

## **Factors Associated with the Decline in HIV and AIDS Prevalence Rate in Volta Region of Ghana**

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### **Abstract**

The research aims at finding out factors that contributed to the decline in HIV and AIDS prevalence rate in the Volta Region of Ghana 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. 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 menace.

**Keywords:** Voluntary Counseling and Testing, HIV, AIDS, People living with AIDS

### **Introduction**

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, Bergstrom, 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 and 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, 2002).

In Sub Saharan Africa, about 22 million people were living with HIV in 2007 (UNAIDS, 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, 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 youth are the most affected population as far as HIV/AIDS is concerned. In Ghana, 15 to 49 year group are mostly infected with the disease (Ghana Business News, 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 Ghana Business News (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, 2009). 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 (Ghana Business News, 2009). Three regions (Volta, Western and Upper -East regions) recorded a study 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. Ghana Business News 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**

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?

### **Methodology**

The study was a descriptive survey involving 10 hospitals. Convenient sampling technique was used to select 250 respondents from whom data was collected. This comprised 25 health and medical personnel from each of the 10 health facilities. Out of 250 respondents, 75 of them were males while 175 of them were females. The instrument developed for the study was a questionnaire and respondents were requested to respond to each item on a four-point Likert's scale.

### **Results/Discussions**

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. Research question 1 focused on how behavior change helped people in the volta region to reduce the spread of HIV from 2006 to 2008 and presented on Table 1.

**Table 1: 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)
Glove use by health and medical personnel	118 (47.2)	123 (49.2)	5 (2.0)	4 (1.6)
Transfusion of screened	142 (56.8)	92 (36.8)	3 (1.2)	13 (5.8)
blood products Showing love to	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

Generally, it is evident from Table 1 that responses of health and medical personnel on their opinion on the contribution of behavior 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.

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 point 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. 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 behavior change among married people is to restrict sex to one's spouse.

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 programs 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 1 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.

Also, the responses of the respondents indicate that a total of 83.6% of the respondents agreed that care and support given to PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS had contributed high to the decline of HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

Abraham, Weedon and Bertolli (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 PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS to the decline in HIV and AIDS prevalence rate is high, (87.2%).

Generally, it is evident from Table 1 above that responses of health and medical personnel opinion about the contribution of behavior 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 behavior 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 behavior 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.

Research question 2 sought to find out to what extent specific intervention strategies could help people in the Volta Region to reduce the spread of HIV and AIDS infection and the results are presented in Table 2.

**Table 2: 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 PEOPLE LIVING WITH HIV AIDS	145 (58.0)	64 (25.6)	3 (1.2)	38 (15.2)
Availability of VOLUNTARY COUNSELLING AND TESTINGT services	140 (56.0)	95 (38.0)	3 (1.2)	12 (4.8)
Utilization of VOLUNTARY COUNSELLING AND TESTINGT 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

Generally, it is evident from Table 2 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 low (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 AIDS 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 PEOPLE LIVING WITH HIV AIDS 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 VOLUNTARY COUNSELLING AND TESTING 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 PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS 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 PEOPLE LIVING WITH HIV AIDS 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 VOLUNTARY COUNSELLING AND TESTING 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 VOLUNTARY COUNSELLING AND TESTING 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 VOLUNTARY COUNSELLING AND TESTING services had contributed highly (94.0%) to the decline in HIV and AIDS prevalence rate in the Volta Region from 2006 to 2008.

This same opinion was shared by 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 VOLUNTARY COUNSELLING AND TESTING 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 VOLUNTARY COUNSELLING AND TESTING 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.

Research Question 3 sought to find out to what extent could HIV/AIDS Education help to reduce the spread of the disease in Volta Region? The responses are presented on Table 3.

**Table 3: 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 VOLUNTARY COUNSELLING AND TESTING	162 (64.8)	80 (32.0)	1 (0.4)	7 (2.8)
<b>Total</b>	<b>147 (58.9)</b>	<b>82 (32.6)</b>	<b>8 (3.0)</b>	<b>13 (5.4)</b>

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

Generally, it is evident from Table 3 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 behavior 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.

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. Center for Disease Control (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. Center for Disease Control (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 VOLUNTARY COUNSELLING AND TESTINGT, 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 VOLUNTARY COUNSELLING AND TESTINGT 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.

## Conclusions

The study sought 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. It is concluded that 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

The following recommendations were made for the study;

1. Government and Non-Governmental Organizations, including religious bodies must intensify their strategies that are geared towards behavior change of their members. They should encourage their members to change their behavior 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.

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