

THE CONTRIBUTION OF ANTIRETROVIRAL THERAPY TO IMPROVING THE
HEALTH CONDITION OF HIV/AIDS PATIENTS IN THE NEW JUABEN
MUNICIPALITY



PRESENTED BY

FREDERICK OWUSU (B.ED SCIENCE)

(PG6548511)

A THESIS SUBMITTED TO THE DEPARTMENT OF COMPUTER SCIENCE,
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF

MASTER OF PHILOSOPHY IN HEALTH INFORMATICS

DEPARTMENT OF COMPUTER SCIENCE

COLLEGE OF SCIENCE

AUGUST, 2013.

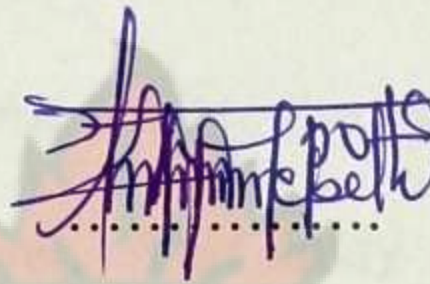
DECLARATION

I, Frederick Owusu, do hereby declare that this thesis is entirely my own composition, and that this work has not been presented to any other institution.

All references made to works of other people have been duly acknowledged.

Frederick Owusu

(20249341, PG6548511)

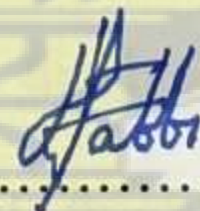
 18/3/14

(Signature) (Date)

Certified by:

Mr. K.A. Pabbi


(Supervisor)

 28/03/14

(Signature) (Date)

Dr. M. Asante

(Head of Department)

 31/03/14

(Signature) (Date)

ABSTRACT

Since the discovery of HIV/AIDS in the early 80s, it has continued to pose a threat to humanity and many efforts have been made by the United Nations, Countries, Institutions as well as individuals to research into it. Much about the disease is shrouded in mystery. The question of where it originated has always been a debated one. The disease continues to claim lives in many countries, especially in sub-Saharan Africa. Southern Africa used to be badly hit and many people died by the day. Lots of efforts have been made to find a cure but long years of searching for a cure has not yielded success. However, there is a treatment, antiretroviral drug (ART) that has the capacity to improve the health of people living with HIV/AIDS (PLWHA). The ART brought some hope to the world; however, the health status of PLWHA has not improved the world over. This study focuses on identifying factors underlining the deteriorating health condition of people in the New Juaben Municipality. After a review of the relevant literature, the following hypotheses were developed: 1) the attitude of PLWHA to ART is likely to affect their health condition; 2) the fact of administering ART at designated clinics affects the attitude of PLWHA to ART and 3) HIV/AIDS related stigma impacts negatively on the health condition of PLWHA. One hundred and twenty respondents were sampled from the New Juaben Municipality. Quantitative data was collected with mostly close ended questionnaire, analyzed with the Statistical Package for Social Scientists (SPSS) and Chi Square hypothesis was conducted for each of the hypotheses and the null hypotheses were rejected successfully. That implied a confirmation of what each of the hypotheses stated. So a generalization could be made, implying that the findings about the statistics of the sample could be applied to the parameter of the population.

DEDICATION

This work is dedicated to the Almighty God who generously gave me strength, travelling mercies, good health and other resources to successfully accomplish this research.

I also dedicate this research work to all people living with HIV/AIDS.

KNUST



ACKNOWLEDGEMENT

I wish to express my sincerest gratitude to my supervisor, Mr. Kwaku Pabbi for his corrections, guidance and suggestions in shaping this work. I am very grateful to my loving wife Francisca, my daughters; Eleora and Bryanna, and staff of the HIV/AIDS centres of the Koforidua Regional Hospital and St. Joseph's Hospital for their encouragement, support and love shown me during my study. Thanks to all my respondents.

All sources of information used for this project work have been duly acknowledged.



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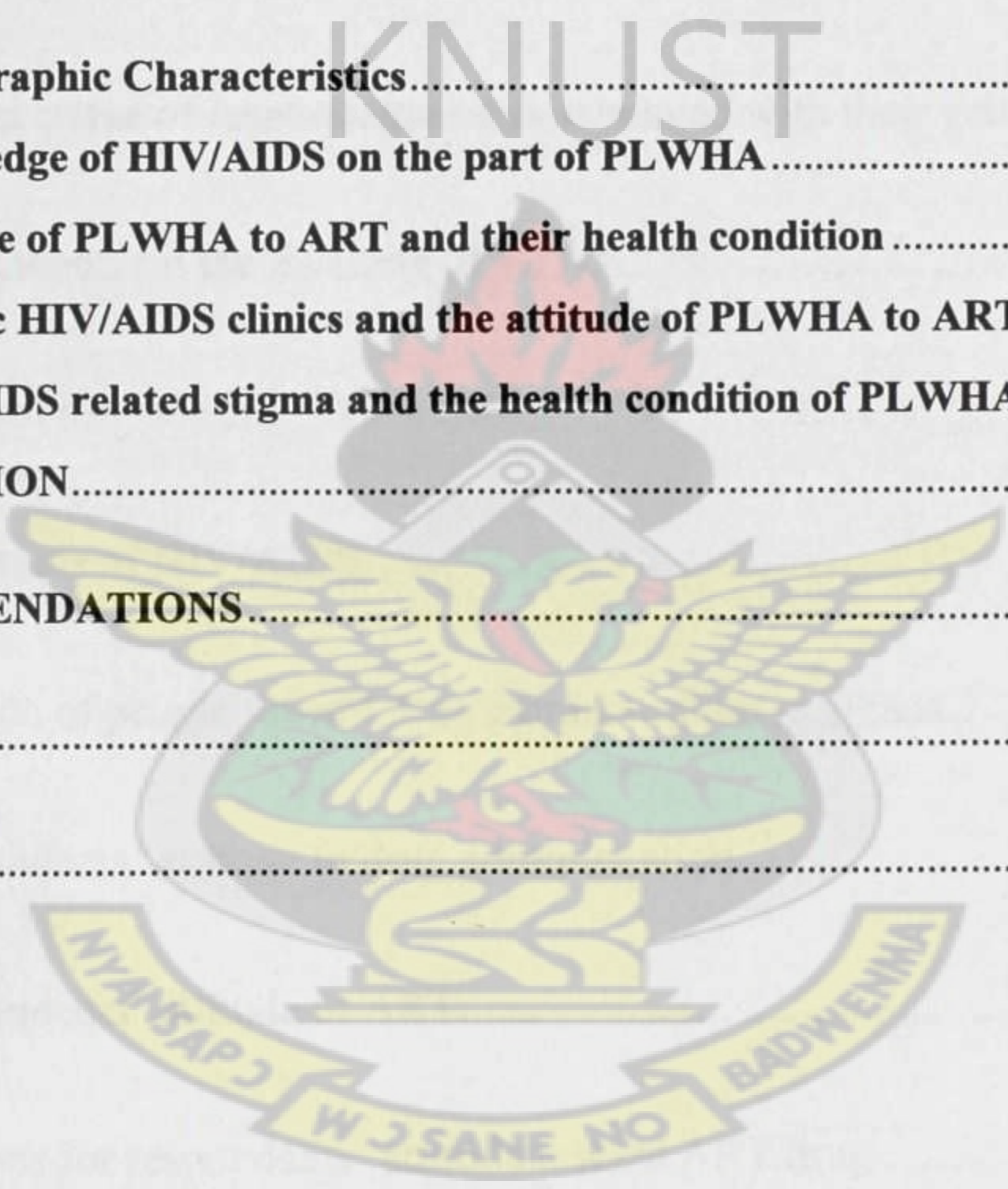
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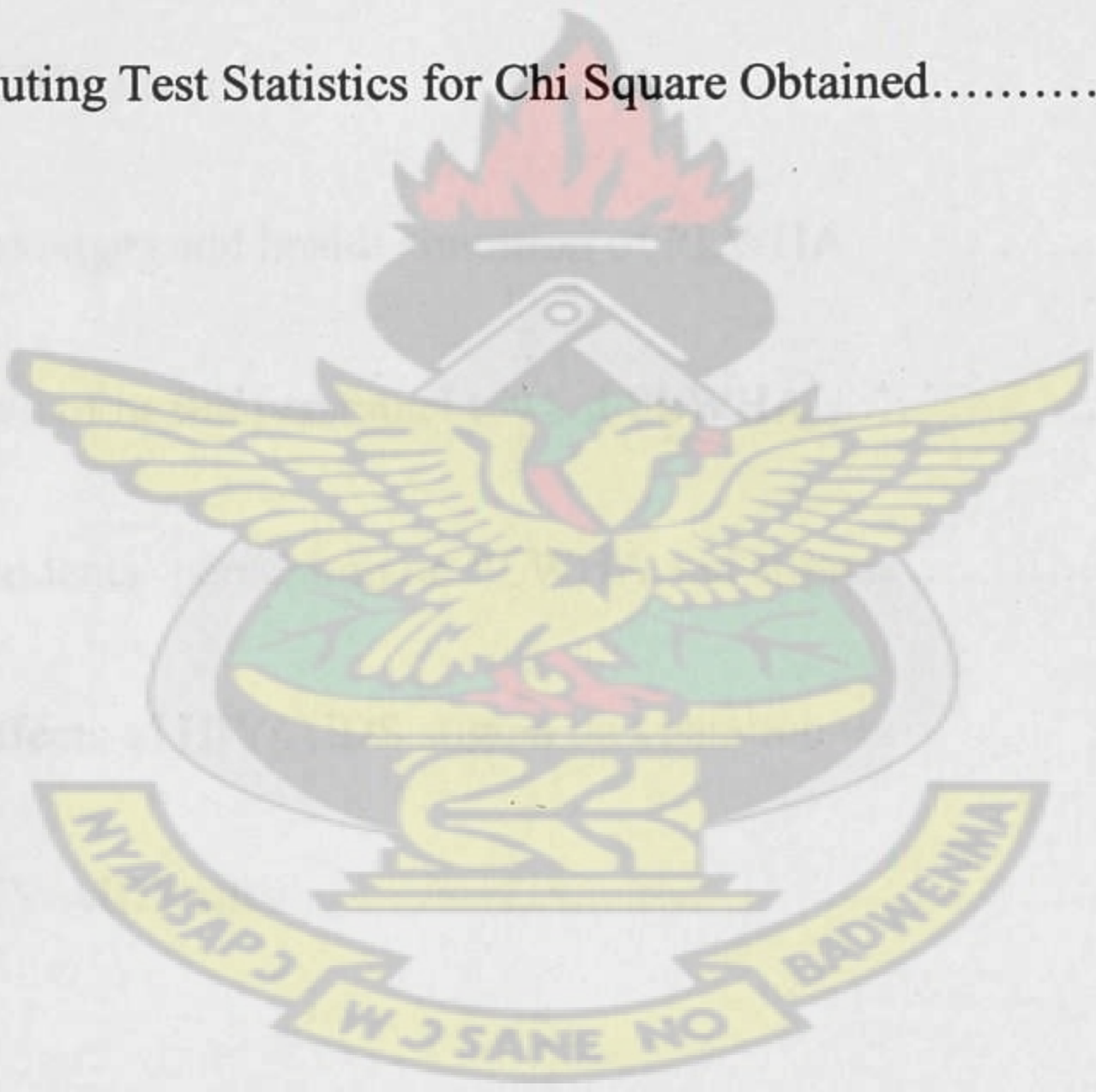
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ABBREVIATION

ART	Antiretroviral drug
AIDS	Acquired Immune Deficiency Syndrome
CDC	Centre for Disease Control and Prevention
CSRPM	Center for Scientific Research into Plant Medicine
GAC	Ghana AIDS Commission
HIV	Human Immunodeficiency Virus
ICRW	International Centre for Research on Women
IRIN	Integrated Regional Information Network
NACP	National AIDS/STD Control Programme
NCASC	National Centre for AIDS and STD Control
NTCA	National Technical Committee on AIDS
PLWHA	People Living With HIV/AIDS
STD	Sexually Transmitted Disease
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations International Children Emergency Fund
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

It is not very clear where AIDS actually started, nevertheless, the first cases of AIDS were found in the United States of America in 1981, and then in Uganda in 1982. It is generally believed that cases of HIV/AIDS had been observed earlier on in the early 1970s. The virus that is generally believed to be causing AIDS, HIV-1 and HIV-2 were discovered in 1983 and March 1986 respectively. The difference between HIV-1 and HIV-2 is that HIV-2 takes a longer time to develop into a full blown disease (Leonie McSweeney, 1991, p. 17). The study does not intend to get involved in the forest of polemics surrounding HIV/AIDS; it rather intends to look at antiretroviral drugs and health status of people living with HIV/AIDS (PLWHA) in the New Juaben Municipality.

The WHO reports that by the year 2011, a total of 36,700,000 people were living with HIV/AIDS with 1,700,000 deaths. (UNAIDS, 2012). Western and Central Europe accounted for 860,000 with 9,300 deaths. Eastern Europe and Central Asia had 1.5 million people living the HIV/AIDS of which 90,000 died. In central and South America, there were 1.4 million people living with HIV/AIDS with 57,000 AIDS-related deaths. Asia and the pacific accounted for 5 million with 331,000 deaths, while the Caribbean had a total of 230,000 with 10,000 deaths. Approximately 330,000 people had HIV in North Africa and the Middle East with about 25,000 deaths. An overwhelming number of 23.5 million people were

reported living with HIV/AIDS in sub-Saharan Africa with 1.2 million deaths. (UNAIDS Fact sheet, 2012).

Thus, sub-Saharan Africa comes across as the most affected region in HIV/AIDS with Southern Africa as the area most heavily affected by the epidemic. In 2010, sub-Saharan Africa accounted for approximately 68 percent of people living with HIV worldwide and 70 percent of the new infections among adults and children. The region also accounted for 67 percent of the world's AIDS-related deaths in 2010. (WHO, UNAIDS and UNICEF, Global HIV/AIDS response, progress report 2011).

The HIV/AIDS scourge continued to plague the world and it was only three (3) years after the disease was discovered in Los Angeles that global search for a drug yielded some hope. A combination of new and emerging drugs provided an effective formula for treatment of the disease. By the end of the year 2009, more than 5 million people were on treatment. (Mark Schoofs, 2011). Consequently, the number of people dying of AIDS and related cases decreased from a peak of 2.2 million in the mid-2000s to 1.8 million in 2010. A total of 2.5 million deaths in Low and middle income countries have been prevented since 1995 as a result of anti-retroviral therapy (UNAIDS report 2011). According to Michael Sidibe, (2011), Executive Director of UNAIDS, there is ready access to HIV/AIDS drugs; hence, even poorer countries are recording tremendous scale up in access to treatment of AIDS. Advance treatment for HIV/AIDS in patients have dramatically extended the incubation period and AIDS survival time, while

improving the quality of patient's life significantly. (JD Griffiths, ZF Lawson and JE Williams, 2006).

West Africa is considered as the region least affected by HIV/AIDS in sub-Saharan Africa (UNAIDS & WHO, 2008), and that general picture reflects in the case of Ghana. After the first HIV case in Ghana was reported in 1986, the disease spread slowly but steadily. Heterosexual intercourse accounts for 80 percent of transmission of HIV cases. By the year 1994, an estimated 118,000 Ghanaians were living with HIV and the number more than tripled to about 404,000 in 2004 with a rise in the prevalence rate of 1.4% in 1994 to 3.6% in 2003. According to the Ghana AIDS Commission (GAC) 2011 report, the number of infected people is estimated to be 500,000 in 2015. (Ghana AIDS Commission, 2011).

With the number of committees, Ghana has variously responded to the HIV/AIDS threat, beginning from 1985 with the setting up of the National Technical Committee on AIDS (NTCA). In 1987, the NTCA was replaced with the National AIDS/STD control programme (NACP) which was based in the Ministry of Health as the coordinating body of the national response. In September 2000, the Ghana AIDS Commission was inaugurated to serve as the coordinating body for all HIV/AIDS related activities in Ghana. The objectives have been to reduce further transmission of infection and to mitigate the effects of HIV/AIDS on infected and affected people. (Ministry of Health/Ghana Health Services, Sept. 2002).

This study intends to look at the health status of people living with HIV/AIDS and the administration of antiretroviral drugs in the New Juaben Municipality. From 2000 to 2012, 60% of the 28,725 people living with HIV/AIDS in the Eastern Region had been placed on Antiretroviral Drugs. With Antiretroviral treatment, the situation in the New Juaben Municipality has not shown much improvement. This study is an attempt to find out whether the introduction of the treatment has had any impact on the health status of people living with HIV/AIDS.

1.2 PROBLEM STATEMENT

Since its discovery in the early 80s, HIV/AIDS has continued to pose a devastating threat to the entire world, and many HIV/AIDS related deaths have been recorded globally. Lots of scientific studies have been carried out resulting in a complexity of discoveries associated with HIV/AIDS.

Sub-Sahara Africa is reported to have the highest prevalence rate and concomitant cases of death. Frantic efforts have been made by various individuals and group the world over to find a cure to the disease, but the dream has remained utopian up till today. In Ghana, for instance, several concoctions and herbal mixtures have been sent to the Centre for Scientific Research into Plant Medicine (CSRPM) to be tested against HIV/AIDS, but none have yielded any positive results. The situation has reached alarming levels as no cure was discovered and people continued to die. The world gave a big sigh of relief with the introduction of antiretroviral drugs, which do not constitute a cure for the disease, but only prolong the life of the infected person. There has occurred a drastic reduction in cases of HIV/AIDS related death.

Also, there has been improvement in the health of the infected people. Nevertheless, the HIV/AIDS pandemic continues to claim lives in the New Juaben Municipality, whilst the health condition of others still continue to deteriorate. This study intends to find out the rationale behind continuously deteriorating health condition of people living with HIV/AIDS despite the administration of antiretroviral treatment.

1.3 OBJECTIVES OF THE STUDY

1.3.1 General Objectives

The study seeks to investigate the rationale behind the perennial deteriorating health condition of the HIV/AIDS infected people in the New Juaben Municipality.

1.3.2 Specific Objectives

1. To investigate whether the attitude of People living with HIV/AIDS to antiretroviral drugs impacts on their health condition.
2. To find out how the fact of having specific centres administering antiretroviral drugs impacts negatively on the attitude of PLWHA to antiretroviral drugs.
3. To investigate whether HIV/AIDS related stigma contributes to the deteriorating health condition of PLWHA.

1.3.3 Research Questions

1. Does the attitude of PLWHA to ART drugs affect their health condition?
2. Do the specific centers (sites) administering ART drugs impact negatively on the attitude of PLWHA to ART drugs?

3. Does HIV/AIDS related stigma contribute to the deteriorating health condition of PLWHA?

1.3.4 Hypothesis of the study

1. The attitude (positive or negative) of people living with HIV/AIDS to antiretroviral drugs affects their health status
2. Administering antiretroviral drugs from specific health centers (sites) is likely to impact negatively on the attitude of PLWHA to antiretroviral drugs.
3. HIV/AIDS related stigma negatively impacts on the health status of PLWHA.

1.4 THEORETICAL FRAMEWORK

Ervin Goffman's theory of dramaturgy is used as a framework to analyze the data. Goffman perceives the self as the product of the dramatic interaction between actor and audience. The self is a dramatic effect arising from a scene that is presented (Goffman, 1959:253). Since the self is the product of the dramatic interaction, it is vulnerable to disruption during performance. According to Goffman, when people interact, they want to present a sense of self that will be acceptable to others. The actors hope that the sense of self that they present to the audience is strong enough to make the audience define the actors as the actors want. An actor who plays Julius Caesar or Brutus wants to be defined as such by the audience. Similarly, the actors hope that their performance will cause the audience to act voluntarily as they want them (the audience) to. This central interest of the actors is what Goffman calls "impression management" which involves techniques actors use to maintain certain impressions, problems they are likely to encounter, and methods they use to cope with these problems. (George Ritzer, 1988,307).

The theory of dramaturgy expounds that the interaction between people is a drama. In a drama, actors perform on a stage, and so there are two stages: the back stage and the front stage. The front stage refers to what the audience sees; it is that part of the performance that generally functions in rather fixed and general ways to define the situation for those who observe the performance. Goffman further divided the front stage into the setting and the personal stage. The setting refers to the physical scene that ordinarily must be there to ensure that the actors can perform. The actor requires the setting the same way a surgeon requires a theatre room, a taxi driver a taxi, and a tailor a sewing machine. The setting is the condition of possibilities for the drama. The personal stage comprises those items of expressive equipment that the audience identifies with the performers and expects them to carry with them into the setting. For instance, a surgeon is expected to dress in a medical gown, have certain instruments, and so on.

Goffman further divides the personal front into appearance and manner. Appearance refers to those items that reveal the performer's social status (for instance the surgeon's medical gown). Manner tells the audience what sort of role the performance expects to play in a situation for example, the use of physical mannerisms, demeanor). Under normal circumstances, appearance and manner must be consistent.

The back stage is where facts suppressed in the front or various kinds of informal actions may appear. The back stage is not only adjacent to the front stage, but also it is cut off from it. Performers do not expect any member of their front audience to appear in the back. Also actors engage in various types of impression management to maintain the gap between the front stage and the back. According to Goffman, a performance can become

very difficult if actors are unable to prevent the audience from entering the back stage. Goffman identifies a third domain, the outside, which is neither front nor back. It is important to note that no area is always one of the three: an area can play the role of all three domains at different times. For instance, the office of a professor is a back stage when the professor is alone in his office, but a front stage when a student visits, and outside when the professor is in the lecture hall.

The idea of front stage and back stage refers to what Goffman denominates as virtual social identity (what a person ought to be) and actual social identity (what a person actually is), (Goffman, 1963b). The interest of Goffman is in the gap between the two identities which he calls stigma. According to Goffman, anyone who has a gap between these two identities is stigmatized, and a stigma is either discredited or discreditable. In a case of discredited stigma, the actor assumes that the audience know the differences or that they are evident to the audience, whereas a discreditable stigma is one in which the differences are neither known by the audience. An actor is discredited when there is no gap between his/her back stage and front stage, which means that they no more have secrets. An actor is discreditable when the back stage is intact; there is a gap between the back stage and the front stage.

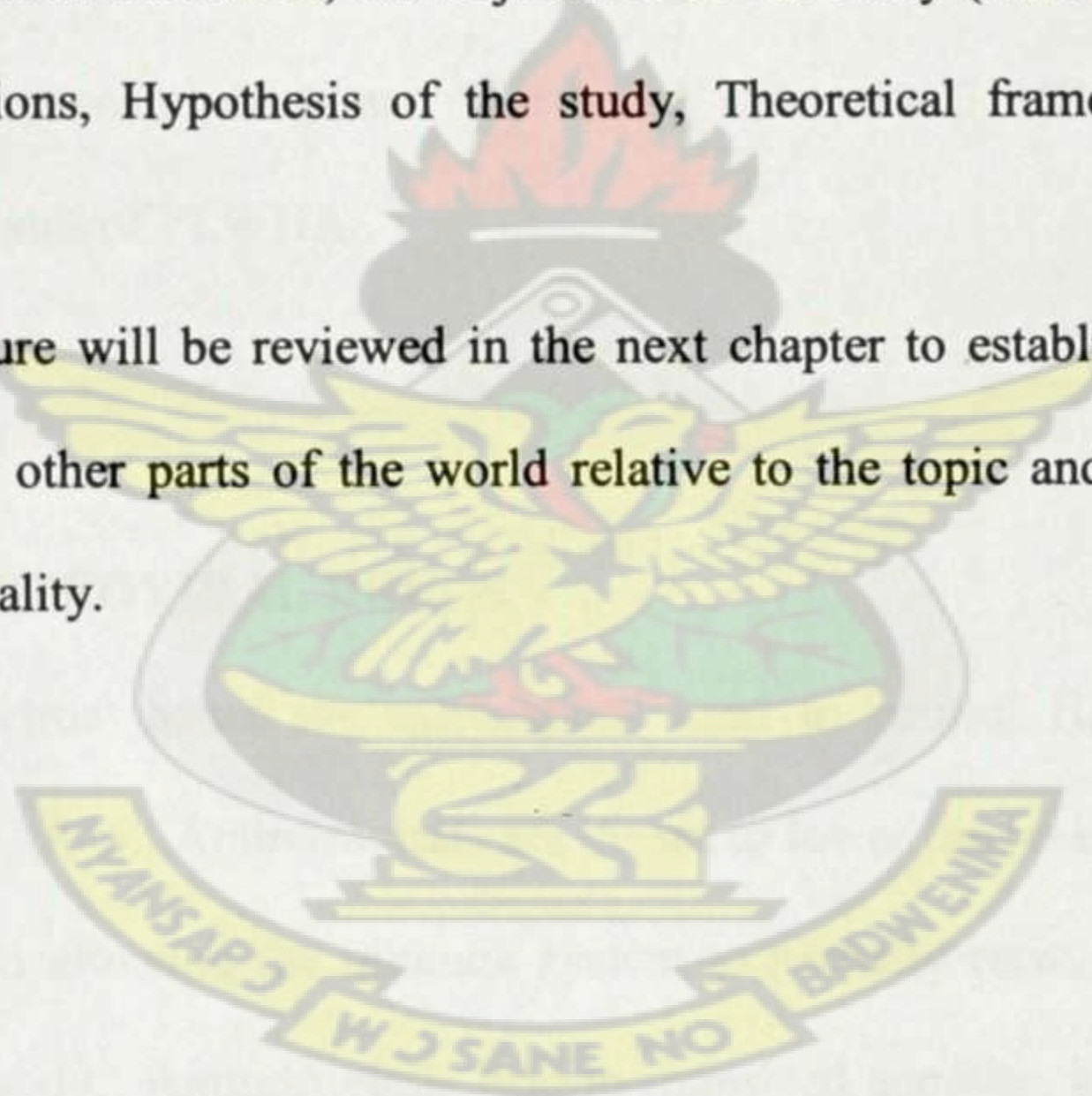
In the case of HIV/AIDS patients, they will either be discredited or discreditable based on the circumstances surrounding their situation and conditions within which the Antiretroviral drugs are administered to them. The analysis of data will be done to figure out whether the people living with HIV/AIDS have their back stage intact or not.

1.5 THESIS ORGANIZATION

Chapter one comprises the background information about HIV/AIDS, followed by the problem statement, objectives justification of the study and the theoretical framework. Chapter two contains the literature review. The third chapter is dedicated to Methodology. Chapter four consists of data analysis and discussion. Chapter five contains summary of the findings, conclusion and recommendations.

In summary, this chapters talks about the background or historical antecedent to the HIV/AIDS, problem statement, the objectives of the study (both general and specific), Research questions, Hypothesis of the study, Theoretical framework and the thesis organization.

Relevant literature will be reviewed in the next chapter to establish what other people have studied in other parts of the world relative to the topic and replicate it the New Juaben Municipality.



CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

Every research work makes reference to or must make reference to existing works that are relevant to the issue under consideration, and this research is no exception. Chapter two is, therefore, dedicated to reviewing relevant literature with the view to either replicating in the New Juaben Municipality what has been studied in other parts of the world or do what has not been studied yet. The chapter will have three parts to investigate: 1. Explanation of Antiretroviral drugs, 2. Adherence on the part of PLWHA to antiretroviral drugs and their health status and 3. HIV/AIDS related stigma and the health status of PLWHA.

2.1 ANTIRETROVIRAL DRUGS

HIV is a retrovirus; hence the medications used to control HIV are referred to as antiretrovirals, (ART). Antiretrovirals are meant to lower the levels of HIV in the body, with the view to allowing the immune system to partially recover and further prevent damage to the body. Antiretrovirals lead to improved appetite, increase in weight, and eliminate or reduce diarrhoea and skin rashes. However, despite all that has been outlined above, it is important to remember that antiretrovirals are not a cure for HIV/AIDS.

The drugs are taken daily for life, and patients are required to stick faithfully to the prescription of the Doctor. In a situation where a person stops taking the ART, or misses

too many doses, the medication loses its efficacy thereby enabling the virus to develop resistance to the ART being used. Worse still, the person could develop a strain of HIV that is completely resistant to medication, hence, to say that patients must be faithful to the regime of the drug is an understatement.

2.2 ADHERENCE ON THE PART OF PLWHA TO ANTIRETROVIRAL DRUGS AND THEIR HEALTH CONDITION.

This section of the literature review focuses on the attitude of HIV/AIDS infected people to antiretroviral drugs; in other words, how people living with HIV/AIDS relate to antiretroviral drugs, and how that reaction affects their health status. The main question to be investigated here is that of adherence. What does adherence on the part of PLWHA say about their health status? What may be the possible causes hampering adherence to the drug administration?

Assessing adherence to ART in a tertiary health facility in Benin City, Nigeria, Patrick O. Erah and John E Arute (2008) came to the conclusion that the efficacy of any treatment depends on sustained high levels of adherence to ART (Cf. Decks et al., 1997; Saag and Schooley, 1998; Alice et al., 2001). Thus it is believed that adherence is a major predictor of the survival of individuals living with HIV/AIDS whereas poor adherence to treatment remains a major obstacle in the fight against HIV/AIDS. Erah and Arute maintain that non-adherence influences therapeutic interventions in HIV/AIDS and go ahead to distinguish three factors that generally influence adherence to antiretroviral therapy: patient-related (psychosocial and educational) factors; patient-provider factors (interaction with physicians and other health workers and access to medications) as well

as clinical factors (pill burden, dosing frequency and adverse effects of medications). Among the findings of Erah and Arute, was that there is the need to obtain 95% adherence level in order to achieve optimal rates of viral suppression in people living with HIV/AIDS.

The advent of antiretroviral treatment (ART) has dramatically slowed down the progression of HIV, reduced the death rate from AIDS and transformed the infection from a fatal illness to a more manageable chronic illness (Bangsberg DR, Hecht FM, Charlebois ED, Zolopa AR, Holodniy M, et al. (2000) & Paterson DL, Swindells S, Mohr J, Brester M, Vergis EN, et al. (2000)]. However, these scholars maintain that simply making ART medicine available to PLWHA is not enough, as strict adherence is required for treatment success, (Konkle-Parker DJ, Erlen JA, Dubbert PM (2008). Poor adherence can lead to the virological failure of cheap first-line treatment regimens and the spread of multi-drug resistant forms of the virus, resulting in a public health calamity, {Konkle-Parker DJ, Erlen JA, Dubbert PM (2008); Bangsberg DR, Moss AR, Deeks SG (2004) & Stevens W, Kaye S, Corrah T (2004)]. Antiretroviral therapy in Africa. BMJ. 328. : 280–82. Unlike many other diseases, it is vital that PLWHA consume all doses of the drug to prevent resistance and to improve their chances of survival. Understanding the level of non-adherence and the factors that lead to it are important clinical and public health goals. This information is essential to inform ART programmes and maximize the success of treatment.

Paterson and colleagues found that adherence greater than 95% is needed to achieve virological success; however 22% of patients with an adherence level of over 95%

experienced virological failure (i.e. a sharp increase in viral load) compared to 61% of patients with adherence between 80–94.9%, and 80% of patients with an adherence level of below 80%. A meta-analysis of studies of ART adherence found that a pooled estimate of 77% of patients in Africa achieved adequate adherence (>95% of prescribed pills) compared to just 55% of patients in North America. However, the relationship between adherence and the development of resistance differs by regimens; for example resistance to non-nucleoside reverse transcriptase inhibitors is significantly higher at low levels of adherence than that for protease inhibitors [Mills E, Nachega J, Bangsberg D, Singh S, Rachlis B, et al. (2006) & Bangsberg DR, Acosta EP, Gupta R, Guzman D, Riley ED, et al. (2006).

Investigating factors influencing adherence to antiretroviral treatment in Nepal, Sharada P. Wasti Padam Simkhada, Julian Randall, Jennifer V. Freeman, Edwin van Teijlingen observed that improving adherence requires a supportive environment; accessible treatment; clear instructions about regimens; and regimens tailored to individual patients' lifestyles. Healthcare workers should address some of the practical and cultural issues around ART medicine whilst policy-makers should develop appropriate social policy to promote adherence among ART-prescribed patients. They continue to state that prescribers hope that every patient completely follows their ART instructions, but it does not always happen like that, and the reasons are many. They are socio-demographic, cultural, economic, health-systems and treatment-related factors. (Mills E, Nachega J, Bangsberg D, Singh S, Rachlis B, et al. (2006); Bangsberg DR, Acosta EP, Gupta R, Guzman D, Riley ED, et al. (2006); Hardon A, Davey S, Gerrits T, Hodgkin C, Irunde H, et al. (2006) & Willard S, Angelino A (2008).

Other factors include negative perceptions toward ART; for example, “Rural people do still not believe this medicine [ART] work for HIV patients. HIV people will die eventually either taking or not taking ART. Why should I die by taking these malicious pills? They stopped taking medicine after initiating treatment” (P- 12, Female, Far-western- Sharada et al). Others still are Religion and rituals obstacles – there is the need for people to abide by their local and traditional religious rituals. Religious constraints would seem to remain the most significant barrier to adherence and where this is compounded by unsympathetic family circumstances as discussed below, non-adherence may be even more likely to occur.

Alcohol has been identified as another barrier to adherence in some people living with HIV/AIDS. During festivals they feel tempted to drink alcohol and anytime they do, they could hardly remember to take their drugs. Other barriers include lack of family support; money or economic constraints and many others. For instance, some infected people cannot transport themselves to the clinics for their medication. Other factors include discrimination and HIV-related stigma, hence PLWHA select ART centres where no one would know them (Sharada,). Another barrier to adherence is short period of medicine prescription; most people living with HIV/AIDS would prefer clinics that prescribe the medicine for more than one month but that is often not the case.

Doctors agreed that side-effects led some patients to stop taking ART. These common side-effects included vomiting, diarrhoea, body pain, skin rashes and reduced body fat. Due to socio-cultural and economic restrictions put upon women in Nepal, women found it far more difficult to adhere to their ART medication than their male counterparts did.

Most of the health-care providers mentioned that men had better adherence than women did. (NCASC 2009).

However, once a person starts taking antiretroviral treatment, they have to take it exactly as prescribed, and for the rest of their life. If not, they significantly increase the risk of drug resistance. In addition, antiretroviral drugs often have unpleasant side effects and there are possible long-term effects of treatment, such as diabetes, body fat changes and potentially others that remain unknown. [Kitahata M. et al (2011). 'These are some of the reasons why in most settings treatment is currently only recommended when HIV has attacked the immune system to an extent where, without treatment, the person's health will start to deteriorate. For many people living with HIV this means not starting treatment for years. Starting treatment at an earlier stage could therefore potentially be detrimental to the individual's health.

Many factors identified in this study are consistent with the literature from both developed and developing countries. In this study, females reported poorer adherence than males as corroborated by care providers. This finding is unique since very few studies have reported that men were more likely to adhere to ART than women Bonolo PF, César CC, Acúrcio FA, Ceccato MGB, de Pádua CAM, et al., 2005; Sorensen S, Klinge H, Mravca-Wilkey V, Elzey J, Fife K, 2002; Salami AK, Fadeyi A, Ogunmodede JA, Desalu O, 2010). This is an important finding in the Nepalese context, as women are treated differently and unequally due to socio-cultural and economic factors. Nepalese women are recognized to be ill by family members only when they are bedridden and the head of the household (usually their husband or mother-in-law) decides that they are

seriously ill. Women in this study were less likely to disclose their HIV status (66.2% vs 70.2), and were more vulnerable to discrimination by others compared to male PLWHA (45.1% vs. 20.2%), both of which could be used to explain this finding. Different forms and types of HIV-related stigma exist such as self-stigma (self-blame or condemnation), perceived stigma (fear of stigma associated with disclosing HIV status) and enacted stigma (gossip, rejection, discrimination) and these were barriers to adherence (Rintamaki LS, Davis TC, Skripkauskas S, Bennett CL, Wolf MS, 2006).

Other barriers to adherence included local culture, especially religious activities and festivals such as “Teej” for Hindu women and “Ramadan” for Muslims. Religious beliefs are complex concepts and are part of the basic assumptions which shape people’s identities and strongly affect their decision-making such as taking medication on fasting days (Schein EH, 1985; Wasti SP, Randall J, Simkhada P, van Teijlingen E, 2011). It is difficult to see how this could be overcome but our findings reinforce the importance of considering the religious and spiritual beliefs of PLWHA as part of medical care. It has been suggested that incorporating discussions about spiritual beliefs into adherence, counseling could foster adherence (Wanyama J, Castelnovo B, Wandera B, Mwebaze P, Kambugu A, et al., 2007). As a result, patients could be motivated by seeing improvements in their health condition to continue adherence all the time. It is believed that most religions give freedom to eat on fasting day especially to the sick, children, and older people. This message needs to be reinforced during counseling.

Patients’ beliefs, knowledge and expectations regarding treatment strongly influence their medical decision making (Rabkin JG, Chesney MA, 1998). Our findings show that a

few patients believed that ART cured HIV or were unclear about how long they should take ART. Every ART-prescribed patient needs to understand that with appropriate treatment and continuing adherence HIV/AIDS is now a manageable chronic disease (Paterson DL, Swindells S, Mohr J, Brester M, Vergis EN, et al., 2000; WHO 2003).

Therefore, every patient needs to understand the importance of adherence because inaccurate information and misconceptions towards the disease and treatment regimens are associated with poor therapeutic outcomes, (van der Waal MHL, Jaarsma T, Moser DK, Veeger NJGM, van Gilst WH, et al. 2006), that in turn may be an impediment to achieving optimal levels of adherence (Smith-Estelle A, Gruskin S, 2003) van der Waal MHL, Jaarsma T, Moser DK, Veeger NJGM, van Gilst WH, et al. (2006). PLWHA who believe in the efficacy of ART are more likely to adhere (Amico KR, Barta W, Konkle-Parker DJ, Fisher JD, Cornman DH, et al., 2009). Hence, care providers should continue to educate PLWHA and their families and develop intervention strategies that address the local context in order to encourage people to adhere to ART.

Distance to treatment centre is of great concern to PLWHA and one of the key factors preventing adherence in this sample. Patients who travelled more than one hour to hospital were more likely to be non-adherent and this was also discussed in the in-depth interviews. Participants stated that although patients were willing to take ART they became non-adherent because of difficulties in reaching the treatment centres due to unexpected transport and other strikes; long travel distance; geographical difficulty including lack of transportation services in many remote areas; and the seasonal deterioration of poorer roads during the rainy season. This has also been found to be the

case with respect to maternity services in Nepal (Thomas D, Kc LM, Messerschmidt D, Devkota B, 2004).

Others have also found that travel time and access to treatment centres were barriers to ART adherence (Posse M, Meheus F, Van Asten H, Van Der Ven A, Baltussen R, 2008; Alker AP, Delvaux T, Mbuyi N, Ryder RW, 2004), and that better access to care was significantly associated with optimal adherence, (Wasti SP, van Teijlingen E, Simkhada P, Randall J, Baxter S, et al., 2011). Patients who are from rural areas have difficulties in travelling long distances and finding their travel costs, and have most to gain from nearby ART facilities. Although this benefit may be offset by patients who fear of disclosure and worry about others finding out, are still travelling to more distant sites. Thus, any new policy will need to address this issue and improve access to medical care services by integrating ART treatment into the mainstream of health care rather than concentrating treatment in a limited number of ART centres, which may be hard to reach for many patients.

2.3. HIV/AIDS RELATED STIGMA AND DISCRIMINATION AND THE HEALTH STATUS CONDITION PLWHA

The expression “AIDS-related stigma and discrimination” refers to prejudice, negative attitudes, abuse and maltreatment meted out to people living with HIV and AIDS. There are varied consequences of stigma and discrimination: people living with HIV/AIDS are shunned by family, peers and the wider community, they are treated poorly in healthcare and education settings, their rights are eroded. It also implies psychological damage, and a negative effect on the success of HIV testing and treatment.

AIDS stigma and discrimination is a global phenomenon, although they take different forms in different countries, communities, religious groups and individuals. Other forms of stigma and discrimination in society include the following: racism, stigma based on physical appearance, homophobia or misogyny, prostitution and drug use.

Stigma makes it more difficult for people who are making painful efforts to come to terms with their HIV status and manage their illness on a personal level. It also interferes with attempts to fight the global AIDS epidemic. At the national level, HIV-related stigma can deter governments from taking fast, effective action against the epidemic, and make people living with HIV/AIDS reluctant to access HIV testing, treatment and care on a personal level. Hence, the UN Secretary-General, Ban Ki Moon (2008, 6th August) has referred to AIDS as “the silent killer”.

Among the factors that contribute to HIV/AIDS-related stigma are: a). HIV/AIDS is a life-threatening disease, hence, people react strongly to it; b). HIV infection is associated with socially abhorrent behaviours like homosexuality, drug addiction, prostitution or promiscuity, which are already stigmatized in many societies; c). The barrage of inaccurate information concerning the transmission of HIV creates irrational behaviour and misperceptions of personal risk; d). HIV infection is considered as resulting from personal irresponsibility; e) based on their religious or moral beliefs, some people believe that being infected with HIV is punishment for promiscuity; f). the effects of antiretroviral therapy on people’s physical appearance can result in forced disclosure and discrimination based on appearance. (WHO, 2003).

It is interesting to note that HIV/AIDS-related stigma is not a straightforward phenomenon as attitudes towards the epidemic and those affected vary massively. Within one country, for instance, reactions to HIV/AIDS could vary among individuals and groups of people. This difference in attitude toward the phenomenon, could be due to religion, gender, sexuality, age and levels of AIDS education.(WHO, 2003)

It is difficult to assess the accuracy of this statement as levels of stigma are hard to measure and a number of small-scale studies have shown that the relationship between increased access to HIV treatment and a reduction in stigma is not always clear. Makoe LN et. al, (2009) & Roura M (2009, September).

Moreover, as there are many types of stigma it is possible that the availability of treatment may reduce some types of stigma and not others. For example, a study in Tanzania found that, on the one hand, stigma caused by the perception of people living with HIV as weak and therefore a 'burden' on the community had decreased with the uptake of treatment. Roura M (2009). On the other hand, 'fear based stigma' was found to have increased.

According to the UNAIDS (2008), the fact that stigma remains in developed countries such as America, where treatment has been widely available for over a decade, also indicates that the relationship between HIV treatment and stigma is not straightforward. An estimated 27 percent of Americans would prefer not to work closely with a woman living with HIV. (UNAIDS 2008 Report on the global AIDS epidemic).

Women with HIV or AIDS may be treated very differently from men in some societies where they are economically, culturally and socially disadvantaged. They are sometimes mistakenly perceived to be the main transmitters of sexually transmitted diseases (STDs). Men are more likely than women to be 'excused' for the behaviour that resulted in their infection: "Even a married woman who has been infected by her husband will be accused by her in-laws... In such a male-dominated society no-one ever accepts that the man is actually the one who did something wrong... It is even harder on women since it is seen as a fair result of their sexual misbehaviour." HIV-positive woman, Leban (IRIN/Plus News (2005).

The WHO cites fear of stigma and discrimination as the main reason why people are reluctant to be tested, to have their HIV status to take antiretroviral drugs. (WHO. 2008). One study found that participants who reported high levels of stigma were more than four times more likely to report poor access to care. (Sayles J et al, 2009, October), These factors, according to the WHO, contribute to the expansion of the epidemic (as a reluctance to determine HIV status or to discuss or practice safe sex means that people are more likely to infect others) and a higher number of AIDS-related deaths.

A Research by the International Centre for Research on Women (ICRW, 2005) found the possible consequences of HIV-related stigma to be: loss of income/livelihood; loss of marriage & childbearing options; poor care within the health sector; withdrawal of care giving in the home; loss of hope & feelings of worthlessness and loss of reputation.

Some of these consequences refer to 'internal stigma' or 'self-stigma'. Internal stigma refers to how people living with HIV regard themselves, as well as how they see public perception of people living with HIV. "Woman in Vietnam (ICRW, 2005). Self-stigma and fear of a negative community reaction can hinder efforts to address the AIDS epidemic by perpetuating the wall of silence and shame surrounding the epidemic

A country's laws, rules and policies regarding HIV can have a significant effect on the lives of people living with the virus. Practices that discriminate can alienate and exclude people living with HIV, reinforcing the stigma surrounding HIV and AIDS. There are many ways that governments can actively discriminate against people or communities with (or suspected of having) HIV/AIDS. Many of these laws have been justified on the grounds that HIV/AIDS poses a public health risk. In healthcare settings people with HIV can experience stigma and discrimination such as being refused medicines or access to facilities, receiving HIV testing without consent, and a lack of confidentiality.

Lack of confidentiality on the part of healthcare workers has been repeatedly mentioned as a particular problem in health care settings. Many people living with HIV/AIDS do not get to choose how, when and to whom to disclose their HIV status. Studies by the WHO in India, Indonesia, the Philippines and Thailand found that 34 percent of respondents reported breaches of confidentiality by health workers. (WHO, 2008).

Stigma and discrimination in healthcare settings are not confined to developing countries.

The story of an HIV positive woman with a dentist in London, UK is quite illuminating:

"I have a dental problem and I go to this clinic, and I go there, two maybe three times. So eventually I told them about my condition. They explained that I would have to be the

last appointment of the day. I have been to that room, and sat on that chair, and the same doctor examined me as before, but after I told them I was HIV positive. So I went for the last appointment of the day last week, they covered the chair, the light, the doctors were wearing three pairs of gloves..." (Nolen S, 2006).

Policies within health care settings can also be effective in reducing stigma. Such programmes would involve participatory methods like role play and group discussion, as well as training on stigma and universal precautions. (Nyblade et al, 2009). In the workplace, people living with HIV suffer stigma from their co-workers and employers, such as social isolation and ridicule, or experience discriminatory practices, such as termination or refusal of employment. (Jamaica Information Service 2012, 18th January)

Fear of an employer's reaction can cause a person living with HIV anxiety:

"Though we do not have a policy so far, I can say that if at the time of recruitment there is a person with HIV, I will not take him. I'll certainly not buy a problem for the company." A Head of Human Resource Development, India (UNAIDS 2001)

In December 2010, the scenario forced the International Labour Organisation (ILO) and China's Centre for Disease Control and Prevention (CDC) issue a joint report entitled "HIV and AIDS Related Employment Discrimination in China". The report underlined discriminatory nature of the national policy for recruiting civil servants and decried it. The policy stated: "those who suffer gonorrhoea, syphilis, chancroid, venereal lymphogranuloma, HPV, genital herpes or HIV will be disqualified". (ILO 2010).

Commenting on the policy Rulian Wu from the ILO said: "If the government discriminates against people with HIV, then other sectors will follow, for example, if you apply to be a teacher in the local area". (Talha Khan Burki 2011). Whilst Chinese teachers are not civil servants, recruitment policies are usually based upon those of the Chinese civil service. In addition, the report notes that national sanitation guidelines prevent people living with HIV and AIDS from working in 'public places' and documents instances of mandatory HIV testing. All of these activities are in breach of the ILO Code of Practice on HIV/AIDS, to which China is a signatory. (ILO. 2001).

Many countries have laws that restrict the entry, stay and residence of people living with HIV. This includes the need to disclose HIV status or to be subject to a mandatory HIV test, the need for discretionary approval to stay, and the deportation of individuals once their HIV-positive status is discovered. (UNAIDS 2011, June). Until the 4th of January 2010 the United States restricted all HIV positive people from entering the country, whether they were on holiday or visiting on a longer-term basis. Goosby E (2009, 30th November).

Some countries have policies that could violate confidentiality of status. Students living with HIV are barred from applying to study in certain countries including Malaysia and Syria.

Deportation of people living with HIV has potentially life-threatening consequences if they have been taking HIV treatment. If they are deported to a country that has limited treatment provision, this could lead to drug resistance and death.

Brady M. et al (2011) report that stigma and discrimination can also take particular forms within key populations at higher risk. For example, studies have shown that within some gay communities there is segregation between HIV-positive and HIV-negative men, where men associate predominately with those of the same status. Brady M. et al (2011).

In the majority of developing countries families are the primary caregivers when somebody falls ill. There is clear evidence that families play an important role in providing support and care for people living with HIV and AIDS. However, not all family responses are supportive. Woudenberg reports a touching story of a woman:

“When I was in hospital, my father came once. Then he shouted that I had AIDS. Everyone could hear. He said: this is AIDS, she’s a victim. With my brother and his wife I wasn’t allowed to eat from the same plates, I got a plastic cup and plates and I had to sleep in the kitchen. I was not even allowed to play with the kids.” HIV-positive woman, Zimbabwe (Woudenberg, J 1998).

A Dutch survey of people living with HIV found that stigma in family settings - in particular avoidance, exaggerated kindness and being told to conceal one's status - was a significant predictor of psychological distress. This was believed to be due to the absence of unconditional love and support, which families are expected to provide. Stutterheim SE et al (2009, 13th November).

HIV-related stigma and discrimination severely hamper efforts to effectively fight the HIV and AIDS epidemic. Fear of discrimination often prevents people from seeking

treatment for AIDS or from admitting their HIV status publicly. People with (or suspected of having).

Denial goes hand in hand with discrimination, with many people continuing to deny that HIV exists in their communities. . UNAIDS (2011) Combating stigma and discrimination against people who are affected by HIV/AIDS is vital to preventing and controlling the global epidemic.

So how can progress be made in overcoming this stigma and discrimination? How can we change people's attitudes to AIDS? A certain amount can be achieved through the legal process. Education is needed so that PLWHA are able to challenge the discrimination, stigma and denial that they encounter. In simple and terse language, the Secretary General of the United Nations observed:

"We can fight stigma. Enlightened laws and policies are key. But it begins with openness, the courage to speak out. Schools should teach respect and understanding. Religious leaders should preach tolerance. The media should condemn prejudice and use its influence to advance social change, from securing legal protections to ensuring access to health care." Ban Ki-moon, Secretary-General of the United Nations (2008, 6th August),

However, no policy or law can alone combat HIV/AIDS related discrimination. Stigma and discrimination will continue to exist so long as societies as a whole have a poor understanding of HIV and AIDS and the pain and suffering caused by negative attitudes and discriminatory practices.

CHAPTER THREE

METHODOLOGY

3.0 INTRODUCTION

For readers to understand and better appreciate what the research seeks to establish, it is of untold importance to explain the modalities by which the research was carried out. Hence, this chapter presents the methodology of the study. The chapter is divided into two main parts: the first part basically presents the methodology of the study whereas part two will focus on the study area, including the major health institutions in the municipality.

3.1 RESEARCH DESIGN AND METHODOLOGY

The study employed the quantitative techniques in the process of collecting data; this was the case because the phenomenon of HIV/AIDS does not make most people comfortable to talk. All the PLWHA encountered were unwilling to grant in-depth personal interview, hence the decision not to employ the qualitative method to gather data. Structured questionnaires were administered to sample respondents.

3.1.1 Population of the Study

The population of the study includes all the people infected with HIV/AIDS in the New Juaben Municipality.

3.1.2 Sample Technique

The research used probability sampling method, which gives all the sampling units equal chances or probability of being selected. This technique stands a higher probability of

avoiding bias (cf. J.Y. Opoku, 2005). Under the probability sampling, simple random samplings as well as snowball sampling were employed. With snowball sampling, infected people were used to identify other infected people. However, in order to ensure equal chance of selecting respondents from both sexes, stratified sampling by gender was employed.

3.1.3 Sample size

The sample size of one hundred and twenty (120) was selected from the HIV/AIDS clinics. Due to stigma attached to HIV/AIDS, the outpatient departments of the clinics are used to contact the infected people.

3.1.4 Source of Data

Both primary and secondary data were used in the study. The primary data comprises information gathered from the survey by the researcher from administering structured questionnaire with the help of research assistants who have been trained to know how to approach the people. The secondary data include official reports and books, journal articles, as well as internet sources.

3.1.5 Method of Data Collection

Data was collected from people living with HIV/AIDS by means of structured questionnaire. Close-ended or pre-coded questionnaire and open-ended questionnaire were administered to 120 sampled respondents.

3.1.7 Data Analysis

The statistical package for social scientists (SPSS) 16.0 version was used to analyze the data. The SPSS was used to generate frequency tables, pie charts and bar charts as the occasion demands, to give picturesque representation of the findings. Then, the chi-square hypothesis testing was used to find out whether the statistics of the samples hold good for the parameters of the population.

3.2 The Study Area

This section of the chapter seeks to describe the study area and the facilities available to the people living with HIV/AIDS. The study area is the New Juaben municipality in the Eastern Region. Koforidua doubles as the capital of the Eastern Region as well as the New Juaben Municipality.

The Eastern Region, one of the ten administrative regions of Ghana, is located in the southern part of Ghana. The Eastern region shares boundaries with Lake Volta on the east, on the north by Brong-Ahafo region and Ashanti region. To the west the Eastern Region is bordered by the Ashanti region, to the south by the Central and Greater Accra regions. The dominant inhabitants and natives of the Region are Akans. Consequently, Akan and English are the main spoken languages.

The region has 26 Districts; 7 municipalities and 19 Districts. The population of the Region is 2,108,852 accounting for 11.5% of the entire population of the country. Since the New Juaben Municipality is the study area, the report will focus on a description of the Municipality. (Cf. New Juaben Municipality website).

The New Juaben Municipality covers an estimated area of 110 square kilometers constituting 0.57 % of the total land area of the Eastern Region. The Municipality is boarded on the North-East by East-Akim Municipality; Akwapim North District on the East and South and Suhum Kraboa Coaltar District on the west.

The New Juaben municipality has fifty-two (52) towns and villages. Most of them have small population sizes that do not measure up to the threshold population for the provision of essential services like police stations, hospitals and institutions of higher learning. Consequently, economic, social, political and administrative activities in the municipality are concentrated in Koforidua, thereby making Koforidua the recipient of a mass influx of the population in the municipality.

According to the 2010 population census, the municipality has a population of 191,525 which is projected to be 195,547 by 2013, with a growth rate of 2.6%. Females constitute the dominant group (51.5%) of the population.

Agriculture in the municipality mostly goes on in the small settlements at the periphery of the regional capital, Koforidua. Crops grown are mostly staples crops like maize, cassava, plantain, cocoyam, citrus and vegetables. Other crops like oil palm are processed into palm and kennel oil by small-scale mills. Cash crops like kola, cocoa are also grown in the municipality.

The Municipality has many educational institutes running from Pre-school to Tertiary. The schools are owned either by government, private individuals and religious bodies.

New Juaben has one hundred and thirteen (113) pre-schools; forty-three (43) public and seventy (70) private. There are one hundred and twenty-eight (128) primary schools, of which eighty-four (84) are public and forty-four (44) are private. The Municipality has seventy-four (74) junior high schools made up of fifty-three (53) public and twenty-one (21) private schools.

There are six (6) public and eight (8) private senior high schools (SHS) in the district. The municipality has the highest number of senior secondary schools, vocational and technical schools in the Eastern Region.

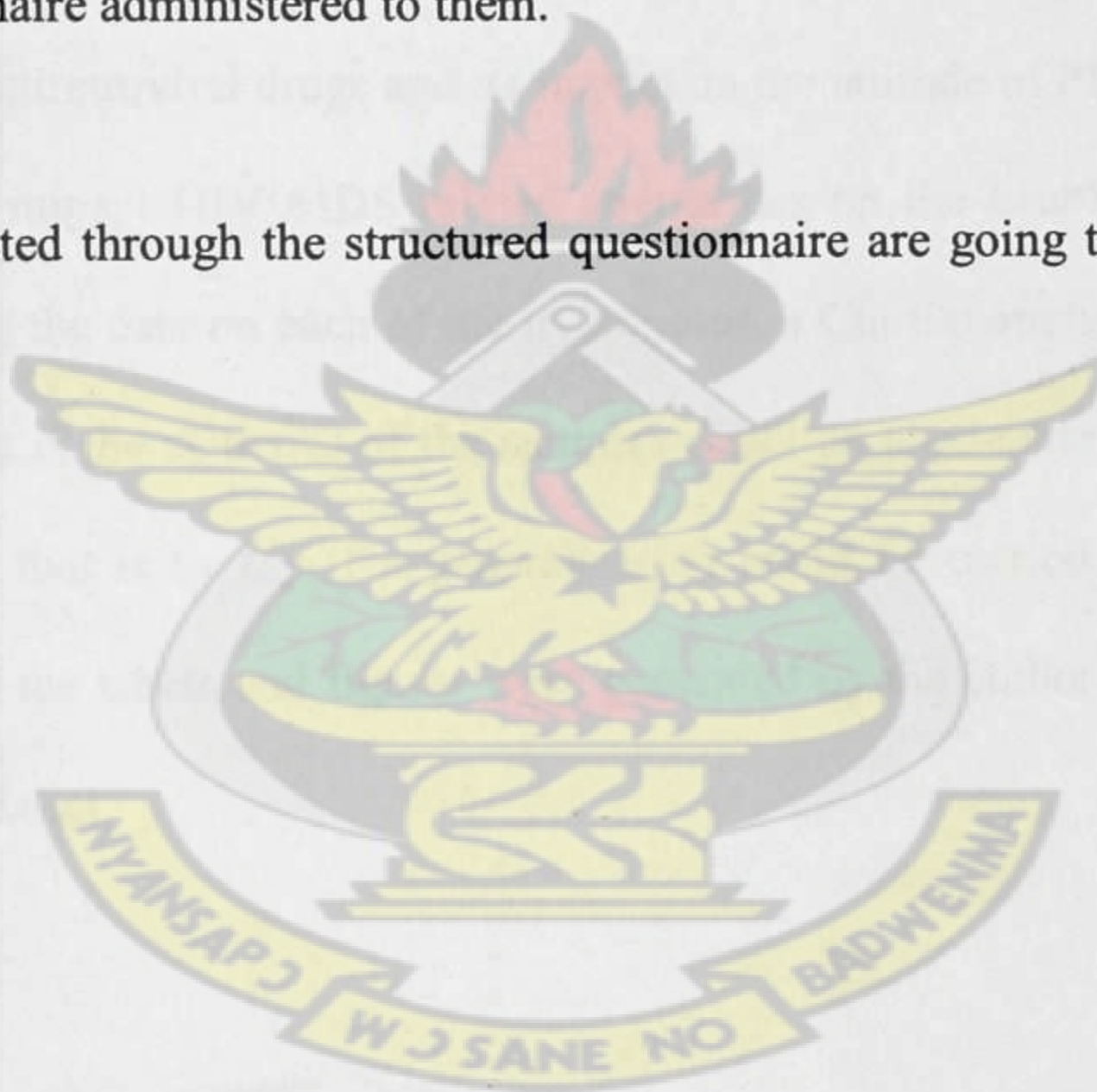
The New Juaben Municipality has one (1) College of Education, a Nursing Training School and one polytechnic and one private university, that is, All Nations University College.

The New Juaben Municipality has two full-fledged hospitals, namely the Koforidua Regional Hospital and the St. Joseph Hospital. The Regional hospital is a government hospital whereas the St Joseph Hospital is Catholic. The two hospitals serve people in the municipality as well as people from other municipalities and districts. That brings some level of pressure on the Institutions, yet, they continue to offer health services to the people. In addition, there are three (3) Health clinics, two (2) Community clinics, ten (10) private clinics and three (3) maternity homes. There is also Intravenous Infusion Limited, an infusion manufacturing company, which prepares drugs and infusions and three other private medical laboratories. It was in these health institutions that the research was carried out, most especially the full-fledged hospitals.

Like many other districts and municipalities, the Koforidua municipality also has a health insurance scheme which was officially launched on 28th April 2005. The New Juaben Municipality has been divided into 71 Health Insurance Communities (Cf. The Municipality Website, 2006).

This chapter explains the methodology of the research. It talks about the research design and methodology, and then describes the study area. A sample size of 120 was selected at random from people living with HIV/AIDS in the New Juaben Municipality and close-ended questionnaire administered to them.

The data collected through the structured questionnaire are going to be analyzed in the next chapter.



CHAPTER FOUR

DATA ANALYSIS

4.0 INTRODUCTION

This chapter is dedicated to presenting the data collected through the medium of structured questionnaire. The chapter will be organized around five sections: First the demographic characteristics; to be followed by the general knowledge of respondents concerning HIV/AIDS, the correlation between adherents to antiretroviral drugs on the part of PLWHA and its impact on their health status, the fact of specific clinics administering antiretroviral drugs and its impact on the attitude of PLWHA towards ART and finally the impact HIV/AIDS related stigma has on the health status of PLWHA. After presenting the data on each of the hypotheses, a Chi Square hypothesis testing was done to find out if the statistics of the samples could be applicable to the parameters of the population, that is to say if a generalization could be carried out with any of the hypotheses. All the tables and figures were generated by the author using the SPSS 16.0 and Microsoft Excel.

4.1 DEMOGRAPHIC CHARACTERISTICS

To better appreciate the responses given by the respondents, it became imperative to find out who the respondents are by looking at their age, sex, educational background, religion, marital status, profession as well as their salary levels. These demographic characteristics would be used to cross-tabulate the responses given to the various questions in order to establish how the respective categories of people reacted to the

questions. The respondents were asked to state their gender and their responses are as shown in figure 1 below:

Figure 1: Gender of respondents



As shown in figure 1, more female PLWHA (58%) were capture than male PLWHA (42%). The implications could be many; it may mean that the women were more willing than the men to respond to the questions and that proportion was realized, or that in reality there are more female PLWHA than male PLWHA. It could also imply that the female PLWHA are less shy to disclose their identity than the male PLWHA. It could be inferred that women are more vulnerable than men when it comes to HIV/AIDS transmission. Respondents were subsequently asked to indicate their age groupings, with the view to finding out which age groups are more susceptible to the HIV/AIDS pandemic. Their responses are shown in Table 1 below:

Table 1: Age of respondents

Age of respondents	No.	%
20 - 24 years	8	7%
25 - 29 years	15	12%
30 - 34 years	12	10%
35 - 39 years	18	15%
40 - 44 years	31	26%
45 - 49 years	18	15%
50 - 54 years	10	8%
55 - 59 years	6	5%
60 years and above	2	2%
Total	120	100%

The largest proportion of respondents fall within the 40 – 44 age group accounting for 26% of the entire respondents, followed by the 35 – 39 years and 45 – 49 years age groups. The proportions kept descending steadily as the age groups mounted dropping with 2% in the 60 years and above age group. However, as the age groups descended, descent was not so steady; it kept descending and rising as shown in the table till it dropped with 7% in the 20 – 24 age group. It could be said that from the 20 – 24 years age group, either the people are sexually more active or that they engage in unprotected sex. From the Table however, it could not be concluded that the age 50 – 54 years up are not sexually active, it may be that they only take precaution and indulge in safe sex, thereby leading to the drop in proportions.

Respondents were further asked to indicate their religion, and the results are cross tabulated with their gender, as shown in Table 2, in order to know how their religious affiliation is distributed along gender lines.

Table 2: Religion of respondents cross tabulated with their gender

Religion of respondents	Gender of Respondents				Total	
	Female		Male			
	No.	%	No.	%	No.	%
Christianity	45	38%	30	25%	75	63%
Islam	17	14%	11	9%	28	23%
African Traditional Religion	5	4%	2	2%	7	6%
No religion	0	0%	4	3%	4	3%
No response	2	2%	4	3%	6	5%
Total	69	58%	51	42%	120	100%

Sixty-three percent of respondents are Christians; 38% of whom are female and the remaining 25% male. The next proportion of respondents in a descending order belongs to the Islamic religion; 14% female and 9% male. The two most popular religions in the Country accounted for 86% of respondents. The irony is that those who claim to have no religion accounted for only 3% of the entire respondents. Is religion failing, or are people not observing their religious morals? It is only in the proportion of those who responded no religion that the male respondents beat the female respondents in proportion 3% and 0% respectively. The next thing the study sought to know about the respondents was their educational background, and their response is shown in table 3.

Table 3: Educational background of respondents

Educational levels of respondents	No	%
No formal schooling	12	10%
Elementary/JSS	41	34%
Secondary/SSS/Vocational	41	34%
Teacher Training College	10	8%
Polytechnic/Professional Studies	8	7%
University/Tertiary Institution	8	7%
Others	8	7%
Total	120	100%

Respondents with elementary/JSS and Secondary/SSS/Vocational educational background accounted the highest proportions (34%) each. Respondents with no formal education are protecting themselves better than the two subsequent categories. As shown in the table, the higher the educational level gets, the lower the proportion became. The respondents were subsequently asked to state their occupation and the answers are shown in Table 4.

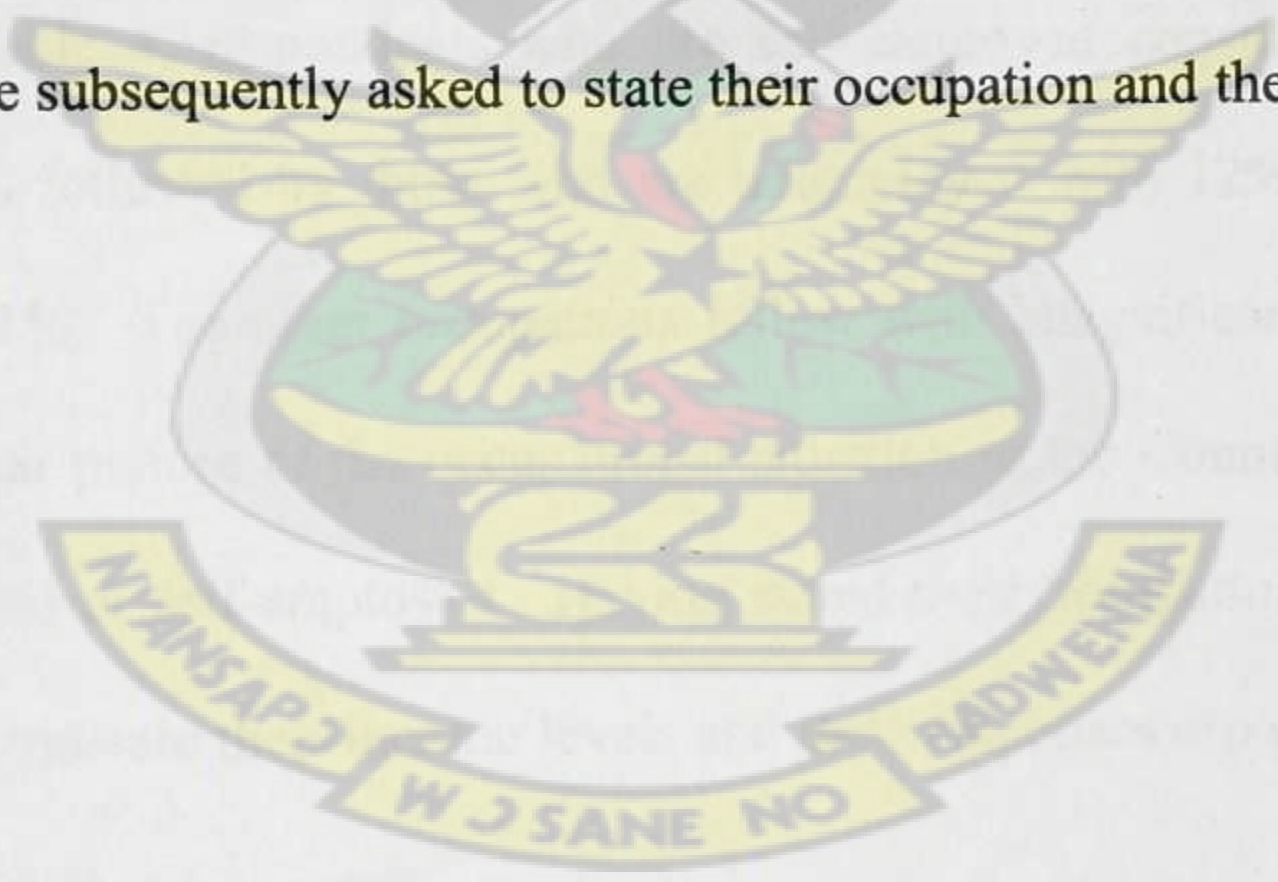


Table 4: Occupation of respondents

Occupation of respondents	No	%
Lawyer	2	2
Public Servant	7	6
Civil Servant	13	11
Student	4	3
Farmer	11	9
Unemployed	15	12
Self-employed	49	41
Apprentice	10	8
Petty trader (hawker)	2	2
Driver	2	2
Mason	2	2
Security	3	2
Total	120	100

As shown in Table 4, respondents who are self-employed constitute a commanding majority of 41% followed by those who are unemployed with 12% and then by Civil Servants with 11%. The other occupations follow with insignificant proportions. The table gives a clear picture of the occupational situation in the Country; most people are either unemployed or self-employed. Having stated their occupation, respondents were further asked to indicate their income levels and their responses are presented in Table 5 below:

Table 5: Income levels of respondents

Income levels of respondents	No	%
Up 150 Cedis	21	18%
151 - 200 Cedis	6	5%
201 - 250 Cedis	6	5%
251 - 300 Cedis	6	5%
301 - 350 cedis	12	10%
351 - 400 Cedis	22	18%
401 Cedis and above	47	39%
Total	120	100%

Respondents with the highest income ranked first in proportion (39%) followed by lowest income on the table and the second highest with 18% each. Those whose income ranges from 151 – 300 Ghana Cedis attracted only 5% each of the respondents. That those with the lowest income rank second in among the entire respondents seems to suggest that contracting HIV/AIDS may not have a direct bearing on having money or not. Respondents were further asked to state their marital status and their gender as shown in Table 6 below.

Table 6: Marital status of respondents cross tabulated with their gender

Table 6: Marital status of respondents cross-tabulated with their gender

Marital Status of respondents	Gender of Respondents				Total	
	Female		Male			
	No.	%	No.	%	No.	%
Single	20	17%	4	3%	24	20%
Married	25	21%	28	23%	53	44%
Divorced	12	10%	4	3%	16	13%
Widowed	6	5%	6	5%	12	10%
Separated	6	5%	9	7%	15	12%
Total	69	58%	51	42%	120	100%

It is interesting to note that the largest proportion of infected people captured by the study are married (44%) made of 23% male and 21% female – almost the same distribution. Those who are single follow with (20%) – 3% male and 17% female. Widows attracted 10%, the lowest proportion of them all. In a nutshell, these are the demographic characteristic of the respondents. The details will be used to analyze subsequent questions. Afterwards, respondents’ knowledge of HIV/AIDS was tested.

4.2 RESPONDENTS’ KNOWLEDGE OF HIV/AIDS

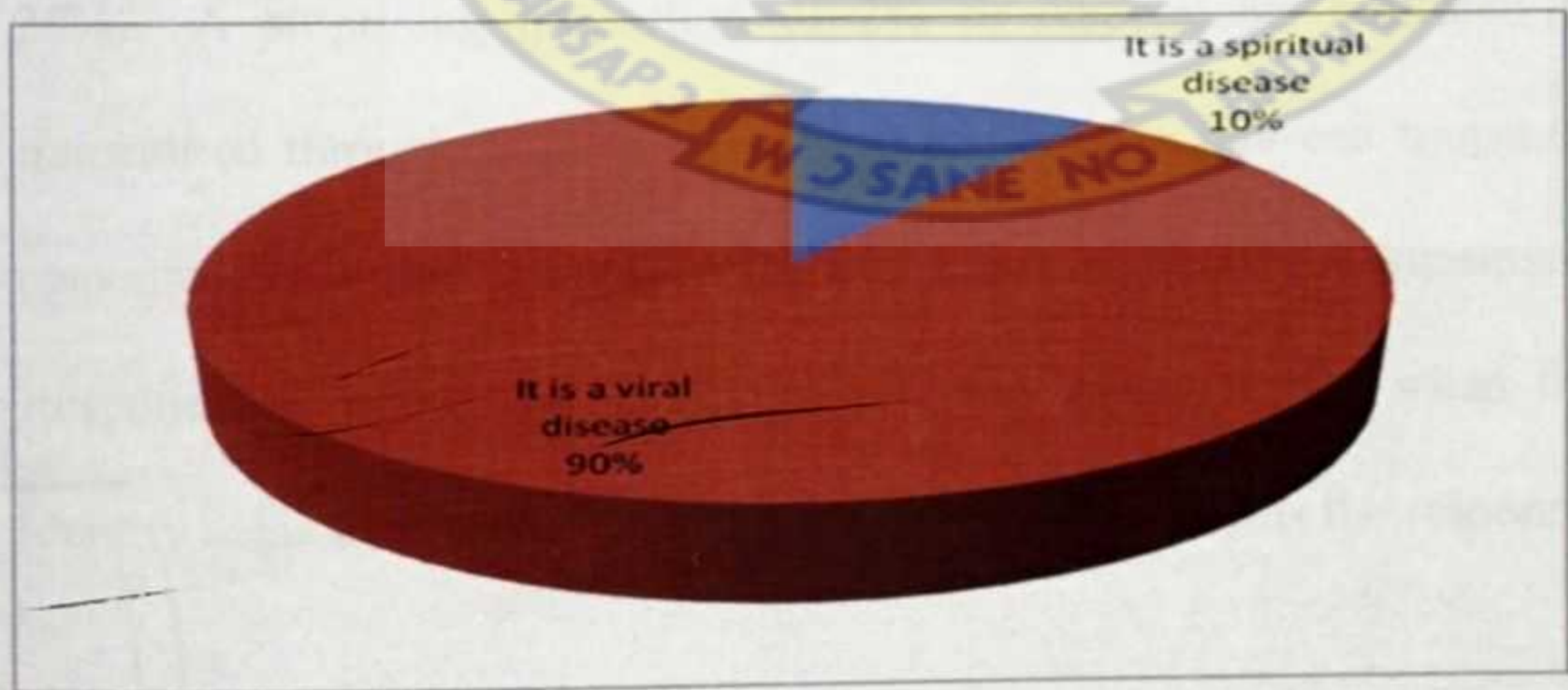
It was appropriate to test respondents’ knowledge on HIV/AIDS and so they were asked to describe HIV/AIDS, and Table 7 presents their responses.

Table 7: Respondents on the meaning of HIV/AIDS

What is HIV/AIDS?	No.	%
Human immunodeficiency Virus/Acquired Immune Deficiency Syndrome	75	63%
Human immune virus/acquired international disease syndrome	6	5%
No idea	39	32%
Total	120	100%

The facts presented on the Table imply that a greater majority of respondents know what HIV/AIDS stands for; they accounted for 63% of the entire respondents, followed by those who claim they have no idea (32%). An insignificant proportion of 5% described HIV/AIDS as human immune virus/acquired international disease syndrome. Basically the majority of people have an idea what HIV/AIDS is. Since the disease HIV/AIDS appears to be shrouded in mystery, respondents were asked to identify the nature of the disease and their responses are shown in Figure 2 below:

Figure 2: The nature of HIV/AIDS



Ninety percent of respondents responded that HIV/AIDS is a viral disease whereas only 10% considered it to be a spiritual disease. Due to this impression that some people have,

many people seek spiritual healing from pastors and fetish priests and priestesses. Subsequently, respondents were asked to point out how the disease is transmitted and their responses are shown in table 8 below.

Table 8: Mode of transmitting HIV/AIDS

What is its mode of transmission	Responses	
	No	%
A curse	12	2%
Mosquito bite	7	1%
Sexual intercourse	119	24%
Using unsterilized needles	109	22%
Blood transfusion	98	20%
From a pregnant woman to the foetus	90	18%
Blood contact	66	13%
Total	501	100%

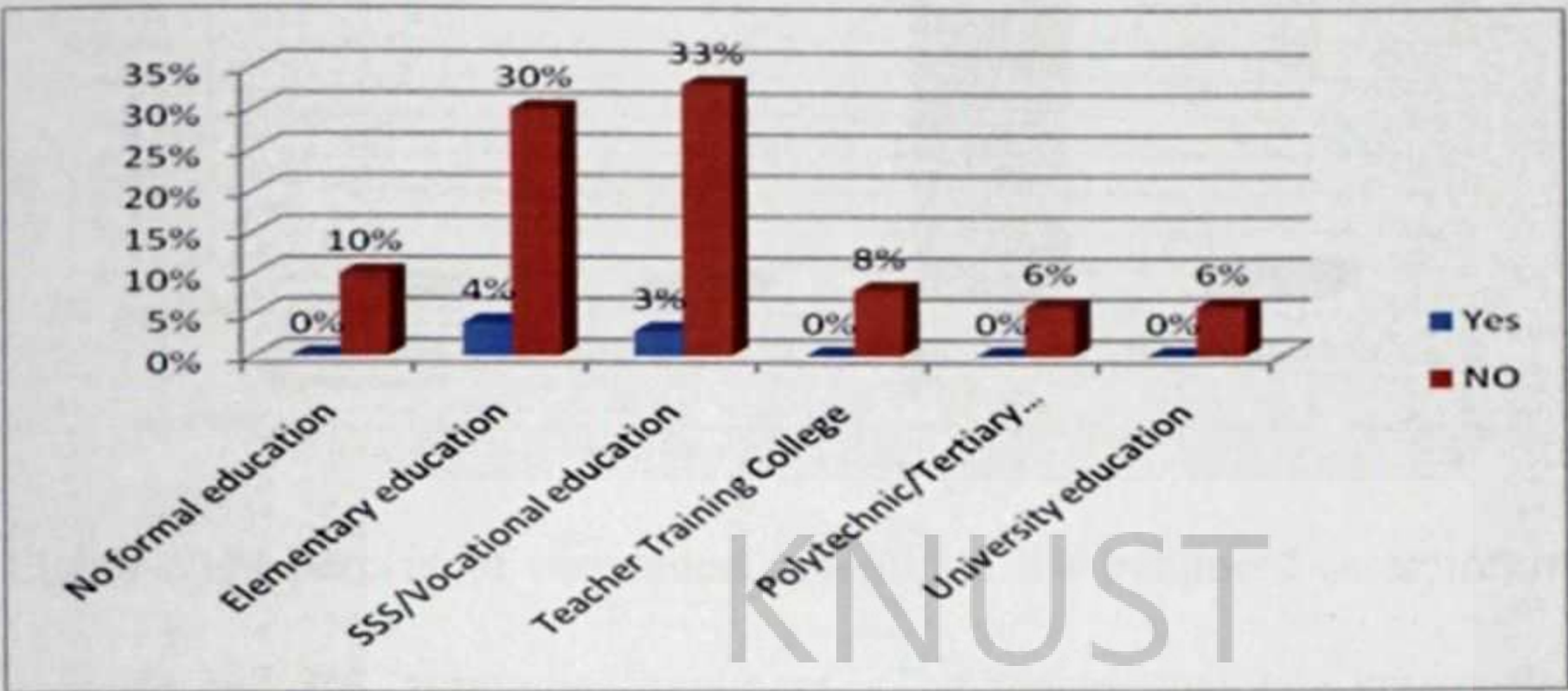
Among the various responses, sexual intercourse ranks higher with 24% of the respondents subscribing to it. The answer that attracted the next higher proportion was using unsterilized needles which attracted 22% of respondents and the blood transfusion 20%. A surprising proportion of 2% of respondents indicated that HIV/AIDS is transmitted through a curse and 1% said mosquito bite can transmit HIV/AIDS. The responses show that the people are well informed about the transmission of HIV/AIDS. Respondents' knowledge of HIV/AIDS was further tested when they were asked to identify some symptoms of the disease. Table 9 represents the responses.

Table 9: Symptoms of HIV/AIDS

What are the symptoms of HIV/AIDS?	Responses	
	No.	%
Growing lean	91	15%
Protracted headache	74	12%
Protracted fever	89	15%
Shingles	70	12%
saws around the genitals	80	13%
Loss of appetite	90	15%
Prolong cough	69	11%
Loss of hair	37	6%
Diarrhoea	5	1%
Total	605	100%

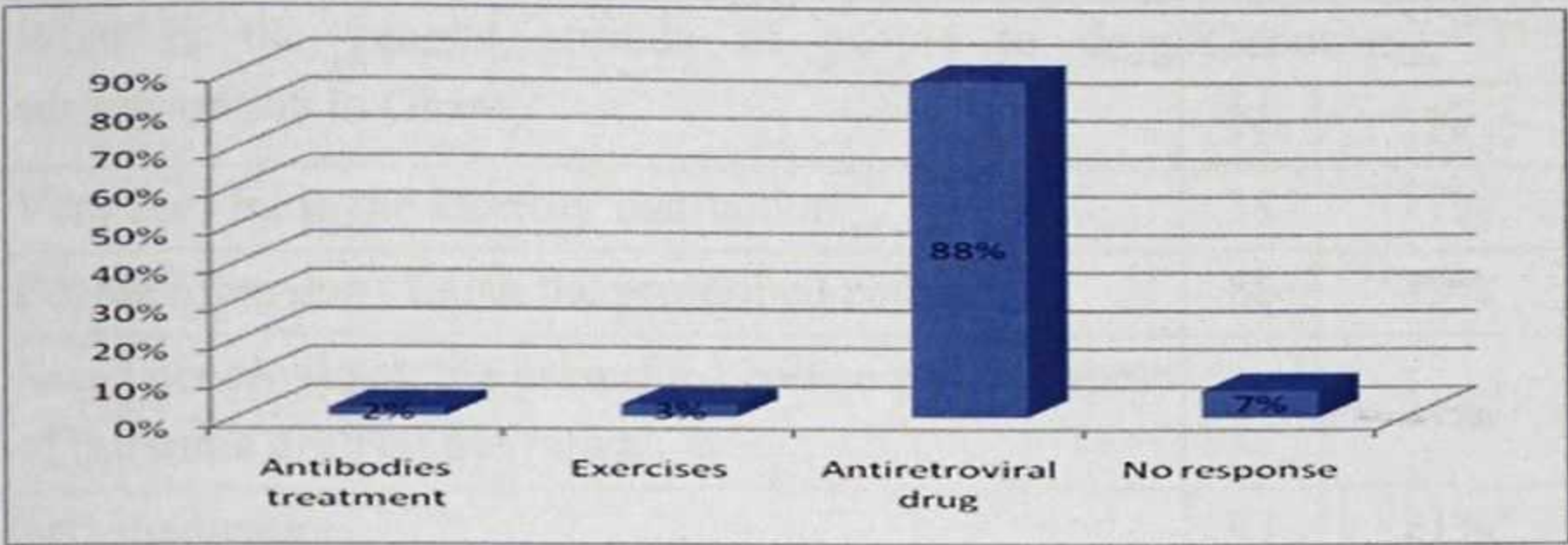
A series of answers were given and each of them attracted a good proportion of respondents; ‘growing lean’, ‘protracted fever’ and ‘loss of appetite’ – 15% each; ‘sores around the genitals’ 13%; ‘protracted headache’, ‘shingles’ 12% each; ‘prolong cough’ 11%. Diarrhoea, which happens to be a major symptom, attracted only 1% of respondents. Respondents demonstrated a deep knowledge of the symptoms of HIV/AIDS. These symptoms are corroborated by the WHO’s report on the effects of HIV/AIDS and how society looks at the situation. Due to the nature of the disease, its acquisition is considered as irresponsibility on the part of the person. (WHO, 2003). After determining the symptoms, it became necessary to ask respondents if there is a cure for HIV/AIDS. The responses are shown in Figure 3 below.

Figure 3: The question of cure for HIV/AIDS cross tabulated with the respondents' educational background



All the respondents who have more than SSS/Vocational Education as well as those without any formal education at all knew that HIV/AIDS has no cure; and that is clearly shown in the bar chart; all respondents in those categories responded No to the question. With respondents who have had SSS/Vocational education, while a significant majority of 33% indicated that there is no cure for HIV/AIDS, 3% said there is a cure. Similarly, respondents who have had only elementary Education registered 30% of respondents who said there is no cure but another 4% responded that there is a cure for HIV/AIDS. Although the proportion is so insignificant, the implication is that some respondents in those educational categories are not well informed about HIV/AIDS. The next question was to find out if there is a treatment for HIV/AIDS, and 98% of the respondents responded positively; only 2% responded negatively. The overwhelming majority that stated that there is a treatment for HIV/AIDS, implied that respondents know the treatment, so they were asked to indicate the treatment and their answers are shown in Figure 4.

Figure 4: HIV/AIDS treatment



Eighty-eight percent of respondents identified the treatment as antiretroviral drug, 3%, exercise and 2%, antibodies treatment. The greater majority knows the treatment and was able to name it perfectly well. So that is how knowledgeable the respondents are in relation to their knowledge of HIV/AIDS. Having gotten an insight into the identity of the respondents and their level knowledge of HIV/AIDS, the focus will be on the first hypothesis, which states that there is direct relationship between the attitude of PLWHA towards antiretroviral drugs and their health status.

4.3 ATTITUDE OF PLWHA TO ANTIRETROVIRAL DRUGS AND THEIR HEALTH CONDITION

The first hypothesis of the study states that the attitude (positive or negative) of people living with HIV/AIDS to Antiretroviral therapy affects their health status. The Literature Review uncovered a mass of material that lends support to the hypothesis. The question was put to respondents to describe the general attitude of people toward drug administration in Ghana, and their responses are shown in table 10.

Table 10: Attitude of people toward drug administration in Ghana

What is the general attitude of people to drug administration in Ghana?	Responses	
	N	%
Very faithful to the Doctors' instruction	38	17%
People often don't finish the prescribed course	86	39%
Some people finish the prescribed course and buy more of the same drug on their own	47	21%
Self-medication	47	21%
No response	3	2%
Total	221	100%

The response that kept recurring was that “people often don’t finish the prescribed course”. That attracted 39% of the entire respondents followed by two different answers which attracted 21% each of the respondents. They are, ‘some people finish the prescribed course and buy more of the same drug on their own’ and ‘self-medication’. A good proportion of respondents (17%) indicated that people are generally ‘very faithful to the Doctor’s instructions’. From the responses, therefore, it could be concluded that drug abuse is a common thing in the country. Respondents were then asked to go personal and describe their own attitude to drugs and their responses are shown in Table 11.

Table 11: Respondents' attitude to drug administration

What is your own attitude to drug administration?	Responses	
	No.	%
Very faithful to the Doctors' instruction	76	50%
I don't finish the prescribed course	22	14%
I finish the prescribed course and buy more of the same drug on their own	25	16%
Self-medication	30	20%
Total	153	100%

To the question, respondents were all at liberty to give multiple responses. Fifty percent of the respondents indicated that they are very faithful to the Doctor's instruction. According to Kitahata and others, (2011) for ART to be effective, prescriptions must be followed. Twenty percent said they resort to self-medication and 16% said that they finish the prescribed course and buy more drugs on their own. Another practice in Ghana is that some people don't even finish the course, and that practice attracted 14% of respondents. Respondents were subsequently asked to show if they were on ART and a commanding majority of 89% of respondents confirmed that they are on antiretroviral drugs, while 8% responded negatively to the question and the remaining 3% refused to answer the question. That shows that there is greater awareness of the existence of ART among the PLWHA.

When they were asked to state how long they have been on the drug, 42% said they have been on it for over three years, 24% for two years, 17% for one year and another 17% for less than one year. The follow-up question was: 'How often do you take the drug? Ninety-four % of the respondents said they take the drug daily, while 4% refused to

answer the question and the remaining 2%, weekly. Probably the two percent form part of those who indicated that they are not on ART, and therefore don't care to find out the regime, because it is common knowledge that ART is taken daily.

The next question on the attitude of respondents to ART was cross-tabulated with the gender of respondents to find out between females and males who are stricter with the ART. Table 12 presents the responses.

Table 12 : Respondents' attitude to ART

What is your attitude to the prescribed regime?	Gender of respondents				Total	
	Female		Male			
	No.	%	No	%	No	%
Very Strict	54	45%	38	32%	92	77%
Not very Strict	5	4%	9	8%	14	12%
I rarely take it	5	4%	4	3%	9	7%
No response	5	4%	0	0%	5	4%
Total	69	57%	51	43%	120	100%

With the exception of the 12% who indicated that they are not very strict to the regime where 8% are men and 4% women, in all the other category of answers, the females were in the majority. What could be said is that since in majority of cases, it is women who spend much time with their children and care for the children, many women want to live longer and are, therefore, very strict with the regime. According to Van der Waal and Jaarsma and others (2006), there is strict adherence in men than in women, but that observation is not supported by this study as the proportion of women who are strict to

the adherence is higher than in men. Respondents were asked to back their attitude to the ART with reasons and their responses are found in Table 13.

Table 13: Reasons for respondents' attitude toward the ART drug

Give reasons for your attitude to the drug	No.	%
The disease will kill me anyhow	13	11%
My health has improved with the drug	88	73%
I don't experience any improvement in my health	5	4%
It is a spiritual disease	2	2%
I sometimes forget	10	8%
No response	2	2%
Total	120	100%

A significant majority of 73% of respondents said their health has improved with the ART, whereas 11% stated that the disease will kill them anyhow, that suggests a lackadaisical attitude to the regime. This response corroborates the attitude of rural people toward ART and reported by Sarada and others (1985). Rural people believed that ART does not work because patients die eventually. Other responses include, I sometimes forget – 8%; I don't experience any improvement in my health – 4%, and it is a spiritual disease – 2%. Since an appreciable majority indicated that their health has improved, respondents were asked to describe their previous state of health and Table 14 presents the results.

Table 14: Health condition of respondents prior to the ART drug

How was your health before you were put on the drug?	Responses	
	N	%
I used to be very weak	108	28%
I could hardly eat	71	19%
I was always sick	83	22%
I grew lean by the day	36	9%
My health was generally poor	76	20%
Skin rashes	6	2%
Total	380	100%

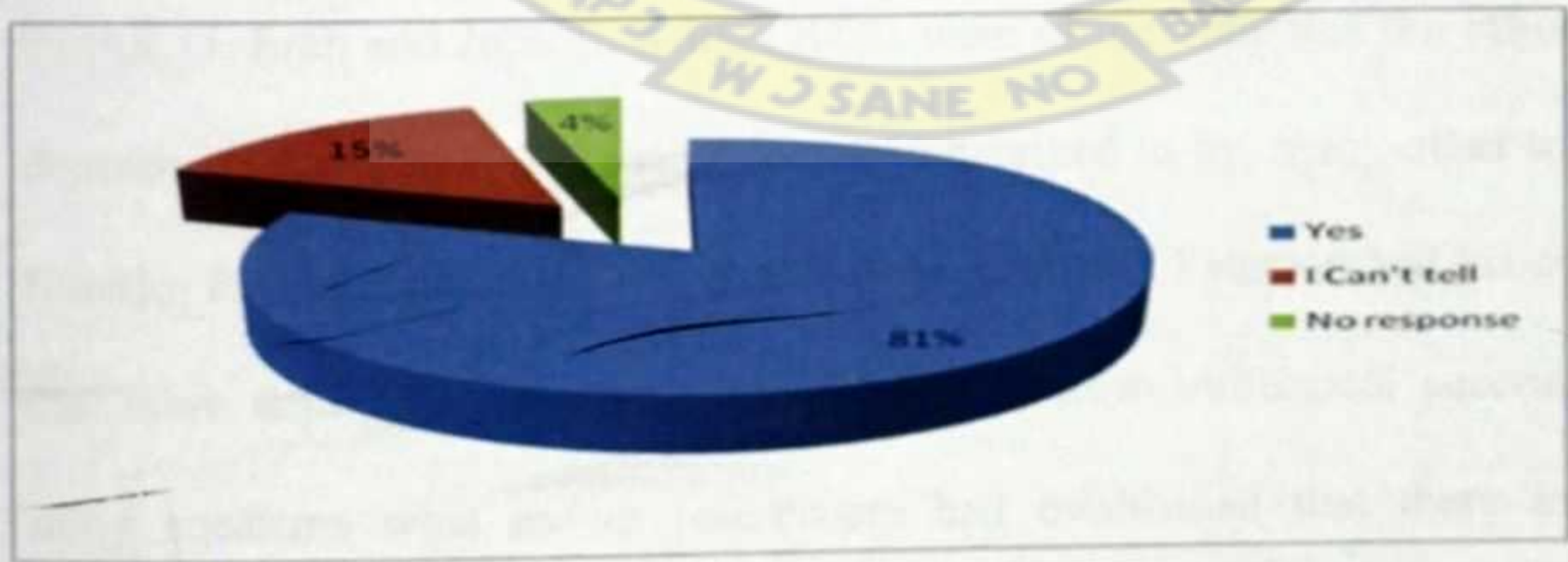
One most recurring response was that respondents used to be very weak; that attracted 28% of the entire respondents. The next recurrent response was, ‘I was always sick’ which also accounted for 22% of respondent. Another common answer was, ‘my health was generally poor’ (20%); and I could hardly eat – (19%). The picture painted looked quite bleak before the ART was administered to the PLWHA. Having described their health status prior to the ART drug, respondents were also asked to describe their current health status. Table 15 shows the responses.

Table 15: Current health condition of PLWHA after the ART drug

How has your health been since you were put on the drug?	No.	%
It has improved tremendously	91	76%
It is okay	21	17%
It is difficult to tell	6	5%
No response	2	2%
Total	120	100%

Seventy-six percent of respondents stated that their health has improved tremendously, 17% said it is okay while 5% found it difficult to tell. Adding the first two categories of response, 93% of respondents could state that their health has improved after taking the drug. This finding goes to confirm what Konkle-Parkey and others (2008) had earlier discovered, that adherence makes ART effective. Comparing the data in Tables 16 and 15, respondents were asked if they could attribute the change in their health status to the ART drug and their response is

Figure 5: ART and Change in health condition of PLWHA



An unavoidable majority of 81% of respondents attributed the change in their health status to the ART while 15% said they can't tell and 4% declining. Following this lead,

respondents were asked if they considered their attitude to the drug to be responsible for the change in their health condition. The response is shown in Table 16 below.

Table 16: Respondents' perception on the relationship between their attitude to ART and their health condition

Do you, therefore, think that your attitude to the drug is responsible for your health status?	No.	%
Yes	94	78%
No	2	2%
I can't tell	19	16%
No response	5	4%
Total	120	100%

Seventy-eight percent had no doubts that their attitude to the drug is responsible for the improvement recorded in the health condition. The issue of attitude to the drug which has also been referred as adherence is largely believed to be responsible for improvement in the health status of PLWHA. This is heavily supported by the literature reviewed. Patrick O. Erah and John E. Arute (2008) were of the view that the efficacy of the drug depends on adherence. This same idea is subscribed to by, many other scholars such as, Konkle- Parkey J, Erlen J. A, Dubbert P. M. (2008). Peterson and his colleagues argue that more than 95% adherence is needed to achieve virological success. The current study confirms what earlier researchers had established that there exist correlation between adherence and the health status of PLWHA.

CHI SQUARE HYPOTHESIS TESTING

The hypothesis under discussion is that the attitude or adherence (positive or negative) of PLWHA to antiretroviral drugs affects their health status. The statistics of the samples confirm the hypothesis, that the more adherent PLWHA are to ART, the better their health status. The Chi Square (X^2) Hypothesis Testing is to be sure whether a generalization could be made; that is to say, whether what has been found out could also be said about the parameters of the population.

Step 1: Making assumptions:

The independent variable is the attitude or adherence of PLWHA to ART and the dependent variable, the health status of the PLWHA.

Table 17: Observed Frequencies for attitude of respondents to ART and the health condition of PLWHA

How has your health been since you were put on the drug?	Do you, therefore, think that your attitude to the drug is responsible for your health status?				Total
	Yes	No	I can't tell	No response	
It has improved tremendously	78	2	8	3	91
It is okay	14	0	5	1	20
It is difficult to tell	2	0	5	0	7
No response	0	0	1	1	2
Total	94	2	19	5	120

Step 2: Stating the null hypothesis

H_0 : There is no relationship between the attitude of PLWHA to ART and the health condition of PLWHA.

H_1 : The attitude or adherence (positive or negative) of PLWHA to antiretroviral drugs affects their health condition

Step 3: Choosing the Sampling distribution and establishing the critical region

The distribution is Chi Square distribution

$$\text{Degree of freedom} = (r-1)(C-1) = (4-1)(4-1) = 3 \times 3 = 9$$

$$Df = 9$$

$$\text{Significant level } (\alpha) = 0.05$$

$$X^2 \text{ Critical} = 16.919$$

Step 4: Computing the test statistic

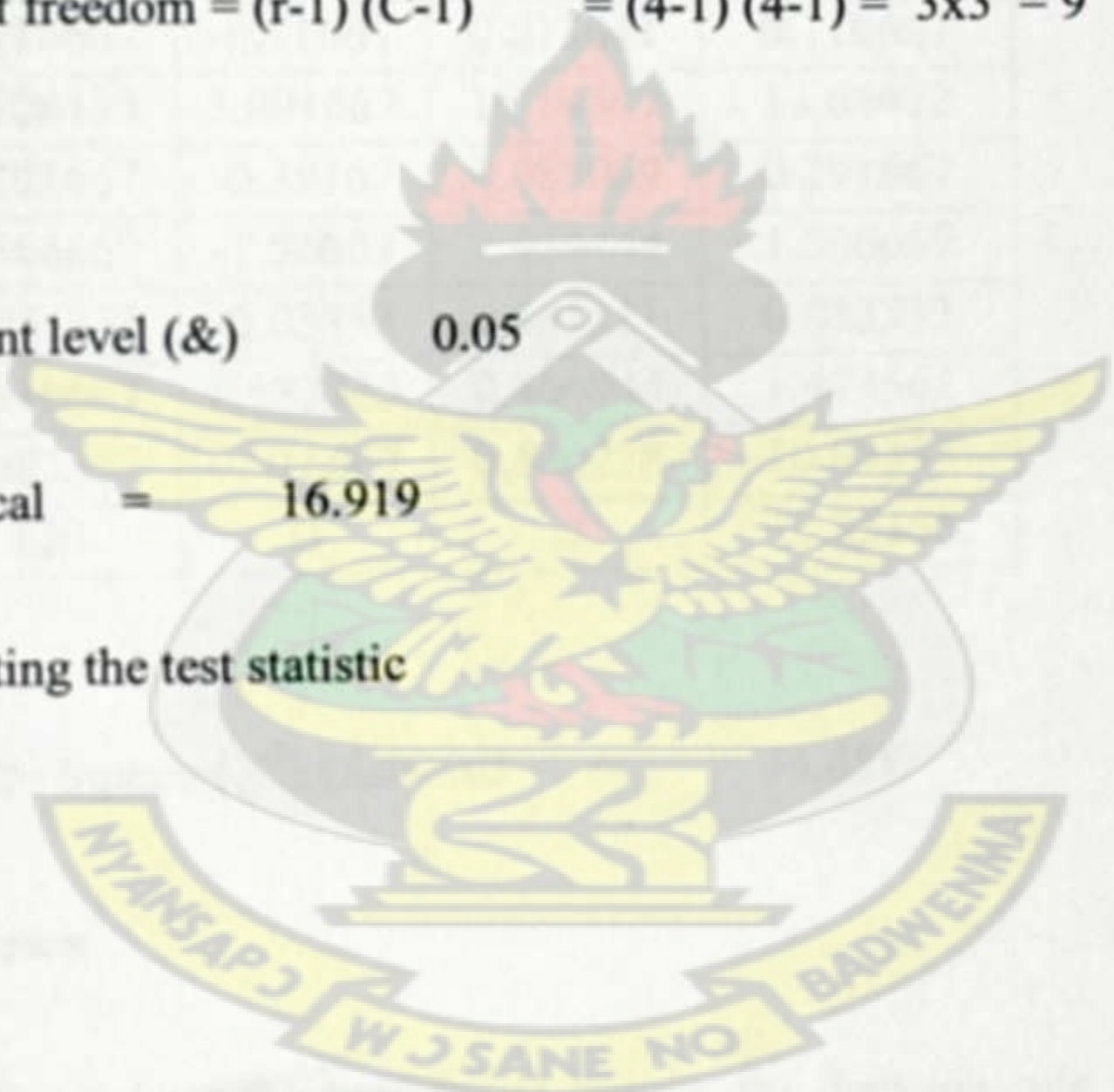


Table 18: Computing Test Statistics for Chi Square Obtained for PLWHA’S attitude to ART and their health condition

Cells	O	E	(O-E)	(O-E)(O-E)	(O-E)(O-E)/E
1.1	78	71.28333	6.716667	45.11361	0.632877
1.2	2	1.516667	0.483333	0.233611	0.154029
1.3	8	14.40833	-6.40833	41.06674	2.850207
1.4	3	3.791667	-0.79167	0.626736	0.165293
2.1	14	15.66667	-1.66667	2.777778	0.177305
2.2	0	0.333333	-0.33333	0.111111	0.333333
2.3	5	3.166667	1.833333	3.361111	1.061404
2.4	1	0.833333	0.166667	0.027778	0.033333
3.1	2	5.483333	-3.48333	12.13361	2.212817
3.2	0	0.116667	-0.11667	0.013611	0.116667
3.3	5	1.108333	3.891667	15.14507	13.66472
3.4	0	0.291667	-0.29167	0.085069	0.291667
4.1	0	1.566667	-1.56667	2.454444	1.566667
4.2	0	0.033333	-0.03333	0.001111	0.033333
4.3	1	0.316667	0.683333	0.466944	1.474561
4.4	1	0.083333	0.916667	0.840278	10.08333
Total	120	120	0	0	34.85155

Chi Square (X^2) Obtained = 34.851

Step 5: Conclusion

Decision rule: Throughout the hypothesis testing, the decision rule was that where Chi Square (X^2) Obtained is more or greater than the Chi Square (X^2) Critical, the null hypothesis (H_0) must be rejected in favour of the Alternative or research hypothesis (H_1).

From the test statistics table above, X^2 Obtained value is 34.851 which is greater than or more than X^2 Critical value of 16.919. This implies that the H_0 is successfully rejected in favour of the H_1 . What can be said of the statistics of the samples could also be said of

the parameters of the population. That allows us to make a generalization that the more PLWHA adhere strictly to the prescription of Doctors concerning ART, the better their health status can become.

4.4 SPECIFIC HIV/AIDS CLINICS AND THE ATTITUDE OF PLWHA TO ANTIRETROVIRAL DRUGS

The theoretical framework of the study maintains that in life and in a drama, people try to maintain a gap between their front stage and their back stage, otherwise they are discredited (Ervin Goffman). People living with HIV/AIDS are no exception. It is never their intention to erase that necessary gap and thereby reveal their identity and their situation to other people for fear of stigma and discrimination. So the issue here is to find out whether PLWHA take their drugs from a specified clinic, and if yes, does the practice leave them discredited? So respondents were asked to identify the type of treatment most PLWHA prefer and 75% of them said they prefer orthodox treatment while 25% said they prefer herbal treatment. The next thing was to find out whether PLWHA are treated as out-patients or in-patients. The responses are stated in table 19 below.

Table 19: Treatment of PLWHA in the hospitals

If orthodox, are PLWHA treats as out-patients?	No	%
Yes	65	54%
No	37	31%
No response	18	15%
Total	120	100%

More than half (54%) of the respondents indicated that they are treated as out-patients, but a more significant proportion (31%) also said they are not treated as out-patients, whereas 15% of them refused to answer the question. However, the majority of them are treated as out-patients. Respondents were further asked to describe where they take their drugs, and 95% of them pointed out that they take their drugs from a specific treatment site, while only a comparatively insignificant proportion of 5% said they pick the drugs at the general dispensary of the Hospital or clinic as depicted in Table 20.

Table 20: Centres for administering the ART drug

Where do you take your drugs?	N0.	%
Specific sites are designated for HIV/AIDS treatment	114	95%
I pick the drugs at the general dispensary of the hospital/clinic	6	5%
Total	120	100%

As the issue is about stigma and discrimination, it was necessary to find from respondents if they feel comfortable about where they take their drugs. This was cross-tabulated with

the gender of respondent with the view to finding out how the feelings are distributed along gender lines, and the results are shown in table 21.

Table 21: Sentiments of respondents toward where they take their drugs

Are you comfortable with the idea of having specific sites designated for HIV/AIDS treatment?	Gender of respondents				Total	
	Female		Male			
	No	%	No	%	No	%
Yes	36	30%	14	12%	50	42%
No	30	26%	37	30%	67	56%
No response	3	2%	0	.0%	3	2%
% of Total	69	58%	51	42%	120	100%

A bigger majority of respondents (56%) indicated that they are not comfortable taking their drugs from a specific site and out of that 30% were male and 26% female. What that means is that in matters of HIV/AIDS, men feel less comfortable than women to allow their back stage become front stage. After it had become so clear that a bigger majority feel uncomfortable taking their drugs from specific centres, respondents were asked to substantiate their answers and the responses are shown in table 22 below.

Table 22: Reasons why respondents feel uncomfortable going to specified centres for their drugs.

Give reasons for your answer	Responses	
	N	%
It makes me ashamed of myself	50	19%
It makes me easily identified as HIV/AIDS patient by other people	84	33%
It breaches confidentiality	52	20%
It destroys my back stage	19	7%
I am stigmatized by society	40	15%
You would get there late	2	1%
It saves time	3	1%
No response	11	4%
Total	261	100%

Given the nature of the question, respondents took the liberty to give multiple responses. Going back to the case of stigma and front stage or back stage, it becomes clear that one pertinent issue was that respondents did not want other people to know their positive HIV/AIDS status. Hence, the majority of respondents (33%) indicated that by going to specified centres for their drugs, other people can easily identify them as HIV positive. The next highest proportion of respondents (20%) observed that the situation breaches confidentiality. Some 19% of respondents also said they feel ashamed by the situation. Another response was that, respondents feel stigmatized by Society, a response which attracted 15% of respondents. Seven percent of the respondents said categorically that the scenario of having a specified clinic for administering ART destroys their back stage. All the answers converge on the fact that respondents feel that the scenario will leave them stigmatized and discredited. Afterwards, respondents were asked if the situation

affects their attitude (adherence) to antiretroviral drugs, and their answers are shown in table 23.

Table 23: Respondents' attitude to ART in the face of specified HIV/AIDS clinics cross-tabulated with their age groupings

Age or respondents	Does the situation affect your attitude (adherence) to antiretroviral treatment?								Total	
	Yes		No		Somehow		No response			
	No	%	No	%	No	%	No	%	No	%
20-24	2	2%	4	3%	2	2%	0	0%	8	7%
25-29	11	9%	4	3%	0	0%	0	0%	15	12%
30-34	8	7%	4	3%	0	0%	0	0%	12	10%
35-39	14	12%	4	3%	0	0%	0	0%	18	15%
40-44	16	13%	15	12%	0	0%	0	0%	31	26%
45-49	12	10%	6	5%	0	0%	0	0%	18	15%
50-54	5	4%	2	2%	0	0%	3	2%	10	8%
55-59	2	2%	4	3%	0	0%	0	0%	6	5%
60 and above	2	2%	0	0%	0	0%	0	0%	2	2%
Total	72	60%	43	36%	2	2%	3	2%	120	100

The responses were cross-tabulated with the age grouping of the respondents. Out of the 60% who consider the situation to be affecting their attitude to ART, 13% fall within the 40 – 44 age group followed by the 35-39 age with 12%. In general, when people advance in age, they get less shy, and as shown in table 22, the paucity of proportions in the advance age groups substantiates the fact. Yet all the age groups see the situation affecting their attitude to ART. The irony is that, even, it comes to those who responded negatively to the question, the same 40-44 age group topped the percentage with 12%,

comparatively higher than all the others. Two percent in the 20-24 age group stated that the situation affects their attitude somehow, while 2% in the 50-54 age group did not respond to the question. At this point, the question was put to respondents to find out if they think that in general the fact of having specified HIV/AIDS clinics affects the attitude of PLWHA to ART? The results are shown in Table 24.

Table 24: Respondents' perception on specified HIV/AIDS clinic and the attitude of PLWHA to ART

In general, would you say that the situation of specified HIV/AIDS clinic affects people’s attitude to ART	Responses	
	No	%
Yes	88	73%
No	29	25%
I don't know	3	2%
Total	120	100%

An overwhelming majority of 73% of respondents responded positively to the question whereas 25% answered negatively. Generally, most people want to remain discreditable and not discredited. Thus most people would be happy if they were not supposed to go to identifiable clinics to get their drugs, at least, they could maintain some gap between their front stage and their back stage.

Chi Square Hypothesis Testing

The second hypothesis was that the fact of administering ART from specified or designated sites impact negatively on the attitude of PLWHA. The hypothesis testing is

intended to find out whether finding that specified ART sites affects the attitude of PLWHA could be generalized to include all people outside the New Juaben municipality.

Step 1: Making assumptions

The independent variable is the designated sites for ART and the attitude of PLWHA to ART, the dependent variable.

Table 25: Observed frequencies for Specified ART Sites and attitude of PLWHA to ART

Does the situation affect your attitude to antiretroviral treatment?	Are you comfortable with the idea of having specific sites designated for HIV/AIDS treatment?			Total
	Yes	No	No response	
Yes	29	43	0	72
No	20	23	0	43
Somehow	0	2	0	2
	0	0	3	3
Total	49	68	3	120

Step 2: Stating the Null hypothesis

Ho: The fact of having specified ART Sites has no effect on the attitude of PLWHA to ART

H1: Administering antiretroviral drugs from specific health centers is likely to impact negatively on the attitude of PLWHA to ART

Step 3: Selecting the Sampling distribution and establishing the critical region

The distribution is X^2 distribution

Degree of freedom = $(r-1)(C-1) = (4-1)(3-1) = 3 \times 2 = 6$

Df = 6

Significance level $(\alpha) = 0.05$

X^2 Critical = 12.592

Step 4: Computing the Test Statistics for Chi Square Obtained

Table 26: Computing Test Statistics for Chi Square Obtained

Cells	O	E	(O-E)	(O-E)(O-E)	(O-E)(O-E)/E
1.1	29	29.4	-0.4	0.16	0.005442
1.2	43	40.8	2.2	4.84	0.118627
1.3	0	1.8	-1.8	3.24	1.8
2.1	20	17.55833	2.441667	5.961736	0.339539
2.2	23	24.36667	-1.36667	1.867778	0.076653
2.3	0	1.075	-1.075	1.155625	1.075
3.1	0	0.816667	-0.81667	0.666944	0.816667
3.2	2	1.133333	0.866667	0.751111	0.662745
3.3	0	0.05	-0.05	0.0025	30.0125
4.1	0	1.225	-1.225	1.500625	1.225
4.2	0	1.7	-1.7	2.89	1.7
4.3	3	0.075	2.925	8.555625	114.075
Total	120	120	0		151.9072

X^2 Obtained = 151.907

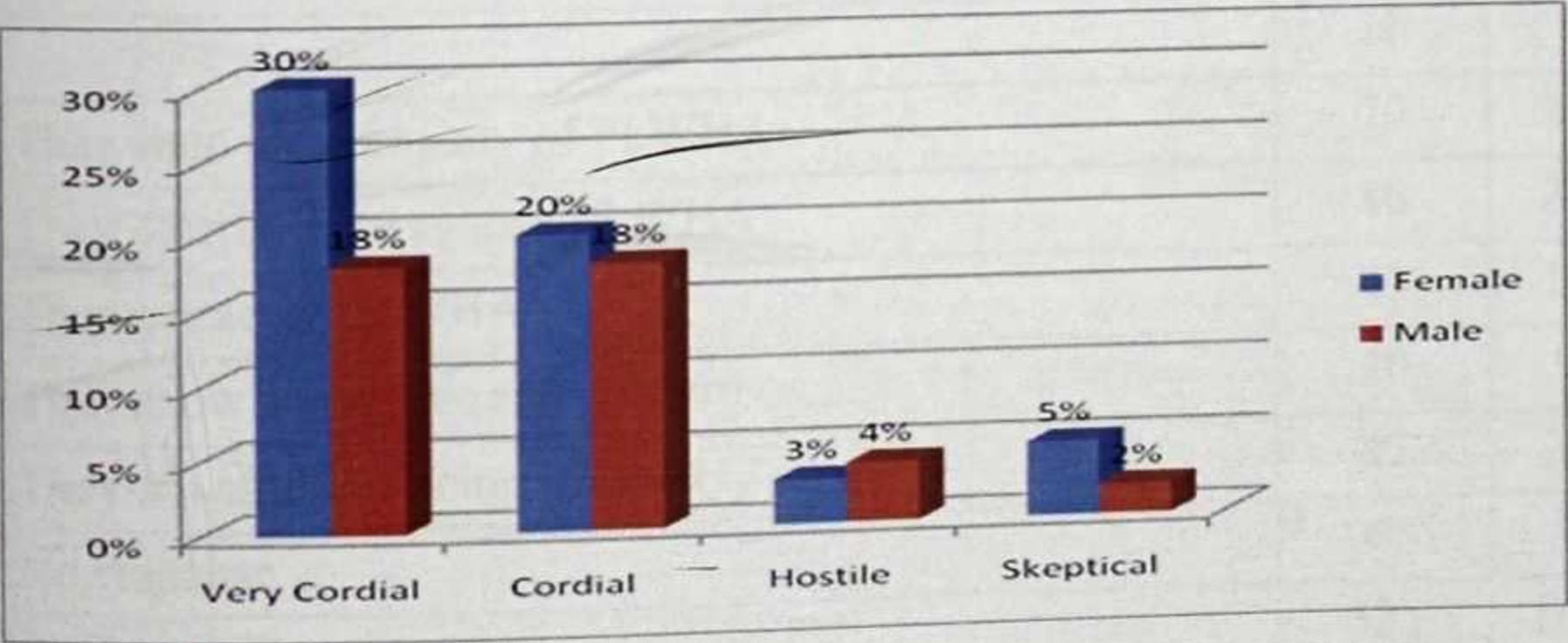
Step 5: Conclusion

The decision rule states that if the X^2 Obtained (151.907) is greater than X^2 Critical which is 12.592, the H_0 must be rejected in favour of the H_1 . Since the X^2 Obtained is more than the X^2 Critical, the H_0 is rejected successfully. Thus from the X^2 hypothesis testing, it could be concluded that when ART is administered at specified sites, it affects the attitude of PLWHA to antiretroviral drugs. So what was said about the statistics of the sample can now be generalized to cover the parameters of the population.

4.5 HIV/AIDS RELATED STIGMA AND THE HEALTH STATUS OF PLWHA.

The phenomenon of stigma makes people recoil into their shells, and not participate publicly in society, and since it is in the nature of human beings to socialize with other people, stigma is one thing that everybody tries to avoid. Thus from the literature reviewed, it became clear that stigma affects the behavior and attitude of people, consequently, it was deemed necessary to look into the health status of PLWHA and the relation it has with stigma. First, respondents were asked to describe the attitude of health personnel toward PLWHA, and their responses are shown in figure 6.

Figure 6: Attitude of health personnel toward PLWHA



Forty-eight percent of respondents indicated that their attitude is very cordial. Out of the 48%, 30% are female and 18% male. That response was followed by 38% of respondents (20% female and 18% male) who reported that the health personnel exhibit cordial attitude to PLWHA. Only 7% of respondent said that health personnel are hostile and another 7%, that health personnel are skeptical. The situation in the New Juaben municipality where health workers are either cordial or very cordial, is different from that in India and Thailand where lack of confidence in health workers has made it difficult to address the HIV/AIDS situation(WHO, 2008).

They were then asked if the situation as portrayed in figure 4, encourage them to assess treatment, and 77% responded positively whereas 23% said they don't feel encouraged. Most people don't allow the attitude of health personnel to deter them from taking care of themselves. What about the attitude of the general public toward PLWHA? Respondents were asked to classify the attitude of the general public toward PLWHA and the results are in table 27 below.

Table 27: Respondents' perception of the attitude of the general public toward PLWHA

What is the attitude of the general public toward PLWHA?	Responses	
	N	%
They shun the company of PLWHA	79	24%
They discriminate against PLWHA	86	27%
They ostracize PLWHA	40	12%
They show some love and concern	30	9%
They are afraid of being infected	87	27%
No response	3	1%
	325	100%

As shown on table 27, with the exception of 9% of respondents who indicated that the general public show concern to PLWHA, all the other responses are negative and discriminatory. So in sum, 90% of respondents find the reaction of the general public discriminatory and stigma-laden. It is because of the stigma associated with HIV/AIDS that the UN Secretary General, Ban Ki Moon (2008) has called HIV, *the silent killer*. Based on what reaction of health personnel and the general public, respondents were asked to state if they feel stigmatized and table 28 presents the results.

Table 28: Respondents' reaction toward the situation of discrimination

Do you feel stigmatized in the midst of all these?	No	%
Yes	88	73%
No	29	24%
No response	3	3%
Total	120	100%

As expected, 73% of respondents said they feel stigmatized, while 24% reported that they are not stigmatized. Stigma makes it difficult to address the HIV/AIDS pandemic effectively as it perpetuates the walls of silence and shame (International Centre for Research on Women, 2005). Similarly, the WHO maintains that for fear of stigma, most people fear to be tested (WHO, 2008). Having stated that they feel stigmatized, they were asked to define stigma, and table 29 presents the responses.

Table 29: Definition of Stigma

If yes, what is stigma?	Responses	
	No	%
Discriminating against people because of their situation	107	60%
Refusing to interact with people because of their situation	56	31%
Refusing to eat with someone for a particular reason	14	8%
No friend to play with you	2	1%
Total	179	100%

The respondents were allowed to provide multiple responses and the most recurring definition of stigma was: ‘discriminating against people because of their situation’ which represented 60% of the entire population. The next recurrent answer was: ‘refusing to interact with people because of their situation’. That description attracted 31% of respondents. The impression gathered from table 29 is that respondents know what stigma is. After gathering that respondents understand stigma, they were to state the type of stigma that they often endure and their response are shown in table 30 below.

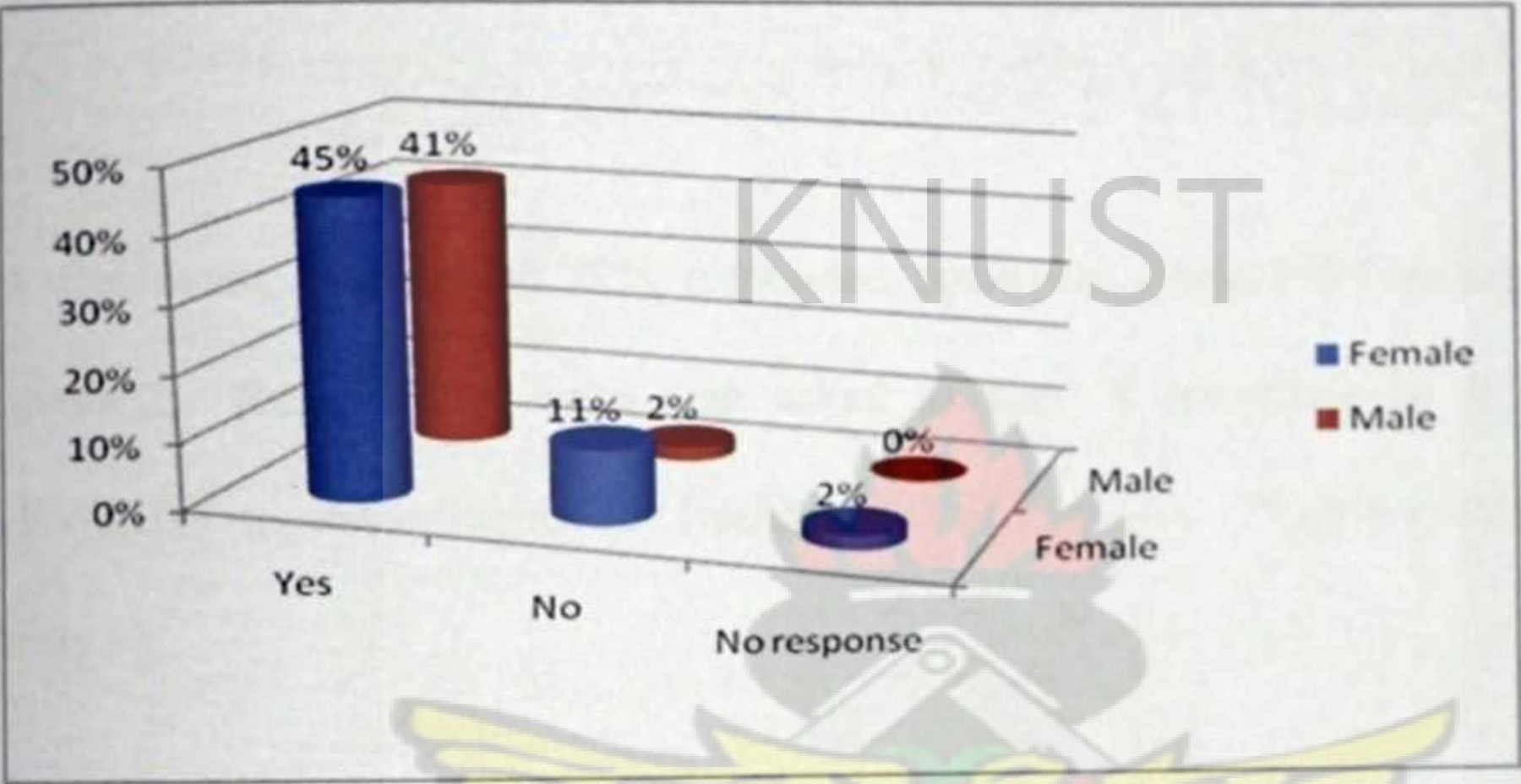
Table 30: HIV/AIDS related stigma

If yes, what are some of the forms of HIV/AIDS related stigma?	Responses	
	No	%
People refuse to talk to you	78	16%
People will not eat with you	87	18%
Dismissal from workplace	84	18%
Even relatives refuse to use the same plates, spoons, and other things with you	86	18%
People may not even sleep in the same room with you	69	15%
People will not hug you or even shake hands with you	59	12%
No response	13	3%
Total	476	100%

Respondents were permitted to give multiple responses and as the table depicts, they showed that they know what stigma entails. Only 3% of the entire respondents chose not to answer the question. Answers like, 'people will not eat with you,' 'dismissal from workplace,' and 'even relatives refuse to use the same plates, spoons, and other things with you' ranked high in terms of frequency and each attracted 18% of the respondents. Taking the responses together, that PLWHA are stigmatized pops up as a fact. That the stigma from HIV/AIDS leads to serious consequences as expressed in table 30 re-echoes what International Centre for Research on Women has observed. The ICRW (2005) found the similar possible consequences of HIV-related stigma to be: loss of income/livelihood; loss of marriage & childbearing options; poor care within the health sector; withdrawal of care giving in the home; loss of hope & feelings of worthlessness and loss of reputation. The practice of dismissal from workplace is also supported by the UNAIDS' observation that stigma includes reluctance on the part of co-workers to work

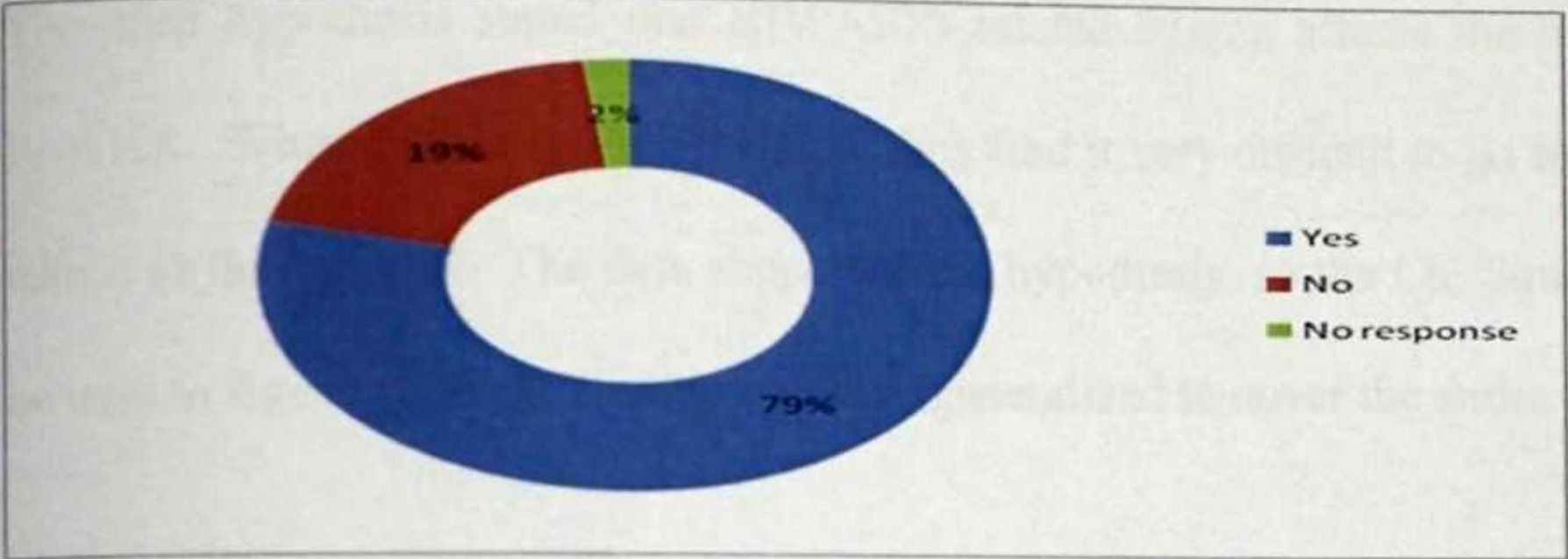
with PLWHA resulting in the loss of jobs (UNAIDS, 2001). After stating some of the HIV/AIDS related stigma, respondents were asked to indicate if they think that in general PLWHA are stigmatized, and their answers are shown in figure7.

Figure 7: Respondents' perception on PLWHA and stigma



The responses were cross-tabulated with the gender of respondents to show the responses are distributed along gender lines. Out of the 86% of respondents who responded positively to the question, 45% are female and 41% male. This means that both the female and male respondents feel about the same way toward the situation. Thirteen percent responded negatively to the question, but this time around, there were 11% female and 2% male, quite a big difference. So generally, we can conclude with the respondents that PLWHA are stigmatized. Subsequently, the question was put to find out if the situation of stigma makes it difficult for respondents to visit the HIV/AIDS sites. Their responses are shown in figure 8.

Figure 8: The effect of HIV/AIDS stigma on visitation to the HIV/AIDS sites



A significant majority of 79% responded positively while 19% answered No to the question. Respondents were then asked to state if according to their assessment, HIV/AIDS stigma influence the health status of PLWHA. Their answers are shown in table 31.

Table 31: The influence of stigma on the health condition of PLWHA

Do you think that the HIV/AIDS stigma influence the health status of PLWHA?	No	%
Yes	111	93%
No	6	5%
No response	3	2%
Total	120	100%

A commanding majority of 93% of respondents are of the view that the stigma associated with HIV/AIDS influences the health status of PLWHA. As compared to the 93%, the 5% of those who indicated 'No' to the question is insignificant.

Chi Square Hypothesis Testing

The third hypothesis stated that HIV/AIDS related stigma affects the health status of PLWHA. When people feel stigmatized, they find it very difficult to go for the ART and take it as they should. The data supported the hypothesis, so the Chi Square testing will be used to figure out if the finding could be generalized to cover the entire population.

Step 1: Making assumptions

The independent hypothesis is HIV/AIDS related stigma and the dependent hypothesis, the health status of PLWHA.

Table 32: Observed frequencies for HIV/AIDS stigma and the health condition of PLWHA

Do you feel stigmatizes in the midst of all these?	Do you think that the HIV/AIDS stigma influence the health status of PLWHA?			Total
	Yes	No	No response	
Yes	84	1	3	88
No	27	2	0	29
No response	0	3	0	3
Total	111	6	3	120

Step 2: Stating the null hypothesis (H_0)

H_0 : HIV/AIDS related stigma has no effect on the health condition of PLWHA

H_1 : HIV/AIDS related stigma negatively affects the health condition of people living with HIV/AIDS.

Step 3: Selecting the sampling distribution and establishing the X^2 Critical.

The sampling distribution is Chi Square distribution.

Degree of freedom = $(r - 1)(c-1) = (3-1)(3-1) = 2 \times 2 = 4$

Df = 4

Significance level (α) = 0.05

X^2 Critical = 9.488

Step 4: Computing Test Statistics for X^2 Obtained

Table 33: Computing Test Statistics for Chi Square Obtained

Cells	O	E	(O-E)	(O-E)(O-E)	(O-E)(O-E)/E
1.1	84	81.4	2.6	6.76	0.083046683
1.2	1	4.4	-3.4	11.56	2.627272727
1.3	0	2.2	-2.2	4.84	2.2
2.1	27	26.825	0.175	0.030625	0.001141659
2.2	2	1.45	0.55	0.3025	0.20862069
2.3	0	0.725	-0.725	0.525625	0.725
3.1	0	2.775	-2.775	7.700625	2.775
3.2	3	0.15	2.85	8.1225	54.15
3.3	0	0.075	-0.075	0.005625	0.075
Total	120	120	0		62.84508176

X^2 Obtained = 62.845

Step 5: Conclusion

Since X^2 Obtained, 62.845, is greater than X^2 Critical, 9.488, the H_0 hypothesis is successfully rejected thereby retaining the research hypothesis, which states that HIV/AIDS related stigma negatively affects the health status of PLWHA.

The chapter conducted in-depth analyses of the data collected on; the demographic characteristics of respondents, the general knowledge of respondents about HIV/AIDS, the correlation between adherence of PLWHA to ART drugs and the impact on their health condition, specific sites administering ART and its impact on the attitude of PLWHA towards ART drugs and finally the impact of HIV/AIDS related stigma on the health condition of PLWHA. The Chi square hypothesis testing was conducted on the three hypotheses to find out if the statistics of the sample could be applicable to the parameters of the population.

The next chapter discusses the major findings, conclusions and recommendations.

CHAPTER FIVE

GENERAL CONCLUSION

5.0 INTRODUCTION

The study set out to find out what factors influence the health condition of PLWHA. It intended to find out whether the attitude of PLWHA to ART affects their health condition; whether the fact of administering ART in specified sites affect the attitude of PLWHA and lastly, whether HIV/AIDS related stigma influences the health condition of PLWHA. Data were collected and analyzed as shown in Chapter Four. This Chapter consists of two sections: The first section comprises the summary of the major findings and the second section, the conclusion. The third section comprises recommendations.

5.1 SUMMARY OF MAJOR FINDINGS

5.1.1 Demographic Characteristics

More females (58%) were captured than men (42%). The age distribution shows that even though from the 50 years upward, the proportions go down, the data show that HIV/AIDS affect people of all ages. Also the study captured more Christians (63%) than other religions. It also became clear that people with only elementary/JSS and secondary/SSS/Vocational education constitute the majority of people infected, 34% each. From the point of view of employment, the self-employed are in the majority (41%). Prevalence is associated with higher salary levels (351 Ghana Cedis – 18% and

401 Ghana Cedis – 39%). The data shows that married people are the most infected (44%) and out of that, 23% are male and 21%, female.

5.1.2 Knowledge of HIV/AIDS on the part of PLWHA

It became clear that respondents are more knowledgeable on HIV/AIDS; about 63% defined HIV/AIDS as 'Human Immunodeficiency Virus/Acquire Immune Deficiency Syndrome. Ninety percent of respondent indicated that HIV/AIDS is a viral disease, transmitted largely through sexual intercourse (24%), using unsterilized needles (22%) and blood transfusion (20%). Again respondents were able to list a number of symptoms: growing lean; protracted fever, loss of appetite, sores around the genitals, shingles and many others. Respondent knew that HIV/AIDS has no cure (93%) and that rather there is a treatment (98%), which is antiretroviral drug (80%).

5.1.3 Attitude of PLWHA to ART and their health Condition

The study found out that a good number of respondents (77%) are very strict with the prescription of the ART by a doctor, the rationale being that their health has improved with the drug (73%). Prior to taking the ART, their health was poor by a greater majority of them (76%) reported that after taking the drug, their health has improved tremendously. It was also noted that an overwhelming majority of respondents (81%) attribute the improvement in their health to the ART. Eventually, it was concluded that their attitude to the ART was responsible for their health status (78%)

5.1.4 Specific HIV/AIDS clinics and the attitude of PLWHA to ART

It was discovered that most respondents (75%) stated that they prefer orthodox treatment and not only are PLWHA treated as outpatients (54%), but also they pick their drugs from specific centres/clinics earmarked for HIV/AIDS treatment. The study found out that most PLWHA are not comfortable with the fact of having to take their drugs from designated sites for the ART (56%). The reasons given for their reluctance to visit the specified sites are numerous; it makes me easily identified as HIV/AIDS patient by other people (33%); it breaches confidentiality (20%). Other reasons are: it makes me ashamed of myself (19%); I am stigmatized by society (15%) and many others. It was also discovered that respondents blame the specifically designated clinics for their reluctance to pick their drugs (73%).

5.1.5 HIV/AIDS related stigma and the health condition of PLWHA

It was discovered that most respondents find the attitude of most health service providers to be very cordial (48%) and cordial (38%) whereas they found the general public to be discriminatory and negative. Consequently, most respondents feel stigmatized (73%) and stated that they perceive most PLWHA to be largely stigmatized. Giving the stigma, respondents indicated that they find it difficult to visit the HIV/AIDS sites (79%). Consequently, respondents were of the view that HIV/AIDS related stigma influences the health status of PLWHA (93%).

5.2 CONCLUSION

The study set out to find the rationale behind the constantly deteriorating health status of the PLWHA in the Koforidua Municipality. The specific objectives of the study were as follows: 1). To investigate whether the attitude of People living with HIV/AIDS to antiretroviral drugs impacts on their health status; 2). To find out how the fact of having specific centres administering antiretroviral drugs impacts on the attitude of PLWHA to ART and 3). To investigate whether HIV/AIDS related stigma impacts on the health status of PLWHA.

The three objectives were translated into the following three researchable hypotheses:

1).The attitude or adherence (positive or negative) of PLWHA to antiretroviral drugs affects their health status; 2). Administering antiretroviral drugs from specific health centers (HIV/AIDS sites) is likely to impact negatively on the attitude of PLWHA to ART and 3). HIV/AIDS related stigma negatively affects the health status of people living with HIV/AIDS.

The data was basically quantitative and after the investigation, the data supported all the hypotheses, thereby leading to the following conclusion: that adherence on the part of PLWHA to ART affects their health status. In other words, if PLWHA stick faithfully to the ART dosage given them by doctors, their health improves and vice versa.

With regard to the second hypothesis, the data supported a position that PLWHA feel uncomfortable to visit specified sites for their drugs as that makes them easily identifiable as PLWHA, thereby making their back stage become front stage. So the study confirmed

the hypothesis that having specific or identifiable sites for ART administration negatively affects the health status of PLWHA.

The third hypothesis was that HIV/AIDS related stigma affects the health status of PLWHA. The data analysis culminated in the affirmation that PLWHA feel stigmatized by the attitude of general public toward them and that makes it difficult to access the ART drugs. The consequent finding was that, HIV/AIDS stigma influences the health status of PLWHA. They fear that their back stage will become their front stage thereby leaving them discredited.

5.3 RECOMMENDATIONS

1. Family members must be encouraged to support their relations living with HIV to adhere to the Doctors' prescription.
2. To make sure that people's back stage does not become their front stage, there should not be specified sites for the administration of ART; they must be administered at the general dispensary.
3. HIV/AIDS education must be intensified so that the general populace can become less apprehensive and less discriminatory.
4. Support groups should be set up, so that by counting on support from the group, they will not be overwhelmed by any discrimination from anybody.

APPENDIX

**KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY,
DEPARTMENT OF COMPUTER SCIENCE, COLLEGE OF SCIENCE.
QUESTIONNAIRE TO ASSESS THE CONTRIBUTION OF ANTIRETROVIRAL
DRUGS TO THE HEALTH CONDITION OF PEOPLE LIVING WITH HIV/AIDS
(PLWHA).**

This questionnaire is designed to collect data to be used purely for an academic purpose. The data will help me to meet part of the requirements for the award of MPhil degree in the above university. The result from the study is purely for academic purpose. You are assured that all responses to these questions will be treated with utmost confidentiality. Thank you for your cooperation and action. A

Please tick () the option.

A: **Personal Data of Respondents**

A1. **Age of respondents**

- 01 20 – 24 years
- 02 25 – 29 years
- 03 30 – 34 years
- 04 35 – 39 years
- 05 40 – 44 years

- 06 45 – 49 years
- 07 50 – 54 years
- 08 55 – 59 years
- 09 60 years and above

A2. Gender of respondents

- 01 Female
- 02 Male

A3. Religion of respondents

- 01 Christianity
- 02 Islam
- 03 African Traditional Religion
- 04 Other: please, specify

A4. Educational background of respondents

- 01 No formal schooling
- 02 Elementary/JSS
- 03 Secondary/SSS/Vocational
- 04 Teacher Training College
- 05 Polytechnic/Professional Studies
- 06 University/Tertiary Institution

A5. Occupation of respondents

- 01 Doctor
- 02 Lawyer
- 03 Public Servant
- 04 Civil Servant
- 05 Student
- 06 Farmer
- 07 Unemployed
- 08 Self-employed
- 09 Apprentice
- 10 No response

A6. Income levels of respondents

- 01 up to 100 cedis
- 02 151 – 200 cedis
- 03 201 – 250 cedis
- 04 251 – 300 cedis
- 05 301 – 350 cedis
- 06 351 – 400 cedis
- 07 401 cedis and above
- 08 No response

A7. Marital status of respondents

- 01 Single
- 02 Married
- 03 Divorced
- 04 Widowed
- 05 Separated

B. General knowledge about HIV/AIDS

B1. What is HIV/AIDS?

- 01 Human intelligent variety and acquired immune dangerous sickness
- 02 Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
- 03 Human immune virus/acquired international disease syndrome
- 04 Other ...

B2. What is its nature?

- 01 It is a spiritual disease
- 02 It is viral disease
- 03 A figment of the mind
- 04 Others

B3. What is its mode of transmission?

- 01 A curse
- 02 Mosquito bite
- 03 Sexual intercourse

- 04 Using unsterilized needles
- 05 Blood transfusion
- 06 From a pregnant woman to the fetus
- 07 Blood contact
- 08 Others ...

B4. What are the symptoms of HIV/AIDS?

- 01 Growing lean
- 02 Protracted headache
- 03 Protracted fever
- 04 Shingles
- 05 Sores around the genitals
- 06 Loss of appetite
- 07 Prolong cough
- 08 Loss of hair
- 09 Others

B5. Is there any cure for HIV/AIDS as yet?

- 01 Yes
- 02 No

B6. If yes, what type of cure?

- 01 Spiritual cure through prayers
- 02 Herbal medicine
- 03 Orthodox medicine

- 04 Others ...
- 05 No response

B7. If no, is there a treatment?

- 01 Yes
- 02 No

B8. If yes, name the treatment.

- 01 Antibodies treatment
- 02 Exercises
- 03 Antiretroviral drug
- 04 Others ...

C Attitude of People living with HIV/AIDS to Antiretroviral drugs and their health condition

C1. What is the general attitude of people to drug administration in Ghana?

- 01 Very faithful to the Doctors' instructions
- 02 People often don't finish the prescribed course
- 03 Some people finish the prescribed course and buy more of the same drug on their own
- 04 Self-medication
- 05 Others ...

C2 What is your own attitude to drug administration?

- 01 Very faithful to the Doctors' instructions
- 02 I don't finish the prescribed course
- 03 I finish the prescribed course and buy more of the same drug on my own
- 04 Self-medication
- 05 Others ...

C3 Are you on antiretroviral drug?

- 01 Yes
- 02 No
- 03 No response

C4 If yes, for how long have you been on it?

- 01 Less than one year
- 02 One year
- 03 Two years
- 04 Over three years
- 05 No response

C5 How often must it be taken?

- 01 Hourly
- 02 Daily
- 03 Weekly

04 Other ...

C6 What is your attitude to the prescribed regime?

01 Very strict

02 Not very strict

03 Negligent

04 I rarely take it

05 Others ...

06 No response

C7 Give reasons for your attitude to the drug.

01 The disease will kill me anyhow

02 My health has improved with the drug

03 I don't experience any improvement in my health

04 It is a spiritual disease

05 I sometimes forget

06 Other ...

C8 How was your health before you were put on the drug?

01 I used to be very weak

02 I could hardly eat

03 I was always sick

04 I grew lean by the day

05 My health was generally poor

06 Others ...

C9 **How has your health been since you were put on the drug?**

01 It is still the same

02 It has improved tremendously

03 It is okay

04 It is difficult to tell

05 Other ...

06 No response

C10 **Could you attribute the change in your health status to the drug?**

01 Yes

02 No

03 I can't tell

04 No response

C11 **Do you, therefore, think that your attitude to the drug is responsible for your health status?**

01 Yes

02 No

03 I can't tell

04 No response

D **Specific HIV/AIDS clinics and attitude of PLWA to antiretroviral treatment**

D1 What treatment do most PLWHA prefer?

01 Orthodox treatment

02 Herbal treatment

D2 If orthodox, are PLWHA treated as out-patients?

01 Yes

02 No

D3 Where do you take your drug?

01 Specific sites are designated for HIV/AIDS treatment

02 I pick the drugs at the general dispensary of the hospital/clinic

D4 Are you comfortable with the idea of having specific sites designated for HIV/AIDS treatment?

01 Yes

02 No

D5 Are other PLWHA also comfortable with the situation?

01 Yes

02 No

03 I don't know

D6 Give reasons for your answer.

- 01 It makes me ashamed of myself
- 02 It makes me easily identified as HIV/AIDS patient by other people
- 03 It breaches confidentiality
- 04 It destroys my back stage
- 05 I am stigmatized by society

D7 **Does the situation affect your attitude to antiretroviral treatment?**

- 01 Yes
- 02 No

D8 **What about other people, does the situation determine their attitude to antiretroviral treatment?**

- 01 Yes
- 02 No
- 03 I don't know

E **HIV/AIDS related stigma and health status of people living with HIV/AIDS**

E1 How would you describe the attitude of health personnel toward PLWHA?

- 01 Very cordial
- 02 Cordial
- 03 Hostile
- 04 Skeptical
- 05 I am not sure

E2 **Does the attitude of the health personnel encourage you to assess treatment?**

01 Yes

02 No

E3 **What is the attitude of the general public toward PLWHA?**

01 They shun the company of PLWHA

02 They discriminate against PLWHA

03 They ostracize PLWHA

04 They show some love and concern

05 They are afraid of being infected

E4 **Do you feel stigmatized in the midst of all these?**

01 Yes

02 No

E5 **If yes, what is stigma?**

01 Discriminating against people because of their situation

02 Refusing to interact with people because of their situation

03 Refusing to eat with someone for a particular reason

04 Being on talking terms with somebody

05 Other ...

E6 **Are PLWHA stigmatized?**

01 Yes

02 No

E7 If yes, what are some of the forms of HIV/AIDS related stigma?

01 People refuse to talk to you

02 People will not eat with you

03 Dismissal from workplace

04 Even relatives refuse to use the same plates, spoons, etc. with you

05 People may not even sleep in the same room with you

06 People will not hug you or even shake hand with you

07 Other ...

E8 Which of these do you often experience?

01 People refuse to talk to you

02 People will not eat with you

03 Dismissal from workplace

04 Even relatives refuse to use the same plates, spoons, etc. with you

05 People may not even sleep in the same room with you

06 People will not hug you or even shake hand with you

E9 Would you say that, in general, PLWHA are stigmatized?

01 Yes

02 No

E10 Does the situation of stigma make it difficult for you to visit the HIV/AIDS sites for treatment?

01 Yes

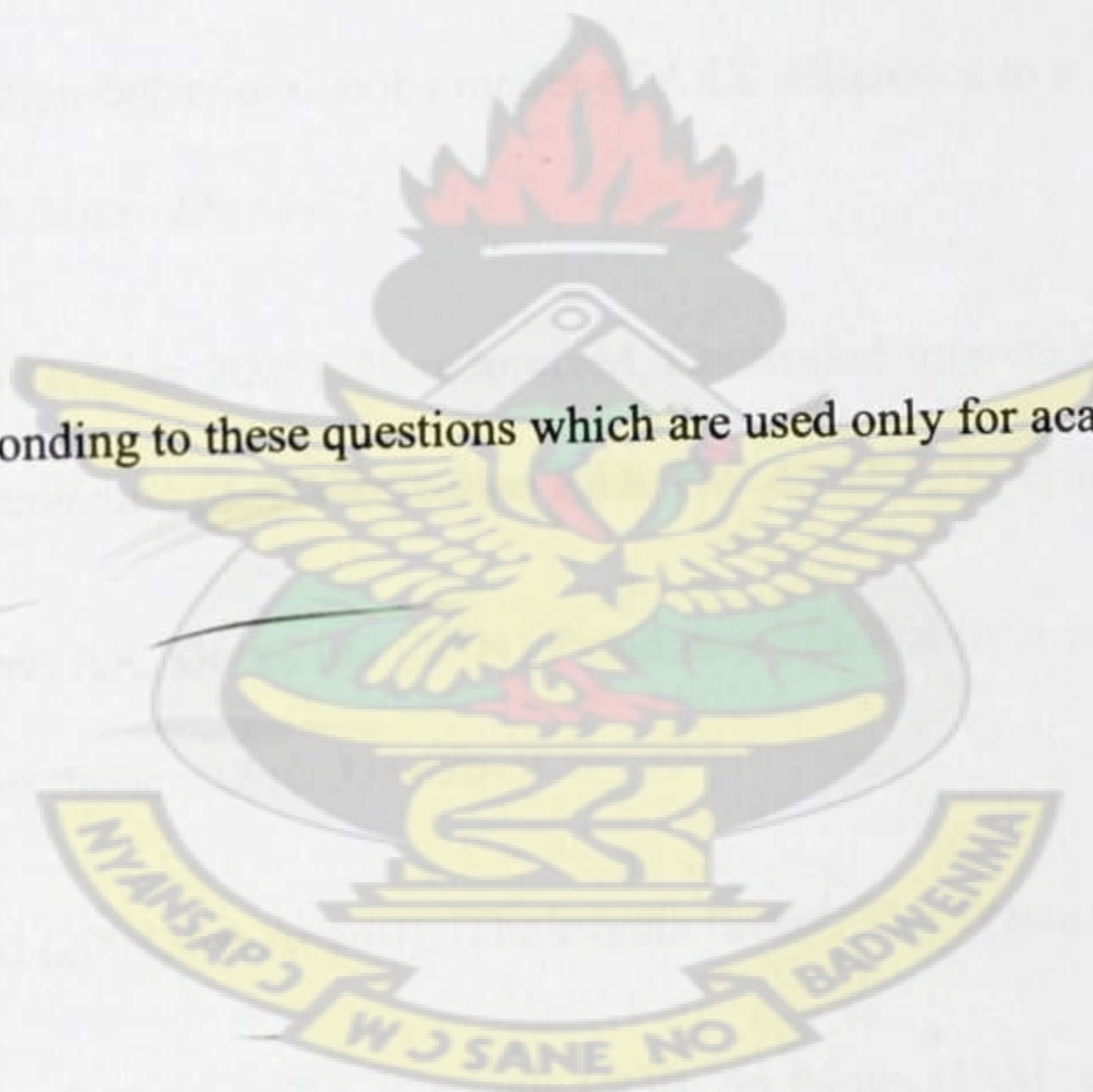
02 No

E11 Do you think that the HIV/AIDS stigma influence the health status of PLWHA?

01 Yes

02 No

Thank you for responding to these questions which are used only for academic purposes.



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