreed
HIV and AIDS education helps in correct use of condom	149 (59.6)	100 (40.0)	0 (0)	1 (0.4)
HIV and AIDS education helps to provide care and support to HIV infected people	167 (66.8)	62 (24.8)	6 (2.4)	15 (6.0)
HIV and AIDS education helps HIV infected nursing mothers to avoid breastfeeding their infants.	135 (54.0)	81 (32.4)	11 (4.4)	23 (9.2)
HIV and AIDS education helps HIV infected nursing mothers to choose exclusive breastfeeding.	121 (48.3)	78 (31.2)	26 (10.4)	25 (10.0)
HIV and AIDS education on effects of HIV/AIDS makes people to protect themselves.	150 (60.0)	89 (35.6)	1 (0.4)	10 (4.0)
HIV and AIDS education helps to be aware of where to access	162 (64.8)	80 (32.0)	1 (0.4)	7 (2.8)

VCTT

<b>Total</b>	<b>147</b>	<b>82</b>	<b>8</b>	<b>13</b>
	<b>(58.9)</b>	<b>(32.6)</b>	<b>(3.0)</b>	<b>(5.4)</b>

Percentage range: Low 0-40, moderate 41-60, high 61-100

**Research Question 3: To what extent could HIV/AIDS Education help to reduce the spread of the disease in Volta Region.**

Generally, it is evident from Table 9 above that response of health and medical personnel on their opinion on the contribution of HIV and AIDS education to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008 varied. It was found out that in the opinion of health and medical personnel, HIV and AIDS education contributed highly (91.5% of respondents either strongly agreed or agreed) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. However, as many as (8.5% of the respondents either disagreed or strongly disagreed).

It was also found out that a total of 99.6% of the respondents either agreed (59.6%) or strongly agreed (40.0%) that HIV and AIDS education helped some people in the Volta Region to use condoms correctly during sexual intercourse. This they indicated in their opinion helped in the decline of HIV and AIDS prevalence rate in the region from 2006 to 2008. However, 0% of the health and medical personnel disagreed but none of them (0.4%) strongly disagreed. This means that majority of the respondents (99.6%) agreed that in their opinion HIV and AIDS education helped some people in the Volta Region to use condoms correctly which helped reduced HIV and AIDS prevalence rate in the region from 2006 to 2008.

This shares the same view with Robins, Power and Burgess (2002) which stated that HIV and AIDS education can provide the individual with knowledge, skills and attitudes needed for him to use condoms to protect him against HIV infection. Adler (2001) further stated that HIV and AIDS education on correct and appropriate use of condom can promote behaviour change. Also, a total of 91.6% of the respondents either

agreed (66.8%) or strongly agreed (24.8%) that in their opinion, HIV and AIDS education had helped some people in the Volta Region to provide care and support to their relatives who were infected with HIV and AIDS, which helped to reduce the prevalence rate of the disease in the region from 2006 to 2008. However, 8.4% of the respondents indicated that they either disagreed (2.4%) or strongly disagreed (6.0%). This implies that majority of the respondents (91.6%) indicated that in their opinion, HIV and AIDS education helped some people in the region to provide care and support to their relatives who were HIV positive, and this subsequently helped in the decline of HIV prevalence rate in the region from 2006 to 2008.

This shares the same opinion with Boulay et al., (2008) which indicated that a research conducted in 2003 showed that respondents who were exposed to HIV and AIDS campaign were 45% more likely to cater for an HIV and AIDS relative than those who were not exposed to the campaign. They further stated that people's attitude toward PLWHA had improved as a result of various campaigns against stigmatization.

Again, a total of 86% of the respondents indicated either they agreed (54.0%) or strongly agreed (32.4%) that in their opinion education had helped some nursing mothers who are infected with HIV and AIDS in the Volta Region to avoid breastfeeding their infants. This they indicated in their opinion had contributed highly (86%) to the decline in HIV and AIDS prevalence rate in the region from 2006 to 2008. This implies that most of the respondents (86%) indicated that HIV and AIDS education helped nursing mothers who were infected with HIV and AIDS to stop breastfeeding their infants which had contributed to the decline in HIV and AIDS prevalence rate in the region from 2006 to 2008.

CDC (1987) shares the same opinion and states that it is good an HIV and AIDS infected mother avoids breastfeeding her baby in order to prevent the baby from

contracting the disease. Willis (2002) further stated that human attitude is directly influenced by education therefore; HIV and AIDS education is one of the ways of effectively controlling the spread of the disease.

All together, as many as 79.6% of the respondents either agreed (48.4%) or strongly agreed (31.2%) that HIV and AIDS education had helped some nursing mothers who were infected with HIV in the Volta Region and had chosen to breastfeed their infants to adopt exclusive breastfeeding. This they said in their opinion had helped to reduce HIV and AIDS infection in the Volta Region from 2006 to 2008. However, a total of 10.4% of the respondents either disagreed (10.0%) or strongly disagreed. This means that majority of the respondents (79.6%) indicated that through HIV and AIDS education, nursing mothers who were infected with the virus adopted exclusive breastfeeding, which had contributed to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. CDC (1987) shares the same view and indicated that exclusive breastfeeding lowers an HIV infected mother's chance of infecting her baby. CDC further suggested that in case an HIV infected mother takes the option to breastfeed the child, they should feed the child on exclusive breastfeeding, particularly during the first month of the child.

Again, as many as 95.6% of the health and medical personnel indicated that in their opinion, HIV and AIDS education on the effects of HIV and AIDS had made some people in the Volta Region to adopt positive lifestyles which had helped to reduce the prevalence rate of the virus in the region from 2006 to 2008. Thus, 60% of the respondents agreed and 35.6% of them strongly agreed. However, 4.4% of the respondents either disagreed (0.4%) or strongly disagreed (4.0%).

This shares the same opinion with Lakhampal and Ram (2008) which indicated that education can help people to avoid certain behaviour that might put their health into



problems. Adler, (1987) also stated that health education needs to make people aware of the advantages of discriminate and safer sex and the means to avoid and put to minimum indiscriminate sex.

Finally, a total of 96.8% of the respondents indicated that in their opinion, they either agreed (64.8) or strongly agreed (32.0%) that HIV and AIDS education had helped some people in the Volta Region to be aware of where to access VCTT, which led to the decline in HIV prevalence rate in the region from 2006 to 2008. while 3.2% of the respondents either disagreed (0.4%) or strongly disagreed (2.8%). This implies that in the opinion of the respondents, most of them (96.8%) indicated that HIV and AIDS education had helped some people in the Volta region to be aware of where to access VCTT which subsequently led to the decline in HIV and AIDS prevalence rate in 2006 to 2008. Insel and Roth (2006) share the same view and indicate that early diagnosis of HIV infection is crucial in reducing the effects of the disease and also, minimize the likelihood of infecting other people. Witzburg (1993) also indicate that education is the only way to effectively control the AIDS epidemic.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

The purpose of this study was to find out from health and medical personnel about the factors responsible for the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

### **Summary**

HIV and AIDS has been considered the world's most serious health concern, currently representing one of the leading causes of preventable death in sub-Saharan Africa including Ghana. Current statistics on the prevalent rate of HIV and AIDS in sub-Saharan Africa indicate that Ghana has comparatively low though significant prevalence rate. Despite this low prevalence rate in Ghana, urban centers record high prevalence rate as high as more than 5%. Further, it has been reported that Ghana has made significant achievement to reduce the HIV and AIDS prevalence rate since 2003. This decline in HIV and AIDS prevalence rate was steady from 2003 to 2008. It reduced from 3.6% to 2008 to 1.7%.

Further to the several health problems associated with HIV and AIDS, HIV positive individuals suffer stigmatization and discrimination. They are discriminated and or stigmatized in schools, work places, hospitals mass media and even in their communication, current researches as mentioned earlier suggest that the only hope that the world has to curb the pandemic is education. Thus education that focuses on behaviour change and stigma reduction would help in that direction.

In the Volta Region, a relatively high number of HIV and AIDS cases has been recorded by the various hospitals in the region. The pattern observed from the records show that quite a considerable number of people in the region might be victims of HIV and AIDS. Unfortunately, there seems to be very limited research in the area of factors responsible for the decline in HIV and AIDS prevalence rate in Ghana from 2006 to 2008. This trend calls for effective strategies to further reduce HIV and AIDS prevalence

rate in the country. These can be done through educating Ghanaian of factors that contribute to the decline, hence the motivation to research into this in the Volta Region.

The framework for this study was in three phases with each phase elaborated in each chapter. Three research questions relating to various indices of HIV and AIDS were designed to guide me to conduct the study.

Literature related to the study was theoretically and empirically reviewed in chapter 2 under the following headings:

1. Behaviour change
2. Specific HIV and AIDS intervention.
3. HIV and AIDS Education

The study was a descriptive survey, because it considered gathering data over a wide population to analyze and draw valid conclusions. . The investigation involved a sample size of 250 comprising health and medical personnel. A questionnaire was designed to gather data to answer the research questions. The items in the questionnaire were mainly close ended and a Likert scale items. The questionnaire (Appendix A) was divided into four sections with thirty (30) items and was pilot-tested. The data collected yielded reliability co-efficient of 0.66, which was later reviewed to yield 0.76 reliability co-efficient. The data I gathered with the instrument were analyzed to help me to provide answers to research questions by using frequencies and percentages.

### **Findings**

The following were the finding of the study:

1. The study revealed that in the opinion of the health and the medical personnel, behaviour change had contributed highly to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

2. The findings of the study also indicated that in the opinion of the health and medical personnel, specific HIV and AIDS intervention strategies also contributed highly to the reduction in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.
3. Again, majority of the health and medical personnel indicated that, in their opinion, HIV and AIDS education contributed high to the decline in HIV and AIDS prevalence rate.

### **Conclusions**

The findings of the study validated most of the researches cited while others refuted them. The conclusions I have drawn from the study are in the opinion of health and medical personnel, change in people's behavior, specific interventions and education on the effects and epidemiology of HIV and AIDS has been ascertained as having contributed to the decline in HIV infection in the Volta Region from 2006 to 2008.

### **Recommendations**

A careful look at the results of the study suggest that in the opinion of most of the health and medical personnel, behaviour change, specific HIV and AIDS intervention strategies and HIV and AIDS education contributed to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008. Further to the above, I have made the following recommendations.

1. Government and Non-Governmental Organizations, including religious bodies must intensify their strategies that are geared towards behaviour change of their members. They should encourage their members to change their behaviour that will put them at risk of being infected with HIV and AIDS.
2. Governments and Non-Government Organizations must carry out specific intervention strategies to curb the spread of HIV and AIDS.

3. Finally, HIV and AIDS education must be intensified and also focus more on reduction in stigmatization and discrimination.

### **Suggestions for Further Research**

Further to broadening the literature on factors responsible to the decline of HIV and AIDS in the Volta Region, from 2006 to 2008, studies can be conducted on the following areas:

1. A nationwide research into factors responsible for the steady decline in HIV and AIDS prevalence rate in Ghana from 2006 to 2008.
2. A research to verify the factors that contributed to the decline in HIV and AIDS prevalence rate among the various age groups in Ghana.

### **REFERENCES**

- Abraham, E., Weedon, & Bertolli, J. (2001). *Aging cohort of perinatally HIV-infected children in New York City*. New York; USA. McGraw Hill.
- Boulay, M., Tweedie, I., & Fiagbey, E. (2008). Using religious leaders to reduce HIV related stigma. *African Journal of AIDS Research*, 7, 133-141.
- Aggleton, P. (2002). *HIV/AIDS related stigma and discrimination: A conceptual framework and an agenda for action*. New York, USA. McGraw Hill.
- Allain D. (2004). *The politics of large numbers: A history of statistical reasoning*; Comille Nash. Harvard, Harvard University Press.

- Adler, M. C. (1987). *ABC of AIDS* (5<sup>th</sup> ed.). London: BMJ Publishing Group.
- American Social Health Association (1998). *Sexually transmitted diseases in America*.  
Meds Park, C.A: Kaiser Family Formation.
- Ary. D. Jacobs L. C., & Razavieh, A. (1990). *Introduction to research in education* (4<sup>th</sup> edition). Forthworth: Holt Rinehart and Winston Inc.
- Association of Africa Universities (2010). *University of Ghana workshop on the situation of HIV/AIDS in the University of Ghana*. Retrieved on 17/09/2010 from <http://allafrica.com> pg.1
- Addo, M. M. O. (2009). *Ghana's HIV/AIDS Prevalence*. Retrieved on 17/11/2009 from <http://ghanabusinessnews.com/2009/06/03/Ghana>
- Asante, B. P. (2010). *Ghana's HIV prevalence rate experiences 0.2 percent increase*. Retrieved on 04/11/2010, from [http:// www.ghanaweb.com](http://www.ghanaweb.com)
- Avert Organization (2010). *HIV/AIDS education programs*. Retrieved on 04/10/2010 from <http://www.avert/aids-hiv-education>
- Avert Organization (2012a). *HIV and AIDS stigma and discrimination*. Retrieved on 18/02/2012 from [http:// www.avet.org](http://www.avet.org)
- Avert Organization (2012b). *HIV orphans*. Retrieved on 18/02/2012 from <http://www.avet.org>
- Avert Organization (2012c). *HIV and AIDS prevention*. Retrieved on 26/02/2013 from <http://www.avert.org>
- Asare, G. ( 2011). *Don't camp HIV and AIDS patients, prayer camps advised*. Retrieved on 24/02/2013 from [www.ghanaweb.com](http://www.ghanaweb.com).
- America Public Health Association (2009). Promoting public health research policy practice and education. Retrieve on 02/08/2012 from <http://www.nebi.n/m.nih.gov>

- Asante, A. D. (2013). *Scaling up HIV prevention: Why routine or mandatory testing is not feasible for sub-saharam Africa*. Retrieved on 26/02/2013 from [www.who.org](http://www.who.org).
- Black, K. (2004). *Business statistic for contemporary decision making* (4<sup>th</sup> edition). Willey: Willey Students.
- Boafo, O. A. (2002). *Socio-economic effects of HIV/AIDS in Ghana*. Retrieved on 06/07/2010, from [http:// www.ghanaweb.com/./artikel.php](http://www.ghanaweb.com/./artikel.php)
- Brettle R. P. (1991) *HIV and harm reduction for injection drug addicts*. Amsterdam: Lance.
- Busza, J. (1999). *Challenging HIV-related stigma and discrimination*. Boston: MCGraw Hill.
- Briegar, W. R., Sesay, H. R., Adesina, H., Mosanya, M. E., Ogunlade, P. B., Ayodele, J. O. & Orisasona, S. A. (2001). West African youth initiatives: Outcome of reproductive health education program. *Journal of Adolescent Health*, 29, 436 – 446.
- Brugha, R. (1994). *The economic impact of HIV/AIDS in Ghana*. Retrieved on 06/07/2010 from [http:// www.policyproject/./ghana.pdf](http://www.policyproject/./ghana.pdf)
- Brown, L. R. (2000). *HIV epidemic restructuring Africa's population, world watch issue alert*. Retrieved on 26/02/2013 from [www.globalissues.org](http://www.globalissues.org)
- Burning, E. C., Coutinka, R. A, Van, B. G. H., & Van, Z. A. W. (1986). *Preventing AIDS in drug addicts in Amsterdam*. Amsterdam: Lancet.
- Becquet, R., Ekouevi, D. K., Viho, I., Sakarovitch, C., & Toure, H. (2005). Acceptability of exclusive breast-feeding with early cessation to prevent HIV transmission through breast milk. *J Acquir Immune Defic Syndr.*, 40(5), 600-8.

- Center for Disease Control (1987). *Recommendation for HIV transmission in health care setting*. Retrieved on 25/06/2010 from [http:// www.cdc.gov/hiv](http://www.cdc.gov/hiv)
- Center for Disease Control (2008). *Replicating effective programs plus*. Retrieved on 13/07/2012 from [http:// www.cdc.gov/hiv](http://www.cdc.gov/hiv)
- Coovadium, H. M., & Bland, R. M. (2007). Preserving breastfeeding practice through the HIV/AIDS pandemic. *Trop. Med. Int. Health*, 12 (9),1116-1133.
- CCABA (2009). *Symposium: Road to Vienna, advancing the agenda of family-centered services for children affected by HIV and AIDS*: Nairobi, Kenya.
- Cox, F. D. (1996). *The AIDS booklet* (4<sup>th</sup> ed.). Boston: McGraw Hill.
- Creswell, J. (2003). *Research design: Qualitative and mixed methods approaches* (2<sup>nd</sup> edition). New York: Thousand Oaks, Duskin Publishing Group/Brown & Benchmark Publishers.
- CDC (2012). *HIV prevention in United States: Expanding impact*. Retrieved on 08/01/2012 from [http:// www.usaid](http://www.usaid)
- Cichocki, M. R. N. (2013). *HIV and dating*. Retrieved on 25/02/2013 from <http://www.aidsbeacon.com/news/2009/12/15/hiv-and-dating/>
- Daniel, E. L. (1996). *Taking sides clashing views on controversial issues in health and society*. New York: Duskin Publishing Group/Brown & Benchmark Publishers.
- Dencombe, M. (2003). *The good research guide for small scale social research* (2<sup>nd</sup> edition). Maidenhead: Open University Press.
- Diclemente, R. J. (1994). *Psychosocial determinants of condom use among adolescents*. New Bury: Sage Publication.
- Discovery Communication (2010). *Discovery Health HIV/AIDS*. Retrieved on 07/07/2010 from [http:// healthguide.howstuffworks.com/hiv-a](http://healthguide.howstuffworks.com/hiv-a)



- Domeh, G. J. (2006). For the unexpected futures of HIV-positive social consequences of antiretroviral therapy: Preparing children. *Lancet*, 37 (9519), 1367 – 1369.
- Donatelle, R. J. (2001). *Health the basic* (4<sup>th</sup> ed.). Boston, Allyn and Bacon.
- Dames, G. E. (2010). *AIDS Pandemic*. Retrieved on 17/06/2009, from [en.wikipedia.org/wiwk/AIDS](http://en.wikipedia.org/wiwk/AIDS). P 1
- Debis, F., Newell, M., Fowler, M. G., & Read, J. S. (2004). Prevention of HIV transmission through breast-feeding: Strengthening the research agenda. Retrieved on 20/02/2012 from <http://www.mendeley.com>
- Earl, B. (1989). *The practice of social research* (5<sup>th</sup> ed.). Belmont CA: Wadsworth.
- Ehow Inc (2010). *Statistical tools of analysis used in survey research*. Retrieved on 05/11/2010 from [http:// www.ehow.com](http://www.ehow.com)
- Ehow (2010). *What statistical tools of analysis used in survey research*. Retrieved on 05/11/2011 from [http:// www.ehow.com](http://www.ehow.com)
- Faugier J., & Hicken I. (1996). *AIDS and HIV, the nursing response*. London: Chapman and Hall.
- Fraenkel, J. R. & Wallen, N. E. (2000). *How to design and evaluate research in education* (2<sup>nd</sup> ed). Boston: McGraw Hill inc.
- Foundation for AIDS Research (2013). *Young people and HIV/AIDS*. Retrieved on 20/02/2013 from <http://www.amfar.org>
- Family Health Information (2005). *Corridors of hope in southern Africa: HIV prevention needs and opportunities*. Retrieved on 20/09/2012 from [http:// worldbank.org](http://worldbank.org)
- Feldman, D. A., & Breckports, S. (2006). *Problems with the Uganda model for HIV/AIDS prevention*. Retrieved on 25/02/2013 from [http:// www.aaanet.org](http://www.aaanet.org)
- Ghana AIDS Commission (2010). *The communication initiative network*. Retrieved on 13/09/2010, from [http:// www.comminit.com/en/node.pg1](http://www.comminit.com/en/node.pg1)

- Greenberg, A. R., & Dintiman, G. (1997). *Wellness creating a life of Health and Fitness*, Boston: Allyn.
- Ghana Education Service (2010). *HIV alert school model*. Accra: TED.
- Green, E. C. (2003). *Rethinking AIDS Prevention Learning from success in Developing countries*. London: Wesport Connecticut Publishers.
- Gremy, I., & Beltzer, N. (2004). HIV risk and condom use in adult heterosexual population in France between 1992 and 2001. starting point? *AIDS*, 18, 805-9.
- Hahn, D. B. & Payne, W. A. (2003). *Focus on health* (3<sup>rd</sup> ed.). Boston: WCB/McGraw Hill.
- Hair, B. (2010). ABC Prevention of HIV/AIDS. Retrieved on 04/09/2010 from <http://sexuality.about.com>
- Hales, D. (2003). *An introduction to health* (10<sup>th</sup> ed.). Wadsworth. Thomson.
- Hasnai, M., & Levy, J. A. (2005). *HIV/AIDS in Encyclopedia of disability*: Thousand Oaks, CA: Sage Publications.
- Hasnai, M. (2004). *Antenatal HIV screening and treatment in South Africa: Social norms and policy options*. Johannesburg: A/V. J. Reproduction.
- Hubley, J. (1995). *The AIDS Handbook: A guide to the understanding of AIDS\_and HIV* (2<sup>nd</sup> ed) Boston: Macmillan.
- Insel, P. M. & Roth, W. T. (2002). *Core concepts in health*. Boston: Burr Ridge.
- Insel, P. M. & Roth, W. T. (2005). *Core concepts in health*. (10<sup>th</sup> ed.). Mountain View, California: Mayfield Publishing Company.
- Insel, P. M. & Roth W. T. (2006). *Core Concepts in Health*: (10<sup>th</sup> ed.). Boston: McGraw Hill Custom Publishing.
- Insel P. M., Roth, W. T., Rollins, R. M., & Peterson, R. A. (1997). *Core concepts in health*. London: Mayfield Publishing Company.

- Kalton, G. (1983). *Introduction to survey sampling*. Newbury Park CA: Sage Publication Inc.
- Koester, S., Booth, R. E., & Zhang, Y. (1996). The prevalence of additional injection-related HIV/Risk behaviour among injection drug users. *J Acquir Immune Defic Syndr Hum Retrovirol*, 12(2), 202-207.
- Kotchick, B. A., Dorsey, S., Miller, K. S., & Forehand, R. (1999). Adolescent sexual risk-taking behaviour in single parent ethnic minority families. *J Fam Psychol*, 13 (1), 93 – 102.
- Kolander, C. A., Ballard, J. A., & Chandler, C. K. (1999). *Contemporary women health issues for today and the future*. Boston: WCB MC Graw – Hill.
- Krenn S., & Limaye, R. (2009). *The role of social behavior change communication in combating HIV/AIDS*. Retrieved on 18/02/2012 from <http://ftguonline.org/ftgu-232/index.php/ftgu/article/view/2037/4070>
- KumyanaNyake, L., & Watts, C. (2001). Resource allocation and priority setting of HIV/AIDS interventions: Addressing the generalized epidemic in sub-Saharan Africa. *J. Int. Development*, 13 (4), 451-466.
- Lankinem, K. S., Bergstrom, S., Makela, P. H., & Peltomaa, M. (1994). *Health and disease developing countries*: Boston: Macmillan Press.
- Lakanpal, M. & Ram, R. (2008). Educational attainment and HIV/AIDS prevalence: A cross-country study. *Economic of education review*, 27, 14-21.
- Ledlie, S. W. (2003). The psychosocial issues of children with perinatally acquired HIV disease becoming adolescents. *Journal of School of health*, 15, 231 – 236.
- Levy, M. R., Dignam, J. H., & Shirreffs, H. (1992) *Targeting wellness: The core*. New York: McGaw Hill Inc.

- Libman, H., & Witzburg, R. A. (1993). *HIV infection: A clinical manual* (2<sup>nd</sup> ed.). Boston: Little Brown & Company.
- Lo, K. (2008). *The first postmodern pandemic*. New York: McGraw Hill.
- Macmillan, J. H. (1996). *Educational research: Fundamentals for the consumer*. New York: Harper Collins Publication Inc.
- Mansergh, G. Haddix, A. C., Steketee, R. W., Nieburg, P. I., Hu, D. J., Simonds, R. J., & Rogers, M. (1996). *Cost-effectiveness of short-course zidovudine to prevent perinatal HIV type 1 infection in sub-Saharan African developing countries*. *JAMA*. 276(2), 139-45.
- MAP Network (2004). *AIDS in Asia: Face the facts – A comprehensive analyses of the AIDS epidemic in Asia*. Washington DC, USA.
- Mckay, M., & Paikoff, R. (2007). *Community collaborative partnerships: The foundation for HIV prevention research efforts*. New York: Haworth Press.
- Ministry of Education, Youth and Sports (2010). *HIV alert module for colleges of education*. Accra: TED.
- Ministry of Education, Youth and Sports (2004) *HIV and AIDS education in basic schools for UTDBE programme*. Accra: TED.
- Marlink R., G., Teitolman S.T (Eds.) (2009). *From the ground up: Building comprehensive HIV/AIDS Care programmes in Resource limited settings*. Washington DC: Elizabeth Glasser pedatri AIPS foundation.
- Narain, J. P. (2004). *AIDS in Asia: The challenge ahead*. Boston: Sage Publications.
- National Hemophilia Foundation (1994). *Peer-to-peer health education programs for youth: Their impact on comprehensive health*. New York: The Foundation.
- Obeng, S. (2009). *Effects of HIV/AIDS in Ghana*. Retrieved on 04/07/2010 from <http://www.modernghana.com/blogs/227498/>

- Oppenheim, A. N. (1996) *Questionnaire design and attitude measurement*. London: Heinemann.
- Obimpeh, F. O. (2013 ). *New research finding on HIV/AIDS focus on youth*. Retrieved on 25/02/2013 from <http://www.ghanaweb.com>
- Parker, R., Aggleton, P., Attawell, K., Pulerwitz, J., & Brown, L. (2002). *HIV/AIDS-related stigma and discrimination: A conceptual framework and agenda for action*. Retrieved on 05/07/2002, from <http://usaid.gov/pdf-docs>
- PATH (2006). *The female condom; Significant potential for STI and pregnancy prevention*. *Outlook*, 22(2), 93.
- Perry-Caster, S.M., Price, J.H & Telljoham, S.K, Chesney, B.K (1997) National assessment of early elementary teachers' perceived self-efficiency for teaching tobacco prevention based on CDC guidelines. *Journal of school of Health*, 67 (8), 348 – 354.
- Rice P. L. (1998). *Health psychology books*. London: Cole.
- Rickert, V. L. (1991). Effects of a peer-counseled AIDS education program on knowledge, attitudes, and satisfaction of adolescents. *Journal of adolescent health*, 12, 38-43.
- Robbin, G., Powers, D., Burgess, S. (2002). *A wellness way of life* (5<sup>th</sup> ed.). London McGraw Hill Higher Education.
- Ross, D., Dick, B. & Forgunson, J. (2006). *Preventing HIV/AIDS in young people: A systemic review of the evidence from developing countries*. Geneva, Switzerland
- Smith, D. K., Grohskopf, S. L. A., & Black, R. S., Auerbach, J. D., Veronese, F., Struble, K. A., Cheever, L., Johnson, M., Paxton, L. A., Onorato, I. M., & Greenberg, A. E. (2005). Antiretroviral post exposure prophylaxis after

- sexual, injection-drug use or other nonoccupational exposure to HIV in the USA.  
*MMWR Recomm Rep*, 54 (RR-2), 1-20.
- Sizer-Webb, F., Whitney, E. N., & Debruyne, L. K. (1999). *Making life choices*. New York: West Education Publishing .
- Society of West Africa-Ghana-PANAFRICA-Health (2008). *Ghana HIV prevalence rate*. Retrieved on 17/11/2009, from <http://en.afrik.com>
- Sarantakos, S. (1988 ). *Social Research*: Sydney: Charles Sturt University.
- Siemon, M. (2004). *African mission network news*. Retrieved on 10/11/2009, from <http://www.icrf>
- Tenkorang, E. Y. (2012). Myths and misconceptions about HIV transmission in Ghana: What are the drivers? Retrieved on 20/02/2012 from <http://www.trandforline.com>
- Teijlingen, E. V. (2009). *Issues and challenges of HIV/AIDS prevention and treatment in men*. Retrieved on 25/02/2012 from <http://www.academia.edu>
- United Nations Agency for International Development (2001). *World AIDS campaign on HIV/AIDS stigma and discrimination*. Retrieved on 06/10/2009 from <http://www.unaids.org>
- United Nations Agency for International Development (1999). *A review of household and community responses to the rural areas of sub-Sahara Africa*. Geneva, UNAIDS
- United Nations Agency for International Development (2003). *AIDS epidemic update*. Geneva: Switzerland.
- United Nations Population Division (2005). *World population prospect*. UNICEF, USA.

- USA Department of Health and Human Services (2010). *AIDS prevention guide – The fact about HIV infection and AIDS*. Retrieved on 08/09/2010 from <http://www.plaindealer.com>.
- UNAIDS (2009). *Condoms and HIV prevention: position statement by UNAIDS*. Retrieved on 08/01/2012 from <http://www.usaid>
- UNAIDS (2013). *Report on global AIDS Epidemic*. Retrieved on 22/02/2012 from <http://www.unfpa.org>
- USAID (2009). *HIV/AIDS countries, Ghana*. Retrieved on 06/07/2010 from <http://www.usaid.org>
- USAID (2011). *USAID APS: Scaling up HIV/AIDS prevention activities for most-at-risk population, people living with HIV and AIDS and orphans and vulnerable children in Ghana*. Retrieved on 20/04/2012 from <http://www.fundstornegos.org>
- USAID (2012). *Enhancing Nigerian capacity for AIDS prevention programmes*. Retrieved on 24/02/2013 from [http://www.deloitte.com/view/en\\_US/-us/Insights/-Browse-by-Content-Type/Case-Studies/US-Federal-Government-Case-Studies/6a976714c3990310VgnVCM3000001c56f0-0aRCRD.htm](http://www.deloitte.com/view/en_US/-us/Insights/-Browse-by-Content-Type/Case-Studies/US-Federal-Government-Case-Studies/6a976714c3990310VgnVCM3000001c56f0-0aRCRD.htm)
- USAID (2013). *Family planning and HIV prevention integration*. Retrieved on 26/02/2013 from <http://transition.uaids.gov>
- USAIDS (2010). *HIV/AIDS Health profile in Ghana*. Retrieved from 03/11/2010 on <http://www.usaid.gov/mission/gh>
- USAIDS (2012). *HIV/AIDS*. Retrieved on 20/12/2012 from <http://transition.usaid.gov>
- UNESCO Bangkok (2012). *HIV prevention & health promotion*. Retrieved on 18/02/2012 from <http://www.unesiobkk.org>

- United States Food and Drug Administration (2013). *HIV and AIDS- medicines to help you*. Retrieved on 25/02/2013 from <http://www.fda.gov>
- Walden University (2008). *Treatment for HIV*. Retrieved on 17/01/2012 from <http://www.Healthplac24.com.en> 18/02/2013
- Webster, M. (1985) *Webster's ninth new collegiate dictionary*. New York: Meriam-Webster Inc.
- Williams M. H. (1993). *Lifetime fitness and wellness*. Madison: WCB Brown and Benchmark.
- Willis. R. (2002). *The AIDS pandemic*. Boston: The Stanborough Press Ltd.
- Weiss, H. A. (2007). Male circumcision as a prevention measure against HIV and other STDs. *Curr Opin Infect Dis*, 20(1), 66-72.
- World Education/Ghana (2006). *Window of hope: Revised training manual*. Accra: Labone Crescent.
- Women Health (2009). Women and HIV AIDS prevention. Retrieved on 08/09/2010, from <http://www.womenhealth.gov/hiv/prevention>
- WHO (2005). *Situation analysis 2*. Retrieved on 16/09/2010 from [www.who.int/hiv/hivcp](http://www.who.int/hiv/hivcp).
- WHO (2012) HIV epidemic showing signs of reversal. Retrieved on 22/02/2012 from [www.thehindu.com](http://www.thehindu.com)
- WHO (2013). *Initiative for vaccine research*. Retrieved on 27/02/2013 from <http://www.who.int>
- WHO (2013). *Voluntary medical circumcision for HIV prevention*. Retrieved on 26/02/2013 from <http://www.who.int>
- WHO (2013). *Male circumcision for HIV prevention*. Retrieved on 20/02/2013 from [www.who.int](http://www.who.int)



World Bank Group (2011). *HIV/AIDS in Africa*. Retrieved on 20/02/2012 from <http://webworldbank.org>

## APPENDICES

### APPENDIX A

## QUESTIONNAIRE FOR HEALTH AND MEDICAL PERSONNEL

I am a Master of Philosophy (Health Education) student in the above mentioned University and conducting a survey as part of my thesis on the topic: **Factors Responsible for the Decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.**

You are kindly requested to read through the following items and respond to them as truthfully and objectively as possible. You may need about 15 minutes for this. Your responses will be used for academic purpose only. Please, do not write your name on the questionnaire, since it is not a test and you will not be identified with the results. Thank you for spending your valuable time to help me in this research.

### SECTION A – BIOGRAPHIC DATA

Please, write where appropriate and tick (✓) the box corresponding to your choice concerning each of the statement below.

#### Section A: Personal/Demographic Data

Sex: Male

Female

Age: .....years

Academic qualification

SSSCE/WASSCE

Diploma

1<sup>st</sup> Degree & Above

intercourse to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?				
9. What level of contribution was mutual faithfulness to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?				
10. What level of contribution was reduced number of sex partners to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?				
11. What level of contribution was avoidance of sharing sharp and piercing objects to the decline in HIV and AIDS prevalence rate from Volta Region from 2006 to 2008?				
12. What level of contribution was condom use to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?				
13. What level of contribution was avoidance of homosexuality to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.				

<p>14. What level of contribution was care and support for PLWHA to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?</p>				
<p>15. What level of contribution was glove use when providing service to a patient who is bleeding to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?</p>				
<p>16. What level of contribution was transfusion of screened blood and blood products to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?</p>				
<p>17. What level of contribution was showing love to PLWHA to the decline of HIV and AIDS prevalence rate in the Volta Region in 2006 to 2008?</p>				

Select the response which best expresses your opinion about the level of contribution of specific intervention strategies geared towards reduction in the spread of HIV/AIDS in the Volta Region

Statement	Very high	High	Low	Very Low
18. What is the contribution of care for AIDS orphans to the decline in HIV and AIDS in the Volta Region from 2006 to 2008?				
19. What is the contribution of reduced stigmatization and discrimination against PLWHA to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?				
20. What is the contribution of organizational care and support to PLWHA to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?				

<p><u>Section C continued</u></p> <p>21. What is the contribution of availability of VCTT service to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?</p>				
<p>22. What is the contribution of utilization of VCTT services to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?</p>				
<p>23. What is the contribution of mother to child prevention in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008?</p>				
<p>24. What is the contribution of availability of antiretroviral drugs to the decline in HIV and AIDS prevalence rate from the Volta Region in 2006 to 2008?</p>				

Select the response that best expresses your opinion about HIV education towards reduction of the spread of HIV/AIDS in Volta Region

Statement	Agreed	Strongly agree	Disagree	Strongly disagree
25. HIV and AIDS education has helped some people in the Volta Region to use condom correctly during sex as way of preventing the spread of HIV from 2006 to 2008				
26. HIV and AIDS education has helped some people in the Volta Region to provide care and support to their relatives who are infected with HIV as way of preventing the spread of HIV from 2006 to 2008				
27. HIV and AIDS education has helped some nursing mothers who are infected with HIV in the Volta Region to avoid breastfeeding their infants as way of preventing the spread of HIV from 2006 to 2008.				
28. HIV and AIDS education has helped some nursing mothers who have chosen to breastfeed their infants to adopt exclusive breastfeeding in order to reduce their possibility of infecting their new born as way of preventing the spread of HIV from 2006 to 2008				



<p>Section D continued</p> <p>29. HIV and AIDS Education on the effects of HIN and AIDS has made some people in the Volta Region to adopt positive lifestyles that helped them to protect themselves against HIV infection from 2006 to 2008.</p>				
<p>30. HIV and AIDS education has helped some people in the Volta Region to be aware of where to access VCTT, which led to reduction of the spread of the disease from 2006 to 2008.</p>				

UNIVERSITY OF CAPE COAST  
CAPE COAST, GHANA  
FACULTY OF EDUCATION

Department of Health, Physical Education & Recreation

TELEPHONE: 30634, 32480-9 FAX 253  
FACSIMILE: 2552, UCC, GH



Cables & Telegrams:  
UNIVERSITY, CAPE COAST

our Ref.: HPER/40/50  
our Ref.:

11<sup>th</sup> January, 2011

To Whom It May Concern

LETTER OF INTRODUCTION

The bearer, Mr. Tsorhe Bismark, is an M. Phil (Health Education) student of the above Department who is collecting data for his thesis on "Factors Responsible for the Decline of HIV/AIDS Prevalence Rate in Volta Region from 2006 to 2008". He has chosen some Health Centres under your directorate as a case study and we would be grateful if you could assist him to collect his data.

We would be very grateful if the necessary assistance is given to him.

If you have any question, you may contact the Department at 03321-30634

Thank you.

A handwritten signature in black ink, appearing to read "Dr. J. K. Ogah".

Dr. J. K. Ogah  
HEAD OF DEPT.

**ST. TERESA'S COLLEGE OF EDUCATION, HOHOE**

03627- 22043

GES/VR/ST.22/1

011



P. O. Box 129  
Hohoe, Volta Region

12<sup>th</sup> April, 2011

**LETTER OF INTRODUCTION**

The bearer, Kubuafo Beatrice, is a student of the above mentioned college who has volunteered to collect data for her tutor, Mr. Tsothe Bismark, who is collecting data for his thesis on "Factors Responsible for the Steady Decline of HIV/AIDS Prevalence Rate in Volta Region from 2006 to 2008".

Mr. Tsothe Bismark had chosen your health facility as one of the case study, but due to his work schedule, he could not collect the data personally.

I shall be happy if the above mentioned student could be allowed to collect the data on his behalf.

Attached is the introduction letter given to Mr. Tsothe Bismark, from his department in the University of Cape Coast.

If you have any question you may call me on this number: 0241305581 or call the College's number above.

Thank you.

ANGELINA KUTIN TANDOH (MRS)  
PRINCIPAL.

**TO WHOM IT MAY CONCERN**

PRINCIPAL  
ST. TERESA'S COLLEGE OF EDUC.