

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

COLLEGE OF HEALTH SCIENCES

SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF HEALTH PROMOTION AND EDUCATION



**ASSESSING HIV RELATED STIGMA AND ASSOCIATED FACTORS
AMONG ANTIRETROVIRAL TREATMENT CLIENTS IN THE TANO
NORTH MUNICIPALITY**

BY

JOHN MACCARTHY AGGREY

SEPTEMBER, 2019

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

SEPTEMBER, 2019

DECLARATION

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

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I thank the Almighty God for a successful completion of this piece amidst the difficulties

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DEDICATION

I dedicate this work to my lovely wife Obaapa Magie, my children Ursula Maccarthy, Angela Maccarthy and Joy Aggrey Maccarthy who endured my absence from home during the period of my study.

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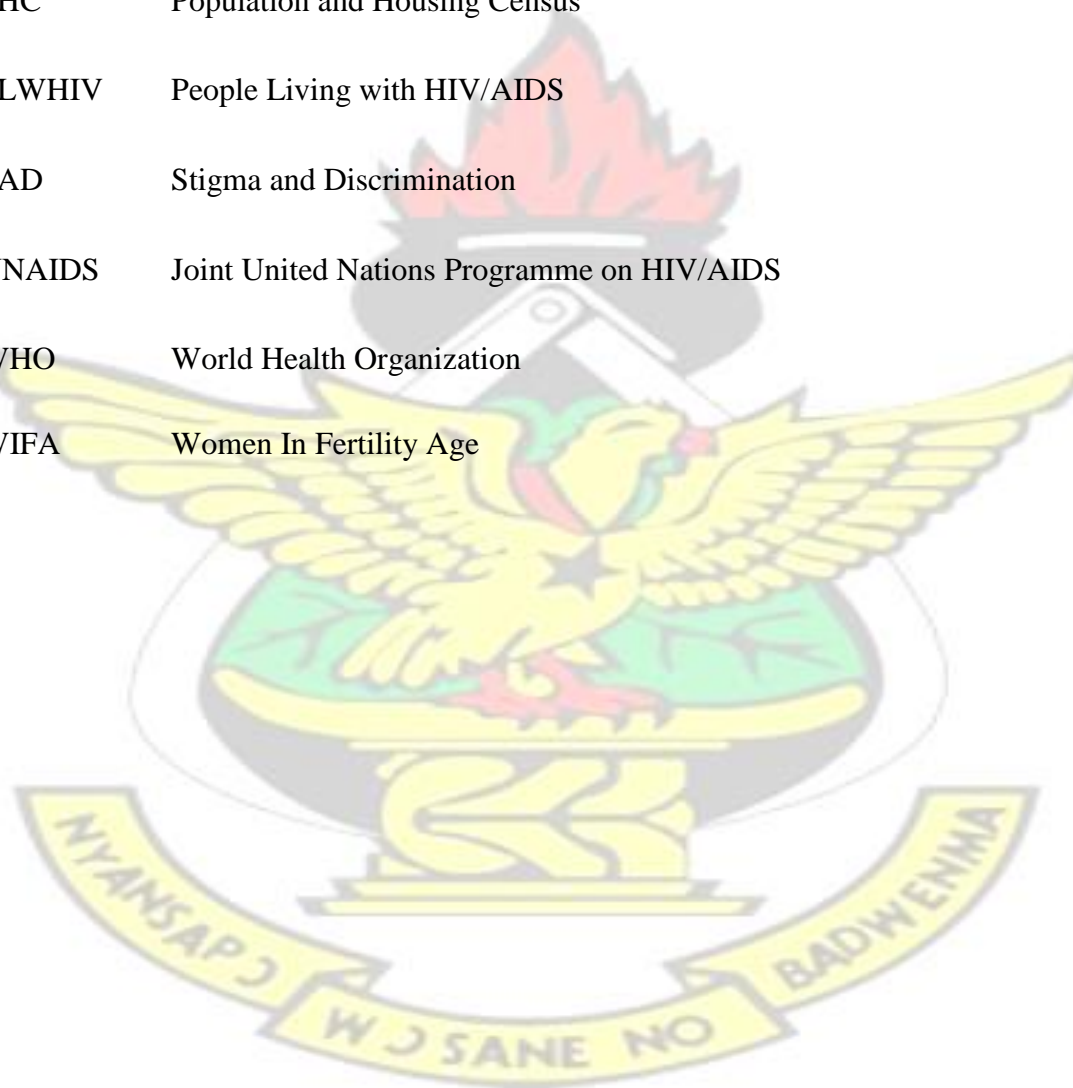
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ABBREVIATIONS/ACRONYMS

AIDS	Acquired Immuno-deficiency Syndrome
ART	Antiretroviral Treatment
AU	African Union
BCC	Behaviour Change Communication
CHAG	Christian Health Association of Ghana
CHPS	Community-based Health Planning and Services
DFID	Department For International Development
DHS	Demographic Health Survey
ENT	Ear, Nose and Throat
FHI	Family Health International
FSW	Female Sex Workers
GAC	Ghana AIDS Commission
GDHS	Ghana Demographic and Health Survey
GHS	Ghana Health Service
GTZ	German Technical Cooperation
HAART	Highly Active Anti -Retroviral Therapy
HIV	Human Immuno-Deficiency Virus
HTC	HIV Testing and Counseling
ICRW	International Centre for Resources on Women
ILO	International Labour Organization
KPs	Key Populations

MHD	Municipal Health Directorate
MIAA	Malawi Interfaith AIDS Association
NACP	National AIDS Control Programme
NATC	National Technical Committee
OPD	Out Patient Department
PHC	Population and Housing Census
PLWHIV	People Living with HIV/AIDS
SAD	Stigma and Discrimination
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization
WIFA	Women In Fertility Age



ABSTRACT

Aims and Objectives: Several studies have identified HIV related stigma across the globe as a key factor impeding HIV identification, prevention and treatment efforts. This study was designed to determine the influence of HIV/AIDS related stigma on anti- retroviral treatment adherence among persons living with HIV assessing antiretroviral services at the St. John of God and Bomaa Government Hospital in the Tano North Municipality, Ghana.

Methods: A cross sectional quantitative approach was adopted as the study design. Purposive sampling method was used to select 156 clients with the aid of a structured questionnaire as data collection tool. Data was analyzed using SPSS and STATA (regression analysis) for frequencies and Chi-square tests were calculated and p-values of less than 0.05 were accepted as being statistically significant for all associations.

Results: The findings revealed that, 53% of PLWHIV agreed that HIV related stigma was high. Isolation (33%), verbal stigma (68%), loss of identity (11%) and loss of access to resources (8%) were forms of stigma experienced by PLWHIV. Inadequate information and fear of casual transmission were identified as cause of HIV related stigma. Logistic regression analysis involving Isolation from social gathering (OR: 2.985; CI: 1.06-7.67, P-value =0.0038), was significantly associated with adherence to antiretroviral treatment.

Conclusion: The study concludes that HIV related stigma influence ART medication adherence among persons living with HIV at the St. John of God and Bomaa Government Hospital.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Human Immunodeficiency Virus (HIV), the pathogen that caused Acquired Immune Deficiency Syndrome has been the most significant emerging infectious agent in the last century and continues threatens health and social development (Sow *et al.*, 2012). Medical knowledge around HIV has increased significantly over the years and good progress has been made in the treatment of HIV as a manageable life-threatening chronic condition using antiretroviral therapy (Adefolalu & Nkosi, 2013). Antiretroviral treatment has remained the only available option that offers the possibility of dramatically reducing HIV/AIDS related morbidity and mortality (Oku *et al.*, 2013).

This encouraging trend is however impaired by the prolonged existence of stigma and discrimination (SAD). HIV related stigma and discrimination exist worldwide, although it manifests itself differently across countries, communities, religious groups and individuals (Avert, 2016). HIV related stigma and discrimination is a human right violation according to the United Nations General Assembly Special Session on HIV/AIDS (Ajong *et al.*, 2018). Research by the International Centre for Research on Women (ICRW) outlines the possible consequences of HIV related stigma as; loss of income and individual, loss of marriage and childbearing options, poor care within the health sector ,withdrawal of caregiving in the home ,loss of hope and reputation (ICRW, 2005).According to the 2014 Ghana Demographic Health Survey (DHS), 67.7 percent of adults (15-49 years) responded _‘No‘ to the question: —Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV?

This showed a high level of stigma and discrimination (SAD) against PLWHA among the general population (UNAIDS 2017a). This is a major obstacle hindering the fight against the HIV and AIDS epidemic Avert (2016). Eliminating HARSAD against PLWHA is therefore a major goal in the fight against HIV and AIDS (Ghana Aids Commission, 2013), (UNAIDS, 2014).

Much of the work of global and local organizations involved in the fight against HIV and AIDS such as the Joint United Nations Programme on HIV and AIDS (UNAIDS), the Global Network of People living with HIV (GNP+), Ghana AIDS Commission (GAC), Ghana Health Service (GHS), National AIDS Control Programme (NACP) and other civil societies and Non-Governmental Organizations (NGO) has been directed at eliminating HARSAD against PLWHA (Affedzie, 2018). The Ghana AIDS Commission and its development partners recommend periodic monitoring through populations based surveys(GAC ,2012).It is therefore important to undertake a study on HIV related stigma among people living with HIV for whom stigma is perpetrated. Stigma and discrimination (SAD) has been studied extensively in various contexts. Generally, stigma is defined as —a strong feeling in society that bring in a particular situation or having something to be ashamed of (Longman Dictionary of Contemporary English). Discrimination on the other hand is the practice of treating one person or group differently from another in an unfair way (Longman Dictionary of Contemporary English).

Stigma and discrimination (SAD) related to HIV and AIDS involves negative attitudes, beliefs and unjust treatment against people identified or suspected to be living with HIV and AIDS. An estimated 37.9 million people are living with HIV at the end of 2018. An estimated 1.7 million people became newly infected in 2018 (WHO, 2018). 940 000 people died from HIV-related causes globally according to the World Health

Organization report (WHO, 2018). 62% of adults and 54% of children living with HIV were receiving lifelong antiretroviral therapy (WHO, 2018). The global antiretroviral coverage for pregnant and breastfeeding women was as high as 82% in 2018. 370,000 new infections were recorded with an estimated 280,000 deaths occurring within the West African Sub Region with an estimated 2.4 million people living with the disease accessing antiretroviral treatment (WHO, 2018).

Available statistics from the Ghana AIDS Commission (GAC) indicates that, the 2018 national HIV/AIDS prevalence was 1.69 percent with difference variations in the regions. Ghana has a low-level HIV epidemic with disproportionately high prevalence of HIV in key populations (KPs) such as female sex workers (FSW) and men who have sex with men (MSM) (Ali *et al.*, 2019). The 2018 GAC report further indicated that, a total of 334,713 persons were living with HIV /AIDS in which 217,514 (65%) were females as against 117,199 (35%) being males .20,000 new HIV infections were recorded within the age groups of 15 to 49 years which accounted for 16,614 (83%) cases while children below the age of 14 years recorded 3,317 (17%). In the same year under review, 14,181 HIV related deaths were recorded with 11,412 (80%) attributed to the adult population whereas 2,789 (20%) were children below fourteen years.

The Commission indicated that 184,955 (53.3%) of Ghanaian living with HIV know their status, whilst 113,000. (66.4%) are on antiretroviral treatment, 66% of the people who are on treatment are virally suppressed. These statistics represent the country's position in the fight against HIV/ AIDS. The figures indicated that, the country's ability to meet the 90-90-90 targets of 90% percent of population knowing their HIV status, 90% percent of those who are positive getting ART treatment and 90% percent of those on ART treatment having viral suppression, may not be achieved by the year 2020 (GAC, 2017).

1.2 Problem Statement

UNAIDS has set a global target to end AIDS by 2030, however a short-term target has been set to be achieved by 2020 known as 90-90-90 treatment targets. This means that by 2020, 90% of all people living with HIV will know their HIV status; 90% of all people diagnosed with HIV infection will receive sustained antiretroviral therapy; 90% of all people receiving antiretroviral therapy will have viral suppression (UNAIDS, 2014).

Sub-Saharan African countries including Ghana adopted these targets at the 25th African Union (AU) Summit in Johannesburg, South Africa in June, 2015 (GAC 2016). The National HIV and AIDS Strategic Plan 2016-2020 has identified stigma and discrimination reduction as a critical social enabler that must be addressed if the country is to achieve its targets towards achieving 90-90-90 treatment targets and ultimately ending AIDS by 2030. Several studies have identified HIV related stigma across the globe as a key factor impeding HIV identification, prevention and treatment efforts (Avert, 2016). A qualitative study in the United States of America involving African Americans found that, HIV related stigma adversely affected medication adherence (Yakhmi *et al.* 2014). A similar study by (Brion and Menke, 2008) found that stigma of fear to disclosure of one's positive status led to missing of medication doses.

A similar study conducted in the Southern Ethiopian City of Nigist found nonadherence to antiretroviral treatment cited fear of stigma as a major reason for not following clinical appointment (Billoro, 2018). A study in the republic of South Africa revealed that, persons living with the HIV virus reported grinding medication into powder and refusing taking them in front of others as a result of stigma and discrimination (Mills, 2006). Another study in the West African country of Senegal reported delay of accessing HIV related treatment for other sexually transmitted diseases, for fear of

public exposure and discrimination by health workers (Alagaw *et al.* 2013). Despite diverse efforts put in place by the Ghanaian Health system to combat HIV related stigma and discrimination, HIV related stigma and discrimination remains a significant obstacle to the fight against HIV /AIDS and its adherence to HIV/AIDS related medication.

A report by the Executive Director of the West Africa Programme to combat AIDS and STI's (WAPCAS) indicated that there was high level of stigma at the community, health facility levels and in the general population. That the issue of stigma and discrimination keep eroding any successes that Ghana was making in the fight against HIV especially among key populations (Ghananewsagency. org 2019).

Statistics available at the Tano North Municipal Health Directorate indicates that, a total number of PLWHA as at the end of the year 2018 were one thousand, two hundred (1,200). A total of over seven- five (75) mortalities due to HIV/AIDS have been reported. HIV related stigma may result in a number of negative health outcomes for the people living with HIV infection.

These negative health outcomes include mental health issues, medication adherence issues, assessing of health care services, employment and housing issues (Hansen *et al.*, 2009). Without medical care and antiretroviral interventions, people with HIV infection are at risk for morbidity, mortality and decreased quality of life

1.3 Justification for the study

Numerous studies suggest that experiences of HIV related stigma resulted in lower access to HIV treatment, low utilization of HIV care services, poorer antiretroviral therapy (ART) adherence and thus poorer treatment outcomes (Bach *et al.*, 2019). However, few studies have noted the influence of HIV related stigma on adherence to

antiretroviral therapy (ART) (Brion and Menke, 2008; Konkle- Parker *et al.*, 2008; Wolitiski *et al.*, 2009). Not many studies have attempted to understand stigma and discrimination in Ghana (Tenkorang, 2010).

To the best of our knowledge, no study has been conducted to understand the influence of HIV related stigma and its associated factors in the Tano North Municipality. The study of HIV related stigma will not only serve as a baseline for future comparisons, but will help to contribute to understand the forms of stigma and its causes. In the nutshell, the study seeks to assess HIV related stigma and identify associated factors among antiretroviral treatment clients at the St. John of God and Bomaa Government Hospital in the Tano North Municipality, Ahafo Region, Ghana.



1.4 conceptual framework of the study

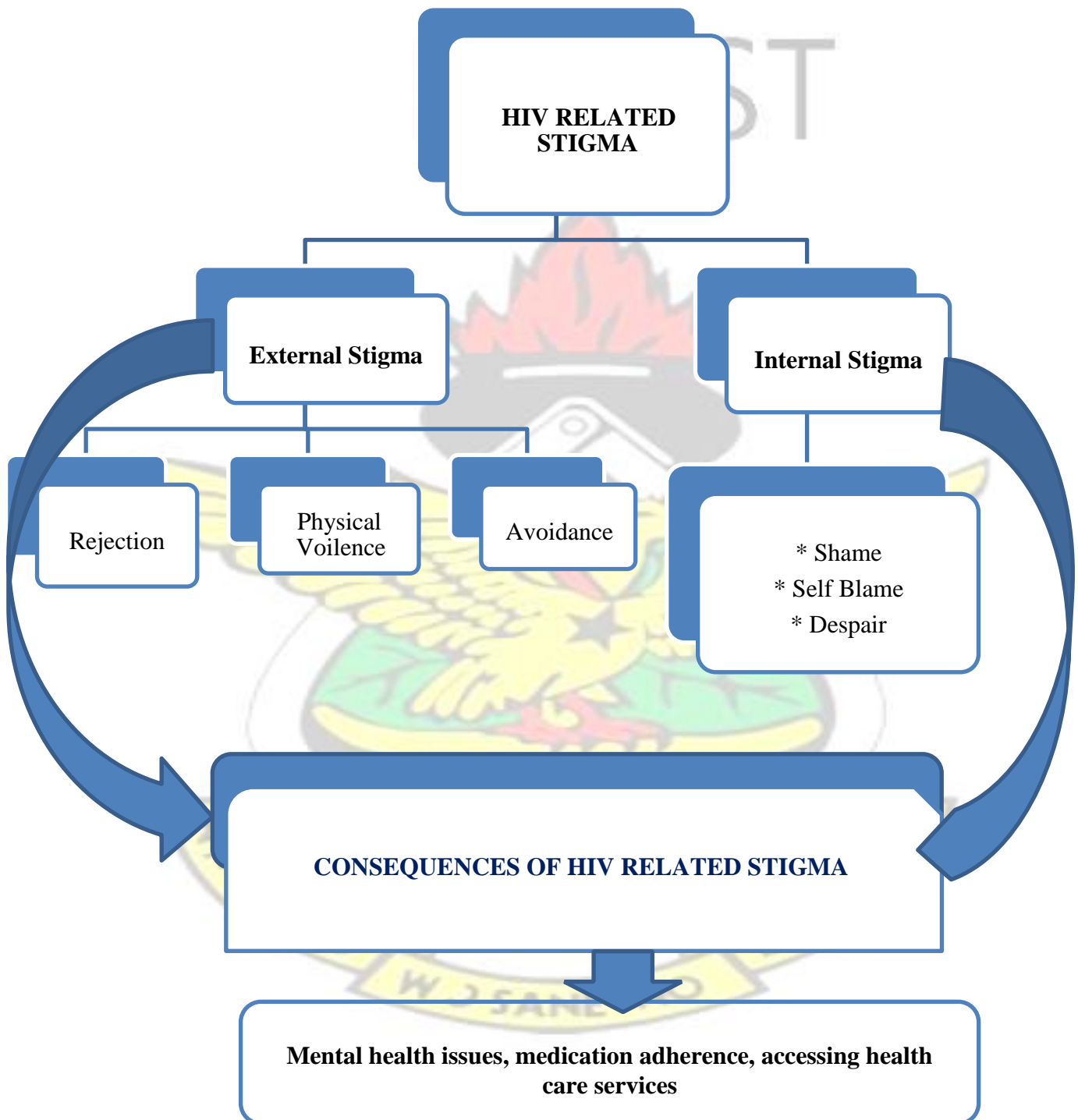


Figure 1.1: Conceptual frame work of the study

1.5 Research Questions

The research sought to address the following questions:

1. What is the extent of HIV related stigma among persons living with HIV /AIDS in the Tano North Municipality? (PLWHA).
2. What are the various forms of HIV related stigma experienced by people living with HIV/AIDS in the Tano North Municipality?
3. What are the causes of HIV related stigma among persons living with HIV in the Tano North Municipality?
1. 4. What is the influence of HIV related stigma on treatment adherence of persons living with HIV/AIDS in the Tano North Municipality?

1.6 Main Objectives of the Study

The main objective of the study was to assess the influence of HIV/AIDS related stigma on treatment adherence among persons living with HIV attending antiretroviral clinic at the St. John of God and Bomaa Government Hospital, Duayaw Nkwanta in the Tano North Municipality.

1.6.1 Specific Objectives

1. To determine the extent of HIV related stigma among PLWHA attending antiretroviral clinic at the St. John of God and Bomaa Government Hospital
2. To identify various forms of HIV related stigma experienced by PLWHA attending the antiretroviral clinic at the hospitals.
3. To identify causes of HIV stigma among PLWHA who attend the antiretroviral clinic at the hospitals.
4. To assess the influence of HIV related stigma on treatment adherence for PLWHA attending antiretroviral clinic at the hospitals.

1.7 Organization of the Study

This dissertation consists of six chapters. Chapter 1 provides a general background of the study, statement of the problem, justification for the study, conceptual framework, research questions, objectives and justification of the study.

Chapter 2 provides a review of literature on the background of stigma and discrimination, the conceptual framework of the study and previous studies related to stigma. Chapter 3 describes the methods and procedures used in the research. It includes a description of the study population, research design, study setting, sampling technique, research instrument, data collection, data analysis and ethical considerations.

Chapter 4 presents the result of analysis of data gathered from the study participants. The results are presented in the form of tables and figures and description of the relevant findings in line with the main research questions. Chapters 5 involve discussions of the results from the data analysis in line with the study objectives and research questions.

Chapter 6 provides a summary of the study, conclusion and recommendations for tackling the problem of stigma on treatment adherence among PLWHA based on the findings of this study. It also identifies areas for future research.

1.8 Operational Definition of Terms

The following terms are hereby explained in terms of their use in this study regardless of how they may have been used elsewhere.

PLWHA: People living with HIV /AIDS refer to adults who have HIV/AIDS and accessing ART treatment.

Adherence: Base on WHO definition, adherence is understood to be the extent to which a person's behaviors in taking medication correspond with agreed

recommendations from a health care provider (Sianturi *et al.*, 2019).

ART: According to WHO, “antiretrovirals are drugs that act at different stages of the HIV life cycle to stop the multiplication of the HIV virus “

ART therapy: Antiretroviral treatment therapy refers to treatment of HIV infection with a combination of antiretroviral drugs.

Viral load: The levels of virus found in the blood per 10 millitre (ml) Dose:

Medication or treatment prescribed by a health care provider.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.0 Introduction

This chapter reviews literature dealing with HIV/AIDS stigma. The purpose of the literature is to collect reliable and valid evidence to understand the underlying factors of HIV related stigma and discrimination. The literature reviews consist of the following sections; definition of stigma and discrimination, expressions and forms of stigma, causes of HIV stigma, HIV treatment adherence and its influence on stigma and identify gaps where necessary.

2.1 The Impact of HIV /AIDS

The HIV/AIDS epidemic continues to pose a threat to public health, economy, and indeed to national security in countries (NACP, 2010). The first case of HIV/AIDS was reported in Ghana in 1986, since then, there has been a rise in prevalence till 2009 when it started declining. In response to the pandemic, the Government of Ghana made a commitment to responding to this threat. The National Technical

Committee on AIDS (NTCA) was established in 1985. This was replaced with The National AIDS/STD Control Programme (NACP) under the Ministry of Health in 1987.

NACP has been the coordinating body of the national response under the Ministry of Health/Ghana Health Service (GHS) until September, 2000 when the Ghana AIDS Commission was inaugurated. The objectives of the plans have been to reduce further transmission of infection and to mitigate the effects of HIV/AIDS on the infected and affected. Priority interventions have focused on promotion of safe sex, condom promotion, improved management of STDs, safe blood, infection control, nursing/clinical care and counseling and home-based care.

The HIV prevalence has been declining over the years from 3.2% in 2003 to 2.0% in 2014 according to reports from the National AIDS Commission (GAC, 2016).

The Ghana Demographic and Health Survey GDHS (2014) estimate prevalence among the general population to be 2.0 % (GHS/ NACP 2016). The Ghana AIDS Commission estimated national prevalence among adults age 15 to 49 years in the year 2018 was 1.69% with variations among the regions. The report indicated that Ahafo Region has the highest prevalence of 2.66%, Bono Region 2.48%, Greater Accra 2.06%, Eastern 2.03%, Ashanti 1.9%, Central region 1.84%, Western North 1.78%, Volta 1.63%, Western 1.49%, Bono East 1.43%, Oti 1.04%, Upper West 0.83%, Savannah 0.75%, Upper East 0.61%, Northern 0.4% and North East 0.39% (GAC, 2018)

Comprehensive management of persons infected with HIV and AIDS patients has been shown to reduce mortality in addition to improving their quality of life of the infected. Highly Active Anti- Retroviral Therapy (HAART) was incorporated into the public sector in May 2003 as part of the Family Health International –National AIDS

Programme (FHINACP) collaboration in a pilot project in the Manya Krobo district of the Eastern Region (GHS/NACP, 2010). The issue of HIV and AIDS related stigma and discrimination are pervasive worldwide and PLHIV in Ghana, as elsewhere, face stigma and discrimination (GAC, 2016).

2.2 Theoretical development of the concepts of stigma and discrimination

The concepts of stigma and discrimination have been discussed extensively by social scientists beginning from Erving Goffman whose foundational exposition on stigma has influenced many terminologies used in stigma and discrimination discourse. Other contemporary theorists have also helped to shape current understanding of stigma and discrimination related to HIV and AIDS. Goffman (1963) explained the etymology of stigma as bodily signs or marks branded on a person to signify something unusual and bad about the moral status of the person and advertised that he or she was a slave, a criminal, or a traitor – a blemished person, ritually polluted, to be avoided, especially in public places as cited by (Affedzie, 2018). Parker and Aggleton (2003) have expatiated on the concept of stigma as not a static individual attribute but rather as a social process used to maintain order in society by identifying deviants and using stigmatization and discrimination to exert social control over them.

2.2.1 Stigma and Discrimination related to HIV and AIDS

In the context of HIV and AIDS, the attribute that is discredited is HIV infection and AIDS. Having HIV infection or AIDS is perceived as a negative attribute which marks or tarnishes the person who has it and reduces his human dignity.

According to Avert (2016), HIV and AIDS related stigma and discrimination (SAD) refers to —prejudice, negative attitudes and abuse directed at people living with HIV and AIDS. Stigma against people living with HIV and AIDS is rooted in and fueled by

the historical and unfortunately still enduring perception among some people that HIV and AIDS are conditions of deviants including sexually promiscuous people, prostitutes, men who have sex with men and injecting drug users (Stutterheim, 2013).

This perception is erroneous since it is established that HIV and AIDS is not a preserve of such perceived social deviants alone. For instance, healthcare providers may get infected with HIV through needle stick injuries and people may get infected through mother to child transmission as well (Wolf and Lo, 2001). However, this wrong perception seems not go away and of course, it will not just go away unless it is consciously fought with appropriate interventions.

2.3 The Extent of HIV Related Stigma and Discrimination

According to the 2014 Ghana Demographic Health Survey (GDHS), 67.7 percent of adults (15-49) responded No to the question: —Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV? This indicates high levels of stigma and discrimination (SAD) against PLWHA among the general population (UNAIDS, 2017).

Stigma and Discrimination are used to create —difference and social hierarchy. While this theoretical premise generally facilitates understanding of the twin concept of stigma and discrimination, in Ghana and elsewhere, it is also instructive to note that many people who discriminate against HIV positive people may be oblivious to how their attitudes and actions inadvertently foster unsafe behavior among the general population as well as the psychological aspects of the phenomenon.

This is even more evident in the Ghanaian populace where comprehensive knowledge about HIV prevention for women and men were as low as 33.8% and 39.1% respectively according to the Ghana Multiple Indicator Cluster Survey

.Previous studies on HIV-related stigma and discrimination in Ghana, such as the Ghana Demographic Health Survey (GDHS), the 2009 collaborative study by GTZ/ReCHT featuring —Stories on the experiences of PLHIV| and subsequent survey on stigma and discrimination against PLHIV and high risk groups conducted in Tema and Accra, as well as existing qualitative studies, reveal high levels of non-accepting and differentiating attitudes among the general population (GAC, 2014).

The People Living with HIV Stigma Index documents the experiences of people living with HIV. As of 2015, more than 70 countries were using the HIV Stigma Index, more than 1,400 people living with HIV had been trained as interviewers, and over 70,000 people with HIV have been interviewed. Findings from 50 countries indicated that roughly one in every eight people living with HIV is being denied health services because of stigma and discrimination (UNAIDS 2017). A survey of married HIV-positive women (15–29 years) in India found 88% of respondents experienced stigma and discrimination from their family and community. Women with older husbands and from household's with lower economic status were significantly more likely to experience stigma and discrimination from their husbands' family as well as from friends and neighbours (Halli *et al.*, 2017)

2.4 Forms of HIV Related Stigma

Stigma is usually categorized into two main forms namely, External stigma [the experience of individual treated differently by other people] and Internal stigma [the way a person feels about himself or herself [eg shame, fear of rejection or discrimination] (GAC, 2014). The external and internal form of stigma is considered by Interventionists as distinct and has often been classified into these two categories namely felt (internalized) and enacted (externalized) stigma.

2.4.1 External or Enacted HIV related Stigma

The external or Enacted HIV related stigma is conceived as the attitude or actions expressed toward people living with HIV which includes rejection, avoidance, intolerance, stereotyping, judgmental attitudes, discrimination, disrespect, physical violence or verbal ridicule (Aubrey *et al.*, 2013). Inequalities in social and economic power are the foundation on which stigmatization is promulgated. When women and other groups including the poor and the homeless become infected with HIV or develop AIDS, their already disadvantaged status, subjects them to higher levels of differential treatment (Mahajan *et al.*, 2008).

2.4.2 Internalized Stigma

Internal HIV stigma related refers to feelings, beliefs or actions within or instigated by the person living with HIV /AIDS. Internal stigma includes the way individuals think about themselves. PLWHA tend to experience feelings of shame, inferiority complex, and embarrassment or lack a sense of purpose. Perhaps related to these experiences is a belief in the stereotype that HIV infections are the result of sexual misbehavior (GAC, 2014).

2.4.3 Various manifestations of HIV related stigma

Senzanje (2011) identified four forms of HIV related stigma.

2.4.3.1 Social Stigma

Social stigma excludes people living with HIV from family and community events, resulting in their loss of power and respect in the community (ICWR, 2010).

Isolation includes loss of social networks, decreased visits from neighbours (for fear of infection), and reduction of daily interactions with family and community and exclusion

from family and community events. Isolated from community, are some of the manifestations of social stigma. Loss of social role/identity social (—death), including loss of standing and respect.

2.4.3.2 Physical Stigma

Physical stigma includes isolation such as separate sleeping quarters in the home or a separate seating area in places of worship (ICWR 2010). Violence is a particularly harsh form of physical stigma faced principally by women. Both women and girls report increased violence at the hands of their partners for requesting condom use, accessing voluntary testing and counseling, refusing sex within or outside marriage or forced testing HIV-positive (UNAIDS, 2007).

2.4.3.3 Verbal Stigma

This kind of language derives from, and contributes another aspect underpinning blame and distancing people's fear of life-threatening illness (UNAIDS 2005). Some of the names used to refer to PLHA imply that they have no chance of living and are just waiting to die (Kafuko, 2009). The print and electronic media have reinforced blame by using languages that suggest that HIV is a 'woman's disease', a 'junkie's disease', an 'African disease' or a 'living ghost' ('osaman)' in the local dialect or 'plague' (UNAIDS, 2005). Gossip, taunting, scolding, labeling in Africa —moving skeleton—walking corpse and —keys to the mortuary In Vietnam: —social evils and —scum of society are some of the expressions of verbal stigma related to PLHIV.

2.4.3.4 Institutionalized Stigma

Institutionalized stigma occurs when institutions such as school, church, organizations or employers, practice stigma either actively or passively. People who are already stigmatized often face increased discrimination when diagnosed with HIV, including

refusal of services (DFID, undated). HIV infected individuals may face termination of appointment, hostility, denial of gainful employment, forced resignation or retirement (UNAIDS, 2000). Institutionalized stigma has been reinforced through barred from jobs, scholarships, visas, denial of health services, police harassment (e.g. of sex workers). Avert (2016), identified other forms of HIV stigma and discrimination;

2.4.3.4 Governmental Stigma

A country's discriminatory laws, rules and policies regarding HIV can alienate and exclude people living with HIV, reinforcing the stigma surrounding HIV and AIDS. In 2014, 64% of countries reporting to UNAIDS had some form of legislation in place to protect people living with HIV from discrimination (UNAIDS, 2015).

2.4.3.5 Healthcare Stigma

Health care professionals can medically assist someone infected or affected by HIV, and also provide life-saving information on how to prevent it. However, HIV-related discrimination in healthcare remains an issue and is particularly prevalent in some countries. It can take many forms, including mandatory HIV testing without consent or appropriate counseling.

Health providers may minimize contact with, or care of, patients living with HIV, delay or deny treatment; demand additional payment for services and isolate people living with HIV from other patients (UNAIDS 2017). For women living with HIV, denial of sexual and reproductive health and rights services can be devastating.

A study of health providers in urban health facilities in India found 55-80% of providers displayed a willingness to prohibit women living with HIV from having children, endorsed mandatory testing for female sex workers (94-97%) and stated that people

who acquired HIV through sex or drugs "got what they deserved" Grossman and (Stangyl, 2013). These experiences may leave people living with HIV and people from key affected populations too afraid to seek out healthcare services, or be prevented from accessing them – for instance, if a nurse refuses to treat a sex worker after finding out about their occupation.

2.4.3.6 Employment stigma

In the workplace, people living with HIV may 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.

Key findings from people living with HIV in nine countries across four regions in 2012 found that, as a result of their HIV status, between 8% (Estonia) and 45% (Nigeria) of respondents had lost their job or source of income; between 5% (Mexico) and 27% (Nigeria) were refused the opportunity to work, and between 4% (Estonia) and 28% (Kenya) had the nature of their work changed or had been refused promotion. In addition, 8% of respondents in Estonia to 54% in Malaysia reported discriminatory reactions from employers once they were aware of the employee's HIV status. Similarly, 5% in Estonia to 54% in Malaysia reported discriminatory reactions from co-workers who became aware of their colleague's HIV status (ILO, 2012).

2.4.3.7 Community and household level stigma

Community-level stigma and discrimination towards people living with HIV can force people to leave their home and change their daily activities. In many contexts, women and girls often fear stigma and rejection from their families, not only because they stand to lose their social place of belonging, but also because they could lose their shelter,

their children, and their ability to survive. The isolation that social rejection brings can lead to low self-esteem, depression, and even thoughts or acts of suicide (Well Project, 2016). In the Dominican Republic, six out of ten women were living with HIV fear being the subject of gossip, while in Ethiopia, more than half of all women living with HIV report having low self-esteem. A similar study conducted by (Ogunmefun *et al.*, 2011) revealed that older women in South Africa experienced secondary stigma in a form of gossip, name calling and rejection at the hands of community members. Stigma and discrimination can also take particular forms within community groups such as key affected populations.

Ryan White Programme (2017) explored the experienced of HIV related stigma for people living with HIV in five African countries namely Lesotho, Malawi, South Africa, Swaziland and Tanzania identified verbal and physical abuse and neglect (disallowing of access to service and opportunities) experienced by PLWHA by nurses caring for them and disclosing their HIV positive status to family, friends or community members.

Bogart *et al.*, (2008), in a qualitative study identified enacted stigma in the form or rejection, verbal insults, ostracism by family members and friends as avoidance related to the fear of HIV infection.

A cross sectional study involving 220 participants by (Rutayuga, 2011) assessed common forms of HIV related stigma among PLHIV by items, adapted from the validated Tanzania HIV/AIDS indicator survey .Four forms of stigma were assessed included Isolation (5 items), verbal stigma (2 items), Loss of identity or role (2 items) and loss of access to resource and livelihood (5 items). Isolation was measured in the form of exclusion from social gathering, abandonment, lack of visits by family members or friends and isolation in households (refusal to eat with the respondent or

sleeping alone in the room). Verbal stigma was explored in the form of gossip, voyeurism and taunting. Loss of identity or role in the community was checked using items of loss of respect or standing within the family or in the community and denial of religious rites. Denial of rights to health, education and employment or loss of housing or having property taken away was used to assess loss of access to resource and livelihood.

2.5 Causes of HIV related stigma

Research conducted among general populations around the world has revealed three immediately actionable causes of HIV related stigma in a community. One is the lack of awareness of what stigma looks like and why is it is damaging.

Two is the fear of causal contact stemming from incomplete knowledge about HIV transmission and the third, values linking people with HIV to improper or immoral behavior (Nyblade *et al.*, 2009). In most parts of Africa, including Ghana, AIDS related stigma is rooted in misconceptions and myths about the spread of the disease and beliefs associated with certain kinds of sexual activity and fear about becoming infected (Cao *et al.*, 2006).

Myths includes the idea that HIV is a supernatural disease and spread by witchcraft and as a punishment for those who engages in sexual promiscuity (Tenkorang *et al.*, 2011).

In Ghana, HIV is mainly transmitted mainly through heterosexual intercourse, and the disease was initially identified with commercial sex workers, victims were of the disease were thought of having engaged in illicit sexual behavior and hence deserve no sympathy from society. Such misconception has fueled discriminatory attitudes towards those infected or affected by the disease (Tenkorang *et al.*, 2011). HIV related stigma and discrimination often stem from incomplete understanding of how

HIV is transmitted. A survey conducted in Ethiopia involving 402 participants revealed that, 15 % thought that HIV can be transmitted by kissing, 30% thought it can be transmitted through mosquito bite and 10% through food (Banteyerga *et al.*, 2004). Fear that HIV can be transmitted through casual contact, for example through non- invasive interactions such as touching a person living with HIV or sharing dinning plates and utensils can also lead to stigma and discrimination.

A comparative community-based study conducted in four international sites (Thailand, South Africa, Zimbabwe and Tanzania) showed that despite widespread and accurate knowledge of HIV transmission, participants in all states described fear of transmission from casual contact and this fear led to the social isolation and neglect of PLHIV (Suzanne *et al.*, 2009)

Religious doctrines, moral and ethical positions regarding sexual behavior, sexism and denial of the realities of HIV/AIDS have helped create the perception that those infected have sinned and deserved their “punishment” (Senzanje, 2011).

Similar views by the Christian community of regarding HIV/AIDS as a punishment have been expressed in literature. A baseline assessment conducted in three districts in Malawi reported that close to 40% of religious leaders interviewed felt that, HIV was a punishment from God /Allah. Key informants reported that when preaching the clergy referred to those that are positive as receiving punishment for their prostitution (MIAA, 2006). Chitando (2007) pointed out that the failure to develop a vaccine to cure HIV has been taken by some people as confirming Gods punishment for stubborn and sinful generation. In traditional theology, God rewards good and punishes evil.

HIV is attributed to humanity’s refusal to follow Gods commandment. Promiscuity and rebelliousness in all its forms are the reasons why the epidemic exists, according to this

line of thinking. Fatoki (2016) identified poor information strongly contributes to stigma and discrimination. A qualitative study involving in-depth interview and focus groups discussions identified inadequate knowledge and information contributes to stigma and discrimination.

2.6 Methods of Measuring ART Adherence

The two methods for measuring adherence are direct and indirect methods; among the indirect methods are patient's self-reports, electronic drug monitoring, pill counts and pharmacy refill records. The direct method for measuring ART adherence include detection of drugs or drug metabolites in the blood plasma (Osterberg and Blaschke, 2005)

2.6.1 Patient self-report

Patient self-report is the most widely used adherence measure. It has advantages of low staff and respondent burden, is inexpensive, flexible, and takes very little time. Studies have also indicated that self-reports correlate well with both viral load and clinical outcomes (Berg and Arnsten, 2006). Self-report allows for a discussion of reasons for missed doses and potential solutions. Respondents are asked to report the number of doses they missed during a specified recall period. The limitation of selfreport is that of over-estimating of adherence by some patients. According to a study by (Amberbir *et al.*, 2008) on predictors of ART adherence among HIV infected patients, self-reported dose adherence in the study area was 94.3%, but the composite adherence rate considering the combined adherence indicators of dose, time and food was 75.7%.

2.6.2 Pill counts

The return of excess pills provides tangible evidence of non-adherence. Pill counting requires both that patients bring the pill bottle to the visit, and that there is sufficient time to count the pill.

2.7 Barriers to ART adherence

Patients level of knowledge on HIV and ART, socio-cultural factors such as stigma, medication regimen factors such as dosing complexity; poor patient-healthcare provider relationship and ineffective system of care are among the barriers to ART adherence (Cama, 2015).

2.7.1 Demographic Characteristics

Many studies in this area found that demographic characteristics such as age, gender, education, income, housing status, illiteracy, low level of education, and poverty may have significant effect on adherence (Brown, 2011)

Patient's knowledge about HIV and ART is an essential factor influencing adherence. A study by (Olowookere *et al.*, 2012) found that patients with good knowledge about HIV/AIDS and ART and a positive attitude towards the disease tend to be more adherent to ART than those with poor knowledge. Another study by (Boateng *et al.*, 2013) also demonstrated that knowledge and understanding of ART could influence patient adherence to ART. There is therefore the need to strengthen educational interventions aims at increasing the understanding of ART by both literate and illiterate persons in society as necessary to developing positive behaviour and enhance adherence to ART.

2.7.2 Socio-cultural factors affecting adherence

Social and cultural issues such as beliefs about diseases and medicines, as well as disclosure and support from family members and others have serious implications on adherence.

Failure to disclose HIV status to family members and friends was seen as a barrier to successful adherence, the partner on ART may resort to hiding pills, occasionally skipping medications and failure to keep clinic appointments for refills or review (Kagee *et al.*, 2011).

2.7.3 Fear of Stigma and Discrimination

People Living with HIV (PLHIV) are sometimes unwilling to disclose their HIV status because of the fear of stigmatization and discrimination (Khamarko, 2013). Failure of patients to disclose their HIV positive status affects adherence in different ways.

It leads to patients taking their ART secretly and irregularly because it becomes difficult for them to take their drugs when they are among people to whom they have not disclosed their HIV status (Deacon, 2006). They are not able to receive adequate social support and encouragement to take their drugs regularly and on time (Portelli *et al.*, 2012).

2.7.4 Estimating medication Adherence

There is no existing gold standard by which adherence can be quantified and many predictors have been reported to influence it. The study therefore chose to quantify adherence from self-recalled report data collected from participants at exit face-to-face interview. This was measured based on patient self-report and was limited to the preceding week, in order to minimize the limitations of human memory.

Self-reported adherence was classified as ‘adherent’ when not a single dose was missed or non-adherent if the patient or client having missed at least one dose. The level of adherence to PLHIV to ART was calculated using the formula: Adherence percentage % over 7 days = $\frac{\text{Number of pills taken}}{\text{Number of pills prescribed} - \text{Number of pills missed}} \times 100$ (Kanu, 2017).

A score of 95% and above represented good adherence and less than 95 % was rated as poor or optimum adherence (Prasitsuebsai *et al.*, 2018). The GHS recommends fixed dose combinations of drugs as preferred to single dose preparations because they improve adherence (NACP 2016).

The triple fixed dose formulations are the preferred treatment regimen in Ghana (NACP 2016).

Adult fixed dose combinations available in Ghana are; Abacavir + Lamivudine + Zidovudine 300mg +150mg +300mg; 60mg+30mg +60mg NACP (2016).

2.8 The Influence of HIV Related Stigma on Treatment Adherence

HIV treatment adherence is a complex concept involving many domains: the patient; the disease; the medical care settings including treatment, relationship to caregivers, and the wider healthcare system; and the socio-cultural context including stigma and discrimination (Ammassari *et al.*, 2004). Adherence is defined as the extent to which a person’s behaviour in taking medication corresponds with agreed recommendations from a healthcare provider (Sianturi *et al.*, 2019).

Adherence to ART is the key to successful treatment of patients as well as containment of drug resistance. High levels of adherence ($\geq 95\%$) are strongly correlated with disease suppression and reduction of morbidity and mortality rates among people infected with HIV and can suppress HIV to undetectable levels (Kioko

2017). However, studies conducted in some African countries have reported lower ART adherence levels. These include 70% in Botswana, Tanzania and Uganda, 62.6% in Togo, 68% in Kenya and 25% in South East Nigeria and 62.2% in Ghana (Kioko 2017). Several studies have identified stigma and discrimination as contributor to poor adherence to ART medication among persons living with HIV (Yakhmi *et al.*, 2014; Florom-Smith, 2012; Woliski, 2009; Mamboleo *et al.*, 2018).



CHAPTER THREE

3.0 METHODOLOGY

3.0 Introduction

This chapter discusses the methodology used in this research. It describes the study population, sample, research design, research setting, sampling technique, research instrument, data collection and data analysis as well as ethical considerations.

3.1 Study type and design

A hospital based cross sectional study using quantitative methods was used to collect information between July to September 2019. The cross sectional study was chosen because the study was meant to collect information and there was no follow up to the participants to the study.

3.2 Profile of the study area

This study was carried out at the St. John of God and Bomaa Government Hospital in the Tano North Municipality of Ghana. The Municipality is part of the newly created Ahafo Region.

It was upgraded into municipality in 2018 by a Legislative Instrument. The Municipality used to be part of the then twenty-nine Administrative Districts in the Brong Ahafo Region; it was carved out of the Tano District in 2004 and upgraded into a district with the Legislative Instrument (LI) 2267. The Municipality has Duayaw-Nkwanta as its Administrative Capital.

3.2.1 Location and size

The Municipality lies between Latitudes 7° 00' N and 7° 25' N and Longitudes 2° 03' W and 2° 15' W. It has a total land area of 837.4 square kilometers and constitutes about

1.8 percent of the total land area of the Brong Ahafo Region. It is located along the Kumasi to Sunyani Trunk Road after Bechem.

3.2.2 The Geographical Area

The Tano North Municipality shares boundaries with Sunyani Municipal in the North West, Asutifi District in the South West, Ahafo Ano South District in the Ashanti region in the South, Tano South Municipal in the South West and Offinso Municipal also in Ashanti Region to North East as indicated in appendix 2.

3.2.3 Population distribution

The municipality has a projected population of 97,723 for 2018 from the 2010 Population and Housing Census (PHC) with a growth rate of 2.4%. This constitutes 3.5 percent of Brong Ahafo Region's population.

50.5% (49,350) of the population are females and 49.5% (48,373) are males. There are almost equal proportions of the population living in urban and rural areas. The WIFA population constitutes 24.8% which is estimated at 24,235.

Table 3.1: Population by Sub Municipals

SUB MUNICIPAL	POPULATION
ADROBAA	11,727
BOMAA	18,567
DUAYAW NKWANTA	30,294
TANOSO	16,613
YAMFO	20,522
TOTAL	97,723

Source: MHD Annual Report, 2018

3.2.4 Health Facilities in the Municipality

The municipality has 25 functional CHPS zones, 6 CHPS, 5 Health Centres, 2 Hospitals and 2 clinics. The municipal hospital is a CHAG referral facility which offers both curative and preventive services.

The facility offers specialist services in the areas of Obstetrics and Gynecology, Urology, ENT, Orthopaedics, Physiotherapy and Mental Health. The facility operate 24 hour service and offers daily ART service.

3.2.5 Health Institutions in the Municipality

The municipality has four health training schools that train mid-level health personnel for the country's human resource need namely Yamfo College of Health, Community Health Nurse's Training College, Presbyterian Midwifery Training School and St. John of God College of Health.

Table 3.2: Top Ten OPD Morbidity 2018

Disease	Number of Cases
Malaria Tested Positive	31616
Upper Respiratory Tract Infections	24467
Diarrhoea Diseases	12385
Skin Diseases	11720
Rheumatism & Other Joint Pains	10847
Acute Eye Infection	9052
Transport injuries (Road Traffic Accidents)	7974
Acute Urinary Tract Infection	6817
Anaemia	5283
Intestinal Worms	4098

Source: MHD Annual Report, 2018

3.3 Study population

The study was conducted among Persons living with HIV /AIDS in Tano North Municipality of Ghana who assess anti- retroviral treatment at the two hospitals. Statistics obtained from the Municipal Health Directorate and the St. John of God Hospital indicated that the registered number of persons living with HIV was 1200, with about 600 active clients.

According to (Asiamah, Mensah and Oteng-Abayie, 2017), populations used in research may be characterized as general, target and accessible population. General population is the entire group of individuals with similar characteristics about which some information is required. Target population is a subset of the general population from which a sample is obtained for the study. Accessible population is a subset of the target population that is available to be selected and studied. In this study, the general population comprised of all persons living with HIV registered in the municipality.

3.3.1 The Study sample

The subset of the population from which information is collected for a study is the sample. Data was collected from 156 PLWHA selected out of the 1200 PLWHA registered. They were selected from the St. John of God and Bomaa Government Hospital.

3.4 Sampling

3.4.1 Sample size determination

A sample size of 156 PLWHA was used for the study. This was computed using the mathematical formula;

$$n = \frac{N}{1 + N(a)^2}$$
 Where n=Sample size, N Sample frame (1,200) and (a) represented the margin of error which is 0.08 with Confidence Interval (CI) of 92%.By substituting 1,200 and 0.08 into the formula

$$:n = \frac{1200}{1 + 1200(0.08)^2}, n=156$$

Therefore, the sample size for study was One Hundred and Fifty Six (156). This was to ensure that the sampled mean was closer to the population mean and minimize errors.

The sample size chosen was depended on the financial resources and the stipulated period of the study.

3.4.2 Sampling technique and procedure

The sampling procedure used in this study was purposive. This method was used to select the study subjects because the two hospitals have integrated HIV clinics into their services. It was also cost effective considering time and the disease condition under study. The procedure was that, a record officer was engaged as a data clerk whom together worked with the principal investigator. He was responsible to follow the clients who came every day and connected them with the principal investigator and the other trained research assistants to administer the questionnaire. The interviews were conducted only after obtaining an informed consent from the participant. The participants were also fully informed of their right not to participate in the study if they so wish from the outset and also, they have the right to withdraw from the study anytime they wanted to.

3.4.3 Inclusion criteria

The inclusion criterion was HIV positive adult's clients who has been initiated on ART. They should have been on treatment for at least three months and consented to participate in the study.

3.4.4 Exclusion criteria

The exclusion criteria were HIV positive clients who declined informed consent. Children and adults on treatment less than three months or critically ill to respond to the questions were excluded from the study.

3.5 Data collection technique and tools

The data collection technique was interview and the tool was a structured questionnaire. Collection was done by the principal investigator and three trained research assistants via face-to-face interview. The research assistants were trained for a day on how to collect the data, such as explaining the purpose of the data collection and explaining each item without inducing bias to the respondents, how to check the data for its completeness, and how to handle difficulties felt by the participants during the interview process such as by referring the participant to a counselor where the need arise. The interviews were conducted in designated places in the pharmacy, laboratory and the available empty doctor's consulting room or the HTC room at the Reproductive and Child Health Department to ensure privacy.

3.6 Data handling

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

3.7 Data analysis

The data collected were analyzed using SPSS software and STATA for regression analysis. Descriptive statistics such as frequency tables and charts were used to present variables. Chi-square tests were calculated and p-values of less than 0.05 were accepted as being statistically significant for all associations.

3.8 Pre-testing

A pre-test of the technique and tool designed to be used to collect the data was done to identify possible challenges associated with the design, technique and tool intended to be used. The pre-test participants had similar characteristics as those that actually took part in the study. The questionnaire designed for data collection was pre- tested for reliability by selecting 15 PLWHA at Bechem Hospital in the Tano South District. This was done to determine respondents understanding of the question and the appropriate corrections made before the actual study began.

3.9 Ethical considerations

Permission to conduct the study was obtained from the Municipal Director of Health Services (Tano North), the management of St. John of God Hospital, and the Committee for Human Research and Publication Ethics of Kwame Nkrumah University of Science and Technology (KNUST) and Komfo Anokye Teaching Hospital (KATH).

Confidentiality and anonymity of subjects were maintained by non-inclusion of names.

Written Informed consent was obtained from each participant prior to enrolment in the study after the aim and objectives of the study were explained to them.

Participants were told that participation was voluntary and that they have the right to withdraw from the study at any time. They were also told that refusal to participate in the study would not in any way affect them. They were assured that any information obtained from them would be kept strictly confidential.

3.10 Limitations of study

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

CHAPTER FOUR

4.0 PRESENTATION OF RESULTS

4.1 Introduction

This chapter describes the accrued information obtained from the participants to assess the HIV related stigma and associated factors among antiretroviral treatment clients.

4.2 Participant Demographic Characteristics

Table 4.1: Participant Demographic Characteristics

Variable	Frequency (%)	Mean (SD)
<i>Gender</i>		
Male	57 (36.5%)	
Female	99 (63.5%)	

Age (years)			
20-29	29	18%	40.77 (±10.69)
30- 39	53	(34%)	
40-49	40	(27%)	
50-59	27	(17%)	
60+	7	(4%)	
Educational level			
None	30	(19.2%)	
Basic	61	(39.1%)	
Secondary	51	(32.7%)	
Tertiary	14	(9.0%)	
Religion			
Christian	69	(44.2%)	
Muslim	34	(21.8%)	
Traditionalist	46	(29.5%)	
Other	7	(4.5%)	
Marital Status			
Divorced	19	(12.2%)	
Married	80	(51.3%)	
Single	33	(21.2%)	
Widow	24	(15.4%)	
Occupation			
Civil Servant	25	(16.0%)	
Farmer	43	(15.4%)	
Self Employed	69	(44.2%)	
Unemployed	19	(12.2%)	

Source: Field Data, 2019

Table 4.1 presents results on the demographic characteristics of the respondents presented in this study. From the table, the mean age of the participants was 40.77 (±10.69) years. 63.5% of the entire sample population was females with the rest of the

36.5% who were males. Though 19.2% of the respondents had no history of a formal education, 39.1% had completed up to the basic level with only 9% who had completed their tertiary level of education. The rest of the 32.7% had completed up to the secondary level of education.

Moreover, regarding their religious status, 44.2% of the respondents were Christians, 21.8% were Muslims, 29.5% were Traditionalist and the rest of the 4.5% of them belonged to other religious groups apart from the aforementioned religious groups. Further, more than half (51.3%) of the participants were married as at the time of the study. The rest of the respondents were either single (21.2%), widowed (15.4%), or divorced (12.2%). Regarding the occupation of the participants involved in this study, 44.2% representing majority of the participants were self-employed. The rest of them were either Civil servants (16.0%), Farmers (15.4%), or unemployed (12.2%) as seen in Table 4.1.

4.3 Objective One: HIV related stigma among persons living with HIV

The participants were assessed based on the extent to which they agree or disagree to the HIV related stigma among persons living with HIV.

Table 4.2: HIV related stigma among persons living with HIV

	Agree (%)	Disagree (%)	Neutral (%)
Difficult to tell people about my HIV infection	141 (90.4%)	6 (3.8%)	9 (5.8%)
Being HIV positive makes me embarrassed	80 (51.2)	56 (35.9%)	20 (12.8%)
I feel guilty that I am HIV positive	67 (42.9%)	67 (42.9%)	22 (14.1%)
I feel ashamed that I am HIV positive	74 (47.4%)	62 (39.7%)	20 (12.8%)
I feel sometimes worthless because I am living with HIV	88 (56.4%)	51 (32.7%)	17 (10.9%)
It is my own fault that I am HIV positive	30 (19.2%)	96 (61.5%)	30 (19.2%)
I hide my HIV positive status from others	121 (77.6%)	12 (7.7%)	23 (14.7%)

I feel certain that I can tell my partner that I have HIV	66 (42.3%)	56 (35.9%)	34 (21.8%)
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Source: Field Data, 2019

From Table 4.2 a substantial majority of 90.4% of the respondents responded that they found it difficult to tell people about their HIV infection, with only 3.8% who had no difficulty in telling people about their HIV infection. Meanwhile, more than half (51.2%) of the HIV patients responded that their HIV positive status makes them embarrassed with 35.9% who were not embarrassed about their HIV positive status.

12.8% of them however were not sure whether they were embarrassed or not. Moreover, 42.9% and 47.4% responded that they were guilty and ashamed respectively that they are HIV positive though 42.9% and 39.7% did not harbor any feeling of guilty or shame respectively about their HIV positive status. The study further reveals that more than half (56.4%) of the patients felt worthless because they were living with HIV with 32.7% of them who did not have any feeling of worthlessness of their HIV positive status. Meanwhile, majority (61.5%) of the respondents did not blame themselves for having HIV though 19.2% blamed themselves for having HIV. 77.6% representing a higher percentage of the participants hide their HIV positive status from other people with only 7.7% who had no issue with people finding out about their HIV positive status. Furthermore, 42.3% had confidence that they could inform their partners about their HIV status though 35.9% said they were not certain if they could inform their partners about their HIV status. 21.8% of the respondents however were not sure whether they can inform their partners or not.

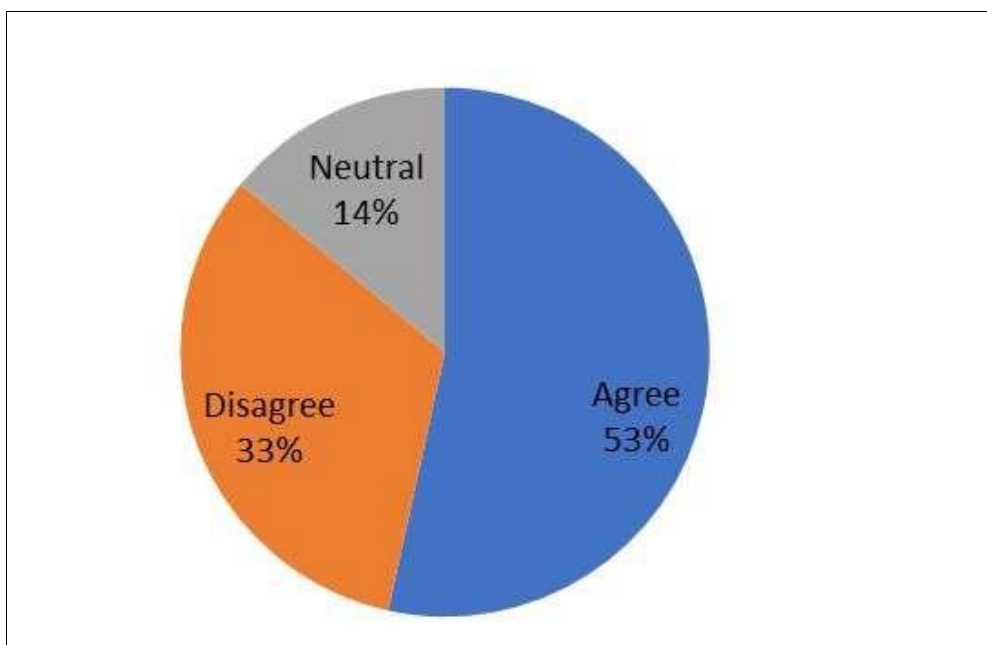


Figure 4.1: The extent of HIV related stigma

Source: Field Data, 2019

4.4 Objective Two: Various forms of HIV related stigma experienced by persons living with HIV

The study further assessed the various forms of stigma that are experienced by persons living with HIV.

Table 4.3: HIV related stigma experienced by PLWHIV

	YES	NO
Isolation from social gathering	32 (20.5%)	124 (79.5%)
Abandoned by your spouse/partner?	57 (36.5%)	99 (63.4%)
Abandoned by your family members/community members	50 (32.1%)	106 (67.9%)
No longer visited or visited less by family and friends?	96 (61.5%)	60 (38.4%)
Isolated in the household	22 (14.1%)	134 (85.9%)
Teased, assaulted or sworn at?	82 (52.6%)	74 (47.4%)
Gossiped about?	130 (83.3%)	26 (16.7%)
Lost respect/standing within the family and or community?	23 (14.7%)	133 (85.3%)

Denied religious rites/services	12 (7.7%)	144 (92.3%)
Loss of customers to buy your produce/goods or lost a job?	30 (19.2%)	126 (80.8%)
Denied promotion or training?	3 (1.9%)	153 (98.1%)
Lost housing or not being able to rent housing	0 (0.0%)	156 (100%)
Given poorer quality of services	16 (10.3%)	140 (89.7%)

Source: Field Data, 2019

Table 4.4: Summary of the forms of stigma

STIGMA FORM	YES %	NO %
Isolation	33	67
Verbal stigma	68	32
Loss of identity	11	89
Loss of access to resources	8	92

This study summarizes that 33% of the respondents have ever been isolated before as against 67 % who have not been faced with isolation .68% have been verbally stigmatized as against 32 % not have been verbally stigmatized. A total of 11% have ever been face with stigma involving loss of identity whilst 89% have not faced such problem. On loss of access, 8% have ever lost access as against 92 % who reported not having lost access as reported.

4.5 Objective Three: Participants response on the causes of HIV related stigma

Table 4.5: Participants response on the possible causes of HIV related stigma

	Agree (%)	Disagree (%)
Lack of information about the mode of transmission of HIV /AIDS	135 (86.6%)	21 (13.5%)
Fear of HIV transmission through casual contacts such as sharing cooking utensils	130 (83.3%)	26 (16.7%)
Silence and denial about people living with HIV	111 (71.2%)	45 (28.8%)
Secrecy surrounding disclosure of HIV infection	100 (64.1%)	56 (35.9%)
Association of HIV with improper or immoral behavior	96 (61.5%)	60 (38.5%)

Failure to adhere to religious teachings regarding sexual relations	67 (42.9%)	89 (57.1%)
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Source: Field Data,2019

Table 4.5 presents results on the possible causes of HIV related stigma as responded by the participants in this study. From the table, Lack of information about the mode of transmission of HIV/AIDS (86.6%) was the most highly reported cause of HIV related stigma,

Fear of HIV transmission through casual contacts like sharing cooking utensils (83.3%), Silence and denial about people living with HIV (71.2%), Secrecy surrounding disclosure of HIV infection (64.1%), and Association of HIV with improper immoral behavior (61.5%). Majority of the participants however disagreed (57.1%) that failure to adhere to religious teachings regarding sexual relations was a cause of HIV related stigma among persons living with HIV as seen in Table 4.7.

4.6 Objective Four: The influence of stigma on treatment adherence for persons living with HIV

The study further assessed how HIV related stigma influence treatment adherence for persons living with HIV.

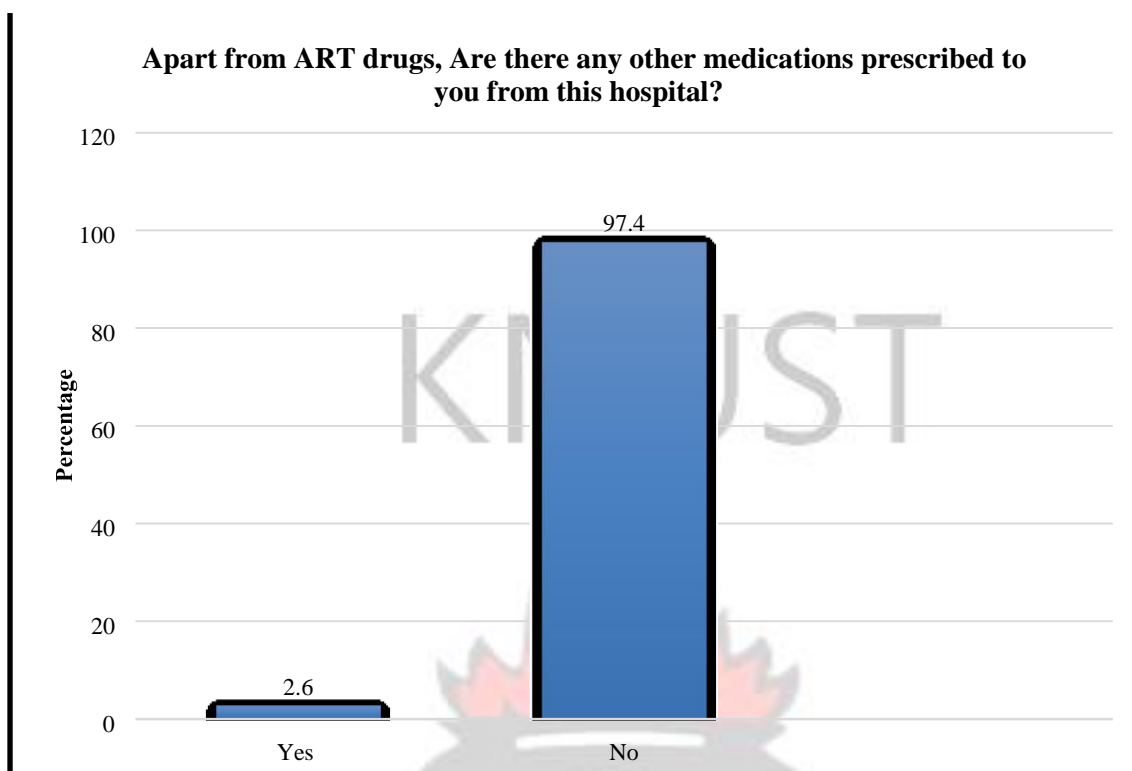


Figure 4.2: Participant response on other medications prescribed in the hospital apart from ART drugs?

Source: Field Data, 2019

From Figure 4.2, a substantial majority of the respondents (97.4%) were not prescribed any other medications apart from ART drugs with only 2.6% who had received other medications from the hospital apart from ART drugs.

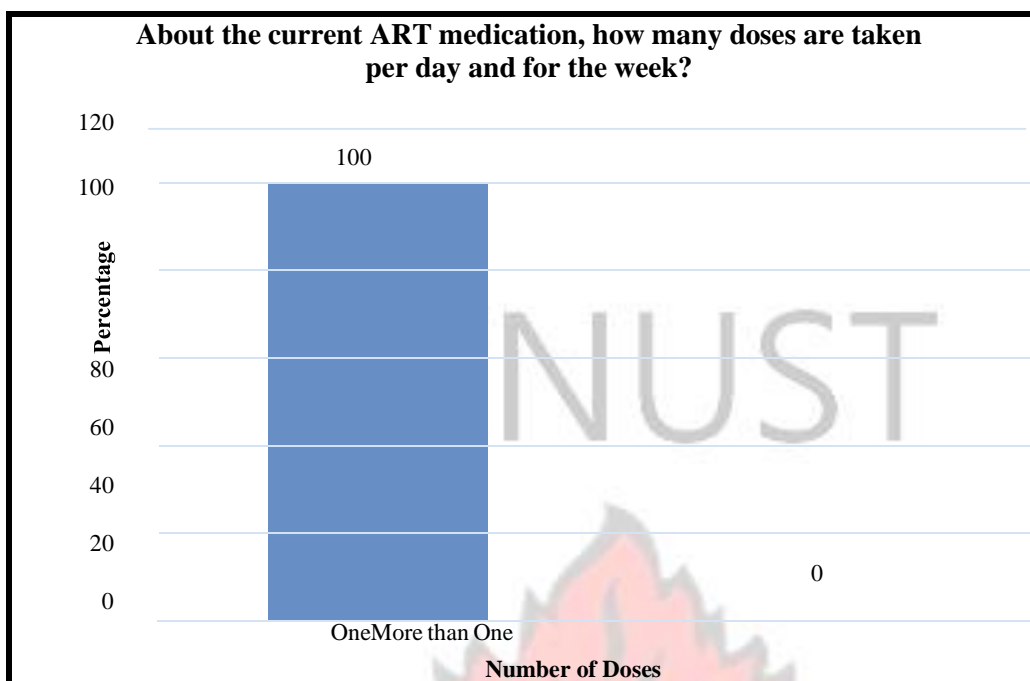


Figure 4.3: About the current ART medication, how many doses are taken per day and for the week?

Source: Field Data, 2019

Figure 4.3: Participant response on the number of doses taken per day for the week

From Figure 4.4, regarding the current ARV medication the respondents were taking, all the participants (100.0%) took one dose per day for the week. None of the respondents took more than one dose per day of the ARV medication.

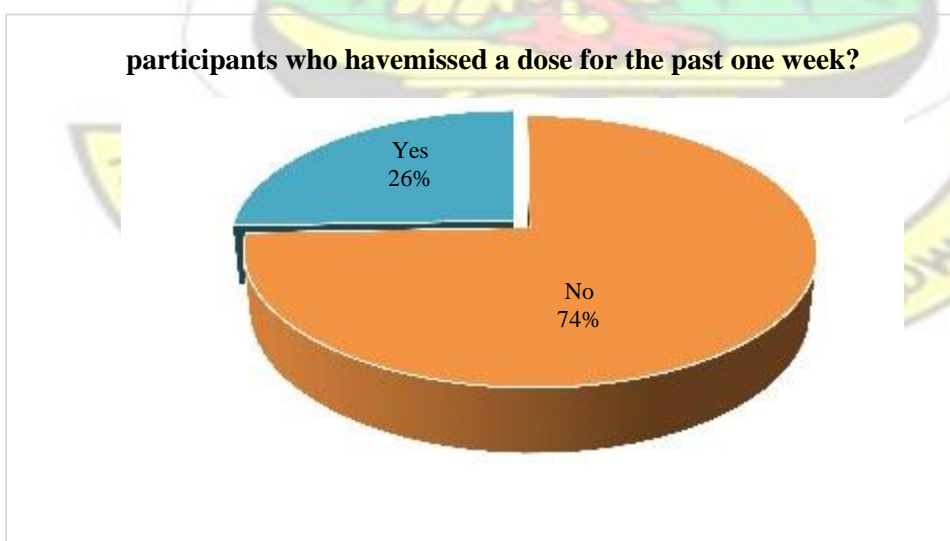


Figure 4.4: Have you missed a dose for the past one week?

Source: Field Data, 2019

Figure 4.5: Participant response if they had missed any dose for the past one week

From Figure 4.5, majority 115 (74%) of the respondents had not missed some doses for the past one week as at the time of the study. However, only 41 (26%) of the participants had missed some doses for the past one week as at the time of the study.

4.7 Reasons for non-adherence to ART medications

Table 4.6: Reasons for Non-adherence of participants to ART medications

	Yes (%)	No (%)
Fear of stigma and discrimination	23 (15%)	133 (85%)
Side effects of the drug/adverse drug reaction	3(2%)	153 (98%)
Shortage of drugs	0 (0.0%)	156 (100%)
Forgetfulness	1 (0.6%)	155 (99.4%)
Lack of family support	10 (7.7%)	144 (92.3%)
Transportation cost	2 (2.3%)	154 (97.7%)
Being extremely ill	0 (0.0%)	156 (100%)
Multiple drugs to swallow	0 (0.0%)	156 (100%)
Being busy	1 (0.6%)	154 (99.4%)
Lack of food to take drugs with	1 (0.6%)	155 (99.4%)

Source: Field Data, 2019

Table 4.6 presents results on the reasons for non-adherence of participants to ART medications. From the table, Fear of stigma and discrimination (15%) and lack of family support (7.7%) were the most reported reason for non-adherence of the patients to ART medications. Side effects of the drugs (2%), transportation cost (2.3%), forgetfulness (0.6%), being busy (0.6%), and lack of food to take drugs with (0.6%) were the least reported reasons for non-adherence of the patients to ART medication. Meanwhile, none of the respondents gave shortage of drugs (0.0%), being extremely ill (0.0%), and multiple drugs to swallow (0.0%) as a reason for nonadherence to ART medication.

Table 4.7: Relationship between adherence to ART medication and the sociodemographic characteristics of the participants

Characteristic	Adherence to ART Medication		
	Yes	No	<i>p</i> -value
Age of respondents			0.886
Gender			
Female	21 (21.2%)	78 (78.8%)	0.135
Male	18 (32.1%)	38 (67.9%)	
Educational level			
Basic	19 (31.1%)	42 (68.9%)	0.345
Secondary	10 (19.6%)	41 (80.4%)	
Tertiary	1 (7.1%)	13 (92.9%)	
No formal education	9 (30%)	21 (70%)	
Employment Status			
Civil Servant	2 (8.3%)	22 (91.7%)	0.441
Farmer	15 (34.9%)	28 (65.1%)	
Self Employed	16 (23.5%)	52 (76.5%)	
Unemployed	7 (35%)	13 (65%)	
Religious denomination			
Christian	10 (14.5%)	59 (85.5%)	0.125
Muslim	11 (32.4%)	23 (67.6%)	
Traditionalist	17 (37%)	29 (63%)	
Other	1 (14.3%)	6 (85.7%)	
Marital status			
Divorced	6 (31.6%)	13 (68.4%)	0.236
Married	15 (18.8%)	65 (81.2%)	
Widowed	9 (37.5%)	15 (62.5%)	
Single	9 (28.1%)	23 (71.9%)	

Source: Field Data, 2019

From Table 4.7 above, age (*p* value = 0.886), gender of participants (*p* value = 0.135), educational level (*p* value = 0.345), employment status (*p* value = 0.441), religious denomination (*p* value = 0.125) and marital status (*p* value = 0.236) had no statistically significant association with adherence of the patients to the ART medications given at the hospital. Nevertheless, adherence to ART medication was highest in females as

compared to males. Regarding educational level, adherence to ART medication was least in patients who had completed their tertiary level of education. Traditionalists were more adherent to ART medication as compared to Muslims and Christians. Respondents who were married were found to be more adherent to ART medication more than those who were single, divorced or widowed as seen from table 4.7

Table 4:8 Bivariate analysis of factors associated with adherence to antiretroviral treatment

Variables	Adherence to antiretroviral treatment		P – value
	Adherence n(%)	Non-Adherence n(%)	
Isolated from social gathering Yes No	15(9.68) 101(65.16)	17(10.97) 22(14.19)	0.001*
Abandoned by your spouse/partner Yes No	39(25.16) 77(49.68)	18(11.61) 21(13.55)	0.160
Abandoned by your family members/ community members Yes No	31(20.00) 85(54.84)	19(12.26) 20(12.90)	0.011*
No longer visited or visited less by family and friends Yes No	66(42.86) 49(31.82)	29(18.83) 10(6.49)	0.060
Isolated in the household Yes No	9(5.87) 107(69.03)	13(8.39) 26(16.77)	0.001*
Teased, assaulted or sworn at Yes No	56(36.36) 59(38.31)	26(16.88) 13(8.44)	0.052
Gossiped about Yes No	93(60.00) 23(14.84)	36(23.23) 3(1.94)	0.079
Lost respect/standing within the family and or community Yes No	13(8.39) 103(66.45)	10(6.45) 29(18.71)	0.028*
Denied religious rites/services Yes No	6(3.87) 110(70.97)	6(3.87) 33(21.29)	0.039*

Loss of customers to buy your produce/goods or lost a job Yes No	21(13.55) 95(61.29)	9(5.81) 30(19.35)	0.496
Denied promotion or training Yes No	3(1.94) 113(72.90)	0(0.00) 39(25.16)	0.311
Lost housing or not being able to rent housing Yes No	- 116	- 39	-
Given poor quality of services Yes No	7(4.55) 108(70.13)	9(5.84) 30(19.480)	0.003*

***Chi square significant at $p < 0.05$**

Source: Field Data, 2019

A bivariate analysis was conducted to ascertain the association between forms of stigma faced by HIV/AIDS patients vis-a-vis their adherence to antiretroviral treatment. A chi square (χ^2) test was conducted to establish the association between these variables at a significance level of 0.05. It was revealed that a statistically significant association exists between adherence to antiretroviral treatment vis-à-vis clients being isolated from social gathering (p-value = 0.001), clients being abandoned by your family members/community members (p-value = 0.011), clients being isolated in the household (p-value = 0.001), clients losing respect/standing within the family (p-value = 0.028), clients being denied religious rites/services (p-value = 0.039) and clients being given poor quality of services (p-value = 0.003). However, the association was **—not—** statistically significant for the other variables as illustrated.

Table 4:12 Multivariable logistic regression of factors influencing adherence to antiretroviral treatment

Variables	OR	95% CI	P – value
Isolated from social gathering Yes No	2.85 Ref	1.06 - 7.67	0.038*

Abandoned by your family members/community members Yes No	1.28 Ref	0.51 - 3.19	0.597
Isolated in the household Yes No	2.72 Ref	0.87 - 8.45	0.085
Lost respect/standing within the family and or community Yes No	1.31 Ref	0.67 - 0.39	0.667
Denied religious rites/services Yes No	0.95 Ref	0.18 - 4.98	0.955
Given poor quality of services Yes No	2.95 Ref	0.91 - 9.61	0.072

***Chi square significant at $p < 0.05$**

Source: Field Data, 2019

By running logistic regression analysis on the factors that had a statistical significant association with adherence to antiretroviral treatment, it was ascertained that respondents who are being isolated from social gathering were approximately 3 times likely to adhere to antiretroviral regimen (OR: 2.985; CI: 1.06 - 7.67; p-value: 0.038). The other variables which had association with adherence at the bivariate analysis were not statistically significant in the logistic regression analysis.

CHAPTER FIVE

5.0 DISCUSSIONS

5.1 Introduction

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

5.2. General information

Seventy –Eight (78%) of the respondents in this study were in the age range of 20-49 years. The mean age of the respondents was 40.77(\pm 10.69). This is in line with the 2014 Ghana Demographic and Health (GDHS) report and many other studies in Ghana which reported increasing prevalence of HIV infection among people age between 15-49 years.

Majority (63.5%) of the respondents were females as compared to 36.5% males. This may be partly the reflection of the gender differential of HIV prevalence in the country which is also reflected in the gender distribution of the participants. According to the GDHS (2014), HIV prevalence in women age 15-49 was 2.8 percent, while that for men 15-49, was 1.1 percent. The HIV Prevalence among females is consistently higher than among males at the age groups. The high prevalence in women simply brings to light vulnerability of women to the HIV/AIDS infection, mainly due to biological factors, which are usually favored by sociobehavioral practices and socio-economic differences (Ajong *et al.*,2018).

Educational level for many of the respondents was low. Thirty- nine point one (39.1%) listed of the respondents had Basic (Primary/Junior High/Middle School) education as their highest level of education, 19.1% of the respondents had never been to school, 32.9% had secondary school education, and only 9% respondents had tertiary level of education.

Some publications reviewed showed that, a high level of education is associated with a better understanding of HIV/AIDS and consequently, reduced disease-related stigma. (Ajong *et al.*,2018). For instance, a facility-based cross-sectional study conducted in Ethiopia in 2015 reported high level of education to be significantly associated with reduced HIV-related stigma among PLHIVA (Aman,2016). Moreover, regarding religious status, most of the respondents 44.2% were Christians, 29.5% were Traditionalist, 21.8% were Muslims and the rest of the 4.5% belonged to other religious groups apart from the afore mentioned religious groups.

Further, more than half (51.3%) of the participants were married as at the time of the study. The rest of the respondents were either single (21.2%), widowed (15.4%), or divorced (12.2%). Regarding the occupation of the participants involved in this study, 44.2% representing majority of the participants were self-employed. The rest of them were Civil servants (16.0%), Farmers (15.4%), or unemployed (12.2%).

The gender of participants (p value = 0.135), educational level (p value =0.345), employment status (p value = 0.441), religious denomination (p value = 0.125) and marital status (p value = 0.236) had no statistically significant association with adherence of the patients to the ART medications given at the hospital. However, a study conducted by(Rutayuga 2011) held a contrary view that patients who are divorced, widowed or cohabiting were more likely to adhere to ART medication than those that were legally married. The design of this study does not allow establishing

reasons for this variation, it is possible that fear of stigmatizing responses and low partner disclosure can explain the variation.

5.3 HIV related stigma among persons living with HIV

The participants were assessed based on the extent to which they agree or disagree to the HIV related stigma among persons living with HIV.

The summary of the findings indicated that, most participants 83 (53%) agreed that HIV related stigma among PLHIV was high as against 51(33%) who disagreed. Twenty-two 22(14%) neither agreed nor disagreed to the question posed. Several studies supported the assertion that HIV related stigma and discrimination were high among PLHIV. This finding was consistent in a similar study conducted in Ethiopia with significantly high levels of perceived stigma among persons living with HIV (Fido , 2016). The result also supports the GDHS (2014) report which lends credence to the fact of earlier questions that most people 67.7% would not buy fresh vegetable from HIV known positive clients.

A higher prevalence of perceived stigma (95.8%) was, however, found in a qualitative study in South Africa by (Abrahams and Jewkes, 2012). The study did not assigned reasons for the perceived high level of stigma among PLHIV. A study conducted in Cameroon by (Ajong *et al.*, 2018) cited multiple studies in the African context as having reported high rates of HIV related stigma among HIV positive patients. Notable reasons could be attributed to low level of education and sociocultural factors underpinning stigma and discrimination in the African context (Dahlui *et al.*, 2015)

This study did not established the gender issues related to HIV related stigma but in a study conducted in Kenya ,more females living with HIV were reported stigmatized

than their male counterparts. The reasons could be built on gender related prejudices (Fido – Nikus ,2016).

5.4 Various forms of HIV related stigma experienced by persons living with HIV

Table 4.3 summarizes the forms of stigma experienced by being treated differently by others because of their HIV positive serostatus. The assessment was done by asking a series of questions for each of the four stigma forms of isolation, verbal stigma, loss of identity role and loss of access to resources as tabulated.

Of all respondents, 33% affirmed at least one question assessing isolation; 68% affirmed either being gossiped about, sworn at, insulted, or experienced teasing. About 11% of the respondents have lost respect in the community and had ever being denied religious rites because of their seropositive status. There were patients who reported loss of access to customers to buy produce and healthcare. However none of the respondents reported of denial of training or not able to rent housing or having lost housing because of their status. Using these items about 37.4% experienced at least one aspect of this form of stigma.

A cross sectional qualitative study by(Temitayo *et al.*,2013) in the South African city of Kwazulu Natal made similar revelations about verbal stigma related to HIV in which health workers reported of gossiping about PLHIV thereby compromising patients confidentiality. The findings of the (Ghana Index Stigma, 2014) report supported some of the findings, 37.2% had experienced gossip once, few times or very often. 22% had been verbally insulted or harassed, 10.3% had been physically harassed or threatened and a little below 9.6% had been excluded from social gathering and family activities.

The study reported that more females were verbally insulted, harassed or physically assaulted than male respondents. However this study did not identify which of the sexes

experienced HIV related forms of stigma. Verbal stigma was the highest form of HIV related stigma among PLHIV in the Tano North municipality. This may explained from the cultural point of view as people are eager to know health status of others .It may be due to unemployment in the municipality where majority are jobless hence they resort to gossip. Another reason could be attributed to low comprehensive knowledge about HIV. A similar- cross sectional study indicated, 58 % of persons living with HIV experienced gossip, verbal insults and harassment (Fido-Nikus, 2016)

This evidenced is supported by the National AIDS Control Program which cited low comprehensive knowledge about HIV which contributes significantly to stigmatizing, discriminatory attitudes and prejudices towards PLHIV. The Ghana Demographic and Health Survey (2014) show low and declining knowledge about HIV and AIDS (18% and 30% for women and men respectively).

5.5 Participant's response to the possible causes of HIV related stigma.

This section asked participants series of questions to get their understanding about the causes of HIV related stigma among people living with a HIV. The responses indicated that, 86% of the respondents agreed to the statement that, lack or inadequate information about the mode of transmission of HIV was the main factor responsible for HIV related stigma in the municipality. Even though literature and various studies about HIV transmission points to three main routes of transmission namely through sexual intercourse with an infected person ,contaminated blood transfusion and vertical transmission ,people still believe that mosquitos can transmit the HIV virus, even when people have some basic understanding of HIV and AIDS. This was supported in a survey which sampled 402 participants and revealed that 15% of respondents thought

that HIV can be transmitted through kissing, 30% thought it can be transmitted through mosquito bites (Banteyerga *et al.*, 2004).

HIV transmission is rooted in misconceptions and myths about the spread of the disease. Among some of the myths surrounding HIV are a supernatural disease and transmitted or spread by witches and witchcraft as cited by (Tenkorang and Owusu, 2013). Fear that HIV can be transmitted through casual contact, for example through non-invasive interactions such as touching a person living with HIV or sharing dining plates and cooking utensils also lead to stigma, as high as 83% agreed to this statement.

This statement has also been reported in the current anti-stigma and discrimination strategy document of the GAC 2016 -2020 strategic document .This is corroborated by a study by (Suzanne *et al.*, 2009), in which a comparative community based study conducted in four international sites showed that despite widespread and accurate knowledge of HIV transmission, participants described fear of transmission from causal contact and this fear led to the social isolation and neglect of PLWHA.

Senzanje (2011), affirmed nearly half of participants in a general population cited at least one of 12 scenarios of casual contact that they feared could transmit HIV of which exposure to saliva was shown to be the most common fear. The same casual contact of fear were exhibited by the participants .This confirms inadequate knowledge about the mode of transmission of the disease.

5.6 The influence of HIV related stigma on treatment adherence

This section elicited information about the medication clients are being prescribed, a substantial majority of the respondents (97.4%) were not prescribed any other medications apart from ART drugs with only 2.6% who had received other medications from the hospital apart from ART drugs. HIV infection is associated with opportunistic

infections or diseases such as Tuberculosis, some of the respondents might be taking anti tuberculosis medicines in addition to the ART drugs. However, this study did not provide details on other medications. The participants were taking the fixed dose medication from the hospital. This is in compliance with the newly introduced treatment regimen for ART management by the (GHS /NACP 2016).

The study adopted one week patients recalled method to identify adherence rate of ART medication. The ART adherence rate over the past seven days was calculated as one dose daily ($156-41=115/156 \times 100=74\%$), for a weekly dose, $156 \times 7 = 1092 - 287 = 805/1092 \times 100=74\%$. The adherence rate among persons living with HIV in the municipality assessing ART treatment was 74% and could be described as optimum.

Khalili (2012), found that the mean adherence rate based on patients self –report method was 69.4% ,64.6% and 68.8% in the first ,second and third month of follow up. This can be explained by the availability of antiretroviral medications which are %. A recent study on medication adherence conducted in 2015 indicated 67% optimum ART adherence was recorded using the patient self -report (Sam, 2015). A cross sectional study involving 201 HIV positive clients on ART treatment, in which overall lifetime adherence was found to be 62.2% while medication adherence in the last six months, last three months, last month, and last week were 73.6%, 87.1%, 91.0%, and 86.0% (Obirikorang *et al.*, 2013).

Latest report in a study conducted in Papua ,Indonesia revealed that ,based on self-reporting ,only 65.9% PLWHIV were adherent to ART medication (Sianturi *et al.*, 2019).

Talam *et al.* (2008) identified five reasons for non -adherence of PLWHIV to antiretroviral medication; Being away from home 68.8%, being busy 58.9%, forgetting 49%, having too many medicines to take 32.6% and stigma attached to ARVs

28.9%. There is therefore the need to take measures to address these factors which militate against adherence.

The optimal adherence rate recorded in this study based on PLWHIV self-report was 74% indicating that 26% were non-adherent to ART medication. Among the reasons for non-adherence were fear of stigma and discrimination 21.2%, lack of family support 7.7%, side effects of the ART drugs 3.8% and transportation related challenges 1.9%. A critical attention should be paid to stigma and discrimination as was cited a major obstacle in ART non adherence in this hospital. A similar study conducted in 2014 identified fear of stigma and discrimination for not disclosing ones HIV positive status among persons living with HIV/AIDS (Kuupiel, 2014).

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusions regarding assessing HIV related stigma and associated factors among ART clients at the St. John of God Hospital according to the objectives set for the study, based on the findings, recommendations and areas for further studies.

6.2 Conclusions

1. The proportion of HIV positive clients who agreed to the statement about the extent of HIV related stigma was 53% while those who disagree were 33%. This indicates that HIV related stigma among persons living with HIV accessing antiretroviral treatment at SJOGH hospital was high.

2. The forms of HIV related stigma experienced by persons living with HIV assessing anti- retroviral treatment were isolation (33%), verbal stigma (68%), loss of identity (11%) and loss of access to resources (8%).
3. The study identified inadequate information about the mode of transmission of the HIV virus and fear of HIV transmission through casual contacts as causes of HIV related stigma.
4. Bivariate and multivariate analysis identified isolation from household pvalue= 0.001, abandoned by family members p-value =0.011 given poor service p-value =0.003 as significantly associated with adherence to ART treatment. Logistic regression analysis indicated that ART clients who were isolated were likely to adhere to antiretroviral regimen (OR: 2.985: CI: 1.067.67, P-value 0.038) whilst side effects of drugs, forgetfulness, being busy and lack of family support as factors for non- adherence were not statistically significant.

The study concludes that HIV related stigma of isolation significantly influence treatment adherence. Therefore, targeted interventions should be developed to improve ART medication adherence in this person living with HIV group.

6.3 RECOMMENDATIONS

6.3.1 To the Individual PLHIV

People should avoid all forms of isolations as to encourage persons living with HIV /AIDS continue adhere to their medication.

6.3.2 To the hospital staff and management

Periodic training of service providers (doctors, nurses, pharmacist, and laboratory) in the provision of services in a non –stigmatizing way by ensuring privacy and confidentiality of clients and provision of psychosocial support to persons living with HIV.

6.3.3 To the Municipal health directorate

The MHD in collaboration with Newmont Ghana Gold Ahafo community (NGGL) should ensure engagement of traditional authorities and religious leaders by organizing anti-stigma durbars within the traditional area to educate the public on HIV related stigma and discrimination.

6.3.4 To the Tano North Municipal Assembly

Increase coverage of anti -stigma education programmes to all sub-municipalities, by addressing key drivers of stigma i.e .lack or inadequate knowledge, fear of casual transmission, and the weak enabling environment. The Municipal AIDS Committee (MAC) in the Municipal Assembly should be well resourced to play effective roles as collaborators in stigma reduction.

6.3.5 To the GAC /MOH/GHS

Interventions addressing comprehensive programme by the use of media including advertising campaign, entertainment designed to educate as well to amuse (edutainment) and integration of non- stigmatizing messages into local TV and radio should target the general population and community leaders, health care workers, policy makers, PLHIV and key populations.

Sensitize law- makers (Parliament) and law enforcement agents (police) on Human

Rights of PLWHIV and by enforcing the full implementation of the Ghana AIDS Commission Act, ACT (938) of 2016.

6.4 Further Research

The study proposes a qualitative research on stigma relating to medication adherence using multiple methods. This is because adherence is a dynamic process which changes with time, hence cannot be predicted by few patients' characteristics.

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APPENDICES

Appendix 1: Questionnaire form

My name is JOHN MACCARTHY AGGREY, a post graduate student in the Department of Health Education, Promotion and Disability Studies of the School of Public Health, Kwame Nkrumah University of Science and Technology, Kumasi .I'm conducting a study entitled Assessing HIV related stigma and associated factors among antiretroviral treatment clients at the St John of God Hospital, as part of the requirement for the award of master's degree in Public Health. I will like to include you as a study participant and will explain to you about the study and seek your consent to participate.

The aim of the study is to determine whether HIV related stigma influence treatment adherence. I will conduct the study under my supervisor. This is a medical research and you are required to understand the following, which apply to all in medical research. Your participation is voluntary and you may withdraw consent at any time in the course of the interview. Refusal to participate will not in any way affect your health service /benefits that you are entitled. After reading the explanation, do not hesitate to ask questions or clarifications in case you have one. I will assess you using an instrument, which will take 15 to 25 minutes. No invasive procedures such as drawing of blood will be involved.

All information obtained from this study will remain confidential. Serial numbers instead of names will be used in this study for identification.

There will be no direct benefits to you .However the overall study will be of benefit to other persons with HIV disease in terms of implementation and care. If you have any questions related to this study, you may call my personal line on 0248993547 or contact my lead supervisor Dr.

Emmanuel Nakua at the School of Public Health, Department of Epidemiology and Biostatistics, KNUST. Thank you.

A.Socio -Demographic Information

Let us discuss about your background information, please tick where appropriate

- 1 .Age (years) []
2. Gender a. Male [] b. Female []
3. Marital Status
 - a. Married [] b. Single [] c .Divorced [] d. Widow []
4. Educational Status/Level
 - a. None [] b. Basic [] c. Secondary [] d. Tertiary []
5. Religious Denominations
 - a. Christianity [] b. Islam [] c. Traditionalist [] d. Other []
6. Occupation

- a. Farmer [] b. Civil /public servant [] c. Self-employed [] d. Unemployed []

Section B. The Extent of HIV Related Stigma

I will now ask a few questions to get your thoughts and experiences of living with HIV.

Please indicate whether you agree or disagree to each statement by ticking where appropriate.

2- Disagree, 1 –Agree, 0-Neutral

7. It is difficult to tell people about my HIV infection []
8. Being HIV positive makes me embarrassed []
9. I feel guilty that I am HIV positive []
10. I feel ashamed that I am HIV positive []
11. I feel sometimes worthless because I am living with HIV []
12. It is my own fault that I am HIV positive []
13. I hide my HIV positive status from others []
14. I feel certain that I can tell my partner that I have HIV []

C. Forms of HIV Related Stigma

I will now ask you few questions about the common forms of HIV related stigma by ticking either, 1-YES or 0- NO to each response.

Because of your HIV positive status have you ever been:

15. Isolated from social gathering (party, wedding, burial ceremony, social gathering)? []
16. Abandoned by your spouse/partner? []
17. Abandoned by your family members/community members []
18. No longer visited or visited less by family and friends? []
19. Isolated in the household (made to eat alone/made to use separate eating utensils/made to sleep alone in a separate room)? []
20. Teased, assaulted or sworn at? []
21. Gossiped about? []
22. Lost respect/standing within the family and or community? []
23. Denied religious rites/services (marriage, communion, burial, singing in choir, prayers/ not allowed to church or mosque? []
24. Loss of customers to buy your produce/goods or lost a job? []
25. Denied promotion or training? []
26. Lost housing or not being able to rent housing []
27. Given poor quality of services (e.g. passed from provider to provider, not given medicine, treatment, surgery)? []

Section D. Causes Of HIV Related Stigma

To what extent do you agree or disagree to the following statements about the causes of HIV related stigma. 1- AGREE, 2- DISAGREE

- 28. Lack of information about the mode of transmission of HIV /AIDS []
- 29. Fear of HIV transmission through casual contacts such as sharing cooking utensils []
- 30. Fear of HIV transmission through casual contacts such as sharing cooking utensils []
- 31. Silence and denial about people living with HIV []
- 32. Association of HIV with improper or immoral behavior []
- 33. Failure to adhere to religious teachings regarding sexual relations []

Section E. ART Adherence Questionnaire

- 34. Apart from ART drugs, Are there any other medications prescribed to you from this hospital? 1 -Yes [] 0-No []
- 35. About the current ARVT medication, how many doses are taken per day and for the week? Please put in a figure []
- 36. How many doses have you missed for the past one week? Put in a figure []

Reasons for Non Adherence to ART Medications

There are several reasons why ART Clients or patients missed some of the doses or drugs, please identify among the options below which described your situation by ticking ,1-Yes or 0- No, You may tick more than one response.

- 37. Fear of perceived stigma and discrimination []
- 38. Side effects of the drug or adverse drug reaction []
- 39. Shortage of ART drugs or medication []
- 40. Forgetfulness []
- 41. Lack of family support []
- 42. Transportation cost []
- 43. Being extremely ill []
- 44. Multiple drugs to swallow []
- 45. Being busy []
- 46. Lack of food to take drugs with []

THANK YOU.

Appendix 2: Map of the Study Area



Source: Town Planning Department, Tano North

Appendix 3: Letter of Introduction

In case of the reply the number
and the date of this letter
should be quoted.



GHANA HEALTH SERVICE
MUNI.HEALTH DIRECTORATE
P. O. BOX 82
DUAYAW-NKWANTA

My Ref. No. GHS/MHD/TN/01/19

25TH MAY 2019

Your Ref. No.....

E-mail : tano.northdhd@yahoo.com

Telephone: 0244958936

THE HEAD OF DEPARTMENT
HEALTH EDUCATION AND PROMOTION
SCHOOL OF PUBLIC HEALTH
KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
KUMASI -GHANA

Dear Sir,

RE: LETTER OF INTRODUCTION

We acknowledged letter dated 17th May on the above request, the management of the Service has given approval for, Aggrey John Maccarthy , an employee with the Ghana Health Service (GHS) and a student of the Health Education and Promotion Department of the School of Public Health, College of Health Science , Kwame Nkrumah University of Science and Technology ,Kumasi to conduct a study entitled 'Assessing HIV related stigma and associated factors among antiretroviral treatment clients' in the Tano North Municipality,
Thank you.

LINDA ARTHUR
SNR .ADM. MANAGER
For: MUNICIPAL DIRECTOR OF HEALTH SERVICE
TANO NORTH -AHAFO REGION

Cc:
Aggrey ,John Maccarthy



Kwame Nkrumah
University of Science
and Technology, Kumasi

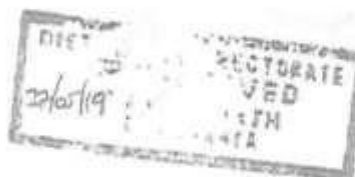
College of Health Sciences
SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF HEALTH PROMOTION AND EDUCATION

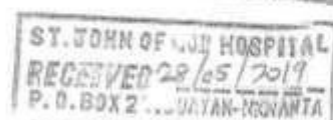
KNUST-SPH/ETHS/Vol.1

17th May, 2019

The Municipal Director
Municipal Health Directorate (MHD)
Tano North
Duayaw Nkanta
Ahafo Region



Dear Sir,



LETTER OF INTRODUCTION

This is to introduce to you, Maccarthy John Aggrey, an MPH student in the Department of Health Education and Promotion, School of Public Health Kwame Nkrumah University of Science and Technology.

He is working on a study titled "Assessing HIV related stigma and associated factors among antiretroviral treatment clients in the Tano North Municipality, Ahafo Region, Ghana.

The School humbly request your support and cooperation to enable him successfully complete his research work.

Thank you.

Yours sincerely,

Prof. Anthony Edusei
Head of department

Noted
22/5/19



Kwame Nkrumah
University of Science
and Technology, Kumasi

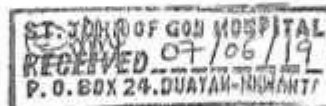
SCHOOL OF PUBLIC HEALTH

DEPARTMENT OF HEALTH PROMOTION AND EDUCATION

ENUST-SPH/ETHS/1

3rd June, 2019

The Administrator
St. John of God Hospital
Duayaw Nkwanta
Ahafo Region



Dear Madam,

LETTER OF INTRODUCTION

This is to introduce to you, Maccarthy John Aggrey, an MPH student in the Department of Health Education and Promotion, School of Public Health Kwame Nkrumah University of Science and Technology.

He is working on a study titled "Assessing HIV related stigma and associated factors among antiretroviral treatment clients at St. John of God Hospital in the Tano North Municipal Ahafo Region, Ghana."

The School humbly request your support and cooperation to enable him successfully complete his research work.

Thank you.

Yours sincerely,

Prof Anthony Idusai
Head of department

H. M. T.

Approved

Appendix 4: Letter of Approval



KWAME NKURUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY
COLLEGE OF HEALTH SCIENCES

SCHOOL OF MEDICAL SCIENCES / KOMFO ANOKYE TEACHING HOSPITAL
COMMITTEE ON HUMAN RESEARCH, PUBLICATION AND ETHICS



Our Ref: CHRPE/AP/578/19

30th September, 2019.

Mr. Aggrey John Maccarthy
School of Public Health
KNUST-KUMASI.

Dear Sir,

LETTER OF APPROVAL

Protocol Title: *"Assessing HIV Related Stigma and Associated Factors Among Antiretroviral Treatment (ART) Clients in the Tano North Municipality, Ahafo Region, Ghana."*

Proposed Site: *St. John of God Hospital, Duayaw Nkwanta and Boma Government Hospital, Ahafo Region.*

Sponsor: *Principal Investigator.*

Your submission to the Committee on Human Research, Publications and Ethics on the above-named protocol refers.

The Committee reviewed the following documents:

- A notification letter of 3rd June, 2019 from the Department of Health Promotion and Education, KNUST seeking permission to conduct the study at the St. John of God Hospital (study site) and it was approved.
- A Completed CHRPE Application Form.
- Participant Information Leaflet and Consent Form.
- Research Protocol.
- Questionnaire.

The Committee has considered the ethical merit of your submission and approved the protocol. The approval is for a fixed period of one year, beginning 30th September, 2019 to 29th September, 2020 renewable thereafter. The Committee may however, suspend or withdraw ethical approval at any time if your study is found to contravene the approved protocol.

Data gathered for the study should be used for the approved purposes only. Permission should be sought from the Committee if any amendment to the protocol or use, other than submitted, is made of your research data.

The Committee should be notified of the actual start date of the project and would expect a report on your study, annually or at the close of the project, whichever one comes first. It should also be informed of any publication arising from the study.

Thank you, Sir, for your application.

Yours faithfully,

Osomfo Prof. Sir J. W. Acheampong MD, FWACP
Chairman