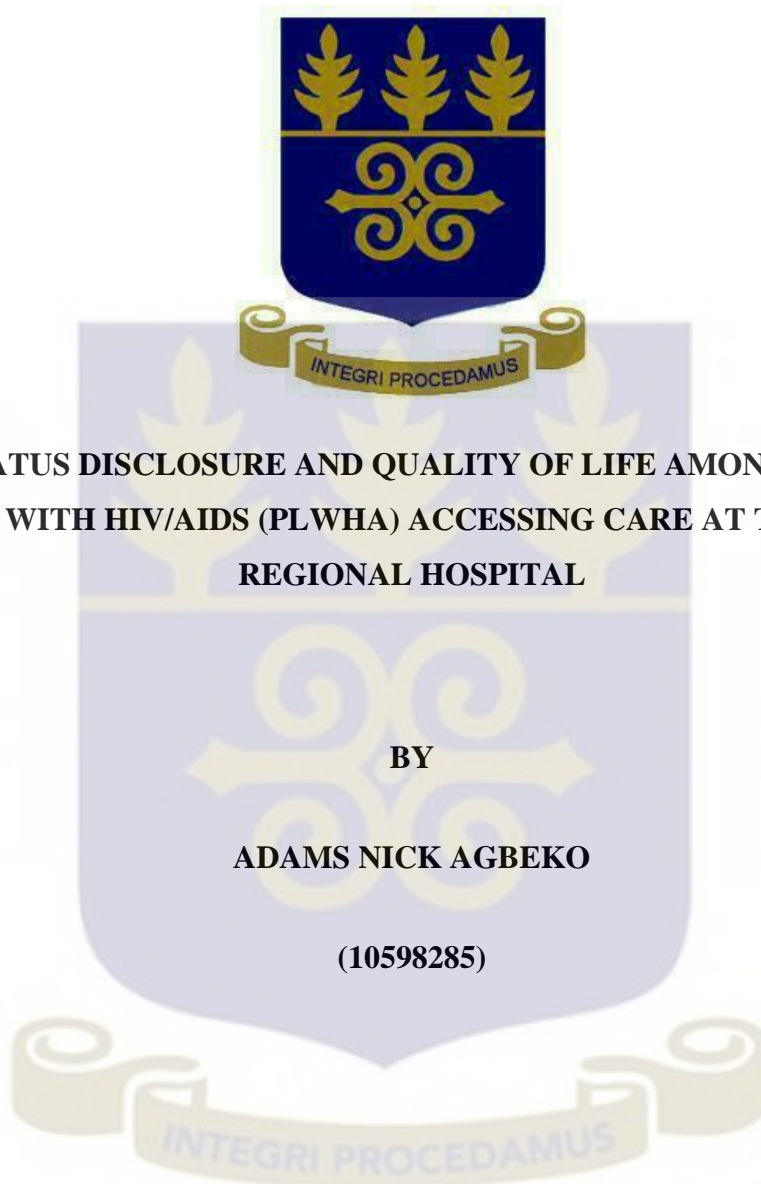


**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA, LEGON**



**HIV STATUS DISCLOSURE AND QUALITY OF LIFE AMONG PERSONS
LIVING WITH HIV/AIDS (PLWHA) ACCESSING CARE AT THE VOLTA
REGIONAL HOSPITAL**

BY

ADAMS NICK AGBEKO

(10598285)

**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF GHANA,
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AWARD OF MASTERS DEGREE IN PUBLIC HEALTH.**

DECEMBER, 2018

DECLARATION

I ADAMS NICK AGBEKO, declare that this thesis is my original work undertaken under the supervision of Dr. Deda Ogum Alangea. Works of other researchers used or cited in this work have been duly referenced. This work has not been presented elsewhere for another degree in this university or elsewhere.

Signature:.....

Date:.....

Adams Nick Agbeko

(Student)

Signature:.....

Date:.....

Dr. Deda Ogum Alangea

(Supervisor)

DEDICATION

This work is dedicated to my three adorable children namely Jason, Bryan and Janice.

ACKNOWLEDGMENT

I wish to express my profound gratitude to my supervisor Dr. Deda Alangea for her guidance, direction and valuable contributions which have helped in shaping this work.

My sincere thanks to all the staff of School of Public Health, Legon and especially the Department of Population, Family Health, Reproductive Health and the Department of Biostatistics who through diverse ways supported me in achieving this feat

I am also grateful to the staff of the ART clinic at the Volta Regional Hospital for their immense support and the patients and caregivers who consented to be part of this study.

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ABSTRACT

Background: Cases of Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) is on the rise. However, the availability of antiretroviral drugs has to a larger extent increased the survival of these patients in recent times. The increased survival often presents challenges to the quality of life of people living with HIV/AIDS (PLWHA) mainly due to adverse drug effects and or the prevailing socio-economic and cultural challenges associated with the disease condition.

Objective: To ascertain the effects of HIV status disclosure on the quality of life of PLHWA receiving care at the Volta Regional Hospital.

Methods: A cross-sectional facility-based study involving People Living with HIV/AIDS (PLWHA) assessing antiretroviral treatment at the Volta Regional Hospital. Quality of life (QoL) of respondents were assessed using the WHOQOL HIV BREF instrument. Data collated from the field was coded and entered manually into the Statistical Package for Social Scientist (SPSS) Version 22. Cleaning of data was carried out by running frequencies for all the variables observed. Data were then imported from SPSS into STATA version – 15 for analysis. Descriptive statistics were determined for measured outcomes reporting frequencies and proportions for categorical outcomes; means and standard deviations for continuous outcomes. Chi-Square test was used to establish the relationship between HIV status disclosure and socio-demographic factors. Welch's t-test was used to compare mean scores of various domains of QoL. Multiple linear regression analysis was used to examine the adjusted and joint effect of HIV disclosure status on quality of life domains.

Result: The study involved 311 PLWHA with 25.1% being males. Apart from the level of education ($p=0.047$) and years after diagnosis ($p<0.001$), all other demographic characteristics were not significantly associated with HIV serostatus disclosure.

Also, the study found that more than two-thirds of the respondents (68%) perceived that their quality of life was poor. PLWHAs who disclosed their HIV serostatus had a higher quality of life scores in all the six domains compared to those who had not disclosed their status. However, there was no significant association between status disclosure and the individual domains and all domains jointly ($F = 0.73$, $p\text{-value} >0.05$) after controlling for disclosure status and socio-demographic factors.

Conclusion: The study found that the majority of the participants had disclosed their HIV serostatus; with the least disclosure occurring among participants with less than one-year post-diagnosis. Receipt of support after disclosure was associated with better QOL scores on the environmental and social domains. Nevertheless, this study did not find an association between disclosure status and quality of life.

Key Words: HIV/AIDS, Quality of Life, Sero Status Disclosure

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LIST OF ACRONYMS/ABBREVIATIONS

ARV	Antiretroviral
AIDS	Acquired Immuno-deficiency Syndrome
ART	Antiretroviral Therapy
CVA	Cerebrovascular Accidents
ERC	Ethical Review Committee
GHS	Ghana Health Service
HAT-QoL	HIV/AIDS-Targeted Quality of Life
HIV	Human Immuno- deficiency Virus
HRQOL	Health Related Quality of Life
NACP	National AIDS Control Programme
OPD	Out Patient Department
SPH	School of Public Health
PMTCT	Prevention of Mother-To-Child Transmission
PLWHIV	People Living with HIV
PLWHA	People Living with HIV/AIDS
HRQOL	Health Related Quality of Life
UNAIDS	United Nations Programme on HIV and AIDS
WHOQOL	World Health Organization Quality of Life

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Human Immunodeficiency Virus (HIV) and acquired immunodeficiency syndrome (AIDS) has been characterized as one of the worst public health threats in history. Despite the reduction in AIDS-related deaths since 2005, according to UNAIDS, (2017) report; an estimated 36.7 million people in 2016 were living with HIV worldwide. Sub-Saharan Africa remains the region with the highest burden worldwide estimated at 1.5 million new infections in that same year (Joint United Nations Programme on HIV/AIDS (UNAIDS), 2015). Advances in HIV treatment have reduced mortality rates (Palella Jr et al., 1998) and increased the number of people living with HIV.

Between 1995 and 2014, about 7.6 million deaths have been averted due to the 13 million PLWH receiving ART globally (UNAIDS, 2015). The Sub-Saharan region of Africa witnessed the largest increment in the number of people receiving ART within the same period with about 4.8 million deaths being averted since the introduction of ART in the region (UNAIDS, 2015). In Ghana about 224,488 people were infected with HIV/AIDS in 2013 and out these, about 10,074 HIV deaths were recorded and 90,573 were given ART by the end of 2013 (GHANA AIDS COMMISSION, 2014).

As the world continues its fight against the HIV/AIDS epidemic, more emphasis is being placed on scale-up and adoption of effective strategies capable of preventing new infections and improving the quality of life of infected persons (Eustace & Ilagan, 2010). The advent of antiretroviral therapy (ART) and effective treatment protocols have given the opportunity to PLHWA to live longer lives, hence HIV is currently not perceived as a terminal illness, but a chronic condition that can be managed (Osinde, Kakaire, & Kaye,

2012). It is therefore imperative that all aspects of the health of people living with HIV/AIDS are being ensured (Golub, Tomassilli, & Parsons, 2009).

HIV serostatus disclosure by patients is an important factor that can contribute to the psychological and overall well-being of people living with HIV / AIDS and therefore needs special attention in this context. Self-disclosure influences the psychological health of individuals through stress reduction (Collins & Miller, 1994). Individuals with HIV/AIDS who disclose their status have better reproductive health choices and outcomes, as well as better adherence to ART (Waddell & Messeri, 2006). Disclosure may result in support for individuals to better cope with physical and psychological morbidities resulting from the HIV infection (Cohen, 2003).

However, HIV-status disclosure becomes challenging to patients due to the prevailing non-conducive psychosocial environments especially in developing countries often driven by negative attitudes of persons (Stutterheim, Shiripinda, et al., 2011). Stigma profoundly hinders progress at all levels and aspects of programmes aimed at managing the HIV epidemic.

The quality of life of persons living with HIV is greatly influenced by the availability of care and support from social relationships like close friends and family (Folasire, Irabor, & Folasire, 2012). However, infected persons are most likely to willingly access this support and care if they trust that disclosure of their HIV status will not result in any further ostracism which may likely affect their children and personal relationships which has often been the primary concern of many HIV positive people (Simoni, Demas, Mason, Drossman, & Davis, 2000).

Quality of Life (QOL) is defined by the WHO as individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in

relation to their goals, standards, expectations, and concerns (Kohli, Sane, Kumar, Paranjape, & Mehendale, 2005). This definition emphasizes a more holistic state of health and wellbeing. QOL is influenced by both tangible and intangible support received by a person under their peculiar circumstances (Cummins, 1997). Thus, in the context of limited resources and sub-optimal institutional support for patients, QOL and the reintegration of chronically ill patients including PLWHA becomes a challenge and the burden of care often placed upon the family; often resulting in degeneration or relationships or complete abdication of responsibility (Folasire et al., 2012).

1.2 Problem statement

There is evidence that HIV status disclosure even after undergoing voluntary HIV counseling and testing (VCT) in Sub-Saharan Africa is low with a marked restriction on the persons to which disclosure is made (Greeff et al., 2008).

Over decades of the HIV/AIDS disease in Ghana, the disclosure of one's status still remains a difficult task for most HIV positive individuals and hence poses a real challenge in providing treatment and clinical care to PLHWA (GHANA AIDS COMMISSION, 2014). HIV/AIDS acquisition in Ghana is generally considered a consequence of risky sexual behavior and highly stigmatized (Ulasi et al., 2009). The "hostile" social environment often confers negative psychological and mental health effects on patients, making them unwilling to disclose their serostatus (Bharat, 2011). Most patients, therefore live with feelings of guilt, lowered self-esteem and anxiety amongst others when their status is known by others. The negative psychosocial effects the environment has on PLWHA often persist even when physical conditions of patients are improved by ART (Blackstock, 2005). Irrespective of the challenges rightfully to be considered with disclosure, family and friends remain the main source of both material and social support to patients (Wouters, van Loon, van Rensburg, & Meulemans, 2009).

The willingness to disclose HIV serostatus to another (whether family or close friends) therefore becomes contingent on the desire for and the perceived support anticipated (Folasire et al., 2012).

Having shown the effect HIV of status disclosure on the QOL of PLWHA, it is worth noting that the wealth of studies done in Ghana have focused on either disclosure or quality of life among PLHWA independently (Fosu, 2016; Osei-Yeboah et al., 2017; Sakitey, 2010) however, there is no study that looked at status disclosure and quality of life among PLWHA in Ghana and the Volta region in particular. It is therefore of prime importance to know what the effect of HIV status disclosure is among PLHWA especially in the Volta region of Ghana, where in 2016 the HIV prevalence (2.7%) was reported to have been higher than the national prevalence of 2.4%. (Ghana AIDS Commission Sentinel Survey Report, (2016))

1.3 Conceptual framework on the study

Social relationships and their role in general healing processes have been highlighted by studies from multiple disciplines. Social relationships have an immense ability to positively influence patient care, supporting patient adherence to medications and treatment protocols and well as reducing the duration of hospitalization (Holt-Lunstad, Smith, & Layton, 2010). Various theories relating to healing in HIV have shown via models that the role of stress cannot be overlooked (Cohen, Underwood, & Gottlieb, 2000). These models, on one hand, suggest that the support from social relationships attenuates the effects of known stressors (Sheldon, Gottlieb Benjamin, & Underwood Lynn, 2001); on the other hand, social relationships provide some sense of belonging, improving self-esteem, encouraging healthier behaviors and thereby facilitating healing. (Cohen, 2004).

Based on these existing theories, this study will also adapt the social relationship model in its investigations on how HIV status disclosure may influence QOL among PLHWAs in the context of available support from all or either of the following: family (nucleus family member(s) or extended family member(s)); non-family member(s) and PLWHA group networks.

Social support encompasses both perceived and actual tangible and intangible resources from a social relationship (Cohen, 2004) including informational, helpful and emotional support (House, Kahn, McLeod, & Williams, 1985). Such social supports can reduce the effects of stressful experiences support treatment adherence and QOL of HIV patients (Wohl et al., 2011). Similar to the above findings, available support in the context of this study refers to material resources including medical expenses, cash for upkeep, food, shelter and clothing provided by a social relationship.

This study will, therefore, seek to determine the effect of HIV serostatus disclosure on quality of life among PLHWA.

Figure 1.1 below is the author's own conceptual framework on the proposed study to investigate the effect of HIV status disclosure on the quality of life of people living with HIV/AIDS.

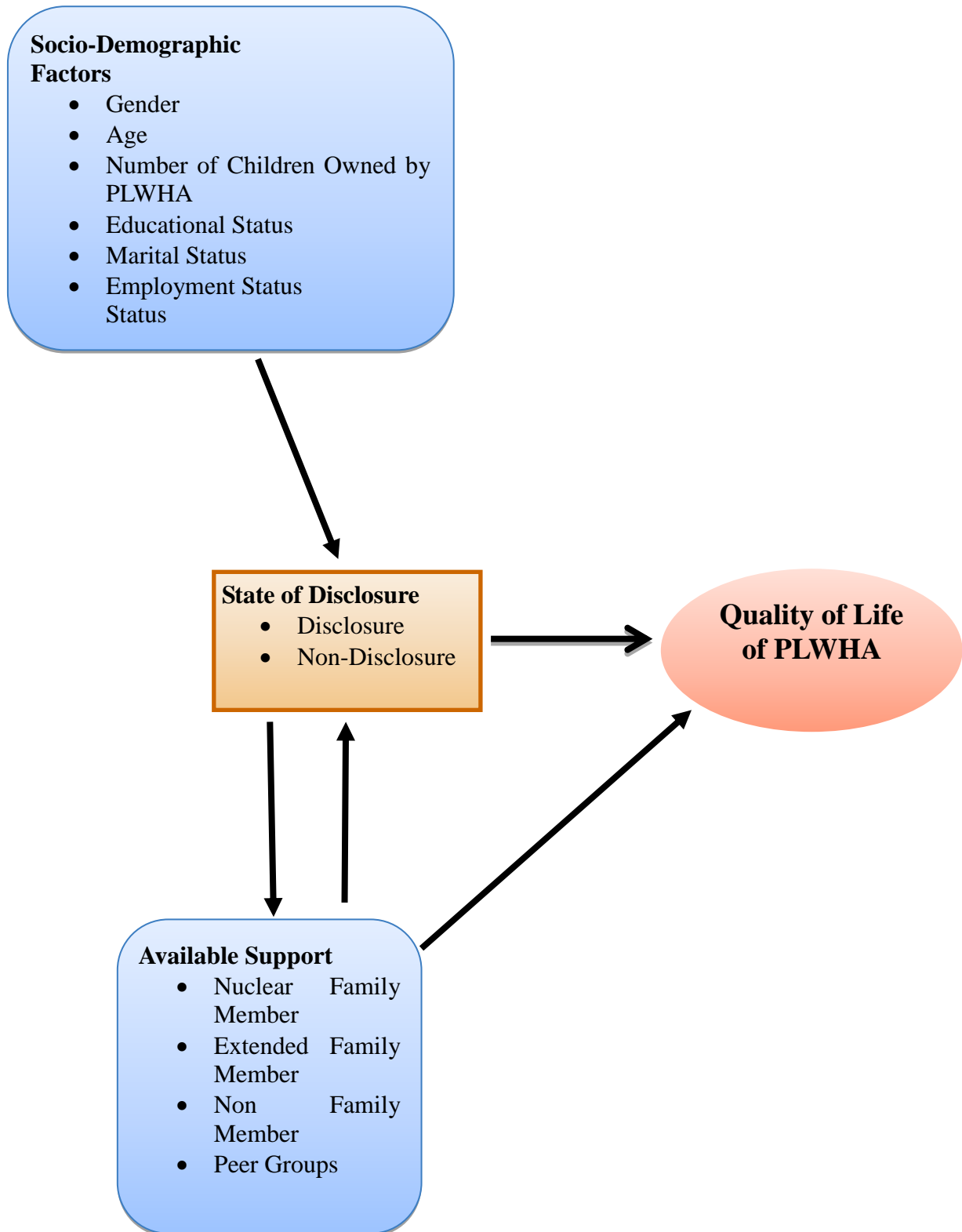


Figure 1.1: Conceptual Framework on HIV Disclosure and Quality of Life among PLWHA

Although other factors such as stigma and discrimination may affect the likelihood of PLWHA to disclose their HIV status, this study will focus on how other parameters such as the socio-demographic information of the PLWHA as well as how the available support (from the nucleus family members, extended family members, non-family members and peer groups) will influence HIV status disclosure among PLWHA which the study anticipates will affect the quality of life of the PLWHA. Hence as depicted in figure 1.1; socio-demographic factors such as gender, age, religion, educational status, employment status and marital status will influence the disclosure of HIV status among PLWHA. There is evidence suggesting PLWHA's decision to disclose their HIV seropositive status is dependent on anticipated support or otherwise. Where status disclosure results in support, quality of life of the PLWHA can be positively affected. However, it is important to note that status disclosure can also negatively affect the quality of life of PLWHA as a result of abandonment and depression. Hence status disclosure can influence the quality of life of the PLWHA either positively or negatively.

1.4 Justification of the study

With the availability of antiretroviral therapy (ART) and primary general care for people living with HIV (PLWHA) in resource-limited settings, PLWHA are living longer hence quality of life (QOL) among PLWHA is a major concern in recent times. Across the globe, extensive research has been conducted on either disclosure or QOL among PLWHA. However not much has been done in the area of disclosure and quality of life in Ghana and the Volta region in particular with the highest prevalence of HIV new cases in 2016. This study, therefore, sought to generate evidence in the subject area for both Ghana and the sub-region which can be used the key stakeholders in HIV/AIDS intervention provisions.

1.5 Study objective

1.5.1 General objective

The main objective of this study is to ascertain the effects of HIV status disclosure on the quality of life of PLHWA receiving care at the Volta Regional Hospital

1.5.2 Specific objectives

- To examine the socio-demographic factors of PLWHA receiving care with respect to HIV status disclosure
- To determine the quality of life among PLWHA accessing care
- To examine the relationship between status disclosure and quality of life of PLWHA

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

The literature review for this study focused on existing literature on factors that influenced the quality of life of PLWHA as related to one's serostatus disclosure. The study, therefore, reviewed literature under the following headings; HIV serostatus disclosure and rationale for disclosure, socio-demographic characteristics and HIV serostatus disclosure, HIV serostatus disclosure and uptake of ART as well as the quality of life of people living with HIV/AIDS.

2.2 HIV Sero Status Disclosure and Rationale

Paiva, Segurado, & Filipe, (2011) defined disclosure of HIV status as the process of communicating the information that the person has been diagnosed with HIV. The process can be voluntary or involuntary. However, in this study, the disclosure is being referred to as in the sense of voluntary self-disclosure. Self-disclosure of sensitive information often leads to improved health and psychological well-being due to the resultant reduction in the stress upon the individual (Collins & Miller, 1994).

Research conducted in different settings has revealed different rates of disclosure. For instance, studies of disclosure to sexual partners and/or spouses in Africa have reported disclosure prevalence ranging from 24% to 91% (Sali et al., 2010). Considerable variation has been seen across the global settings for HIV serostatus disclosure with developed countries recording higher disclosure compared to developing countries. Averagely, 79% (range 42%-100%) of HIV infected persons in developed countries disclose their status to main sexual partners. However, only 49% (range 16% - 86%)

disclose their serostatus to their main partners in developing country settings (WHO, 2003).

In contrast to MacNeil, Mberesero, & Kilonzo, (1999) who found out in Tanzania that HIV- infected individuals were most likely to share their HIV test results with their parents (49%), followed by their spouses (25%) and (19%) for their sexual partners. Kilewo et al., (2001) rather reported lower disclosure rate to family (5.6%) compared to partners (16.7 %) in a study among women enrolled in an HIV perinatal transmission trial.

According to Armistead, Morse, Forehand, Morse, & Clark, (1999) in a study conducted among African-American women in the United States found out that the highest rates of disclosure were reported to mothers, while other studies have reported higher rates of disclosure to non-family members (Simoni et al., 1995). These differences can be attributed to high levels of stigma and discrimination in certain settings as well as differential access to health and support services (Obermeyer, Baijal, & Pegurri, 2011).

Studies in Zambia and Togo indicated that disclosure is done for support but avoided to prevent negative labeling (Moore & Williamson, 2011). Evidence from South Africa showed that pregnant women disclosed to partners to encourage preventive behavior. They also disclosed to historically supportive family/friends; but fear of a confidant's reaction prevented disclosure (Visser, Neufeld, de Villiers, Makin, & Forsyth, 2008). That notwithstanding, there are substantial differences across genders regarding the reasons for nondisclosure which include fear of physical violence or rejection among women and concern about infecting the partner among males (Biadgilign, Deribew, Amberbir, & Deribe, 2009).

A study in Ghana by Asante, Poku, Owusu, & Zekeng, (2011) revealed that people living with HIV (PLHIV) inform few confidants. Other Ghanaian studies found that non-disclosure was aggravated by fear of severed relationships, abuse, or the public announcement of their status (“outing”) (Obiri-Yeboah, Amoako-Sakyi, Baidoo, Adu-Oppong, & Rheinländer, 2016); however, pursuing emotional or financial support may provoke disclosure (Asiedu & Myers-Bowman, 2014).

Available evidence also suggests that the economic and social vulnerability of women in Sub-Saharan Africa places them in a dilemma of putting their intimate relationships at risk of termination after HIV testing or disclosure of results (Mucheto et al., (2011); Visser et al., (2008).

2.3 Socio-demographic factors and HIV serostatus disclosure

Disclosure may vary due to multiple factors including socio-demographic characteristics of patients. Disclosure rates and patterns also differ across cultural settings and may depend on sex, gender, social network and family/relationship status of the PLHIV. For example, Obermeyer, Baijal, and Pegurri (2011) found that disclosures tend to be higher in high-income countries.

A study in South Africa by Wong et al., (2009) reported that individuals who disclosed their serostatus were two years older, knew their HIV status 7 months longer and of better socioeconomic status compared to those who had not disclosed their status to their partners. Evidence from Nigeria, Kenya, and South Africa show higher disclosure among women than men (Akani & Erhabor, (2006); Katz et al., 2009) although evidence from Ethiopia showed no association (Deribe, Woldemichael, Njau, & Yakob, 2009).

Furthermore, a study conducted in Kenya reported that women with limited resources were more likely to disclose to their partners in order to secure continued economic

support (Farquhar et al., 2004). Research has also shown that women in polygamous marriages report lower rates of disclosure (Kiula, Damian, & Msuya, 2013).

2.4 Quality of Life of People Living with HIV / AIDS

Quality of life is also regarded as a reflection of the degree to which a person perceived his or her life desirable or undesirable (Diener, 2006). Assessing QOL as a measure of treatment outcomes in medicine is widely used because of its ability to capture information on patient well-being, which is the main goal (Olusina & Ohaeri, 2003). The complete assessment of patients wellbeing encompasses status of role functioning, adjustment, and integration in (Olusina & Ohaeri, 2003).

Quality of life represents both the lived experiences and perceptions about health and illness which is known to vary among persons based on contextual factors like socio-demographics, cultural, psychology, and economics (Carr, 2001; Louwagie et al., 2007).

Whilst different researchers have attempted to study quality of life among PLWHA with various tools; the World Health Organization, on the other hand, have also developed Quality of Life instruments (WHOQOL) which includes the WHOQOL-100 and WHOQOL-BREF, the WHOQOL-HIV and WHOQOL HIV BREF, WHOQOL-OLD and WHOQOL-SRPB which are used to assess QOL globally. The WHO designed QOL instrument is mainly used to assess individuals' perceived position in a life defined by the cultural systems within which goals, expectations and concerns are constructed. The WHOQOL 100-questions assessment tool yields a multi-dimensional profile of scores across six domains namely Physical, Psychological, Interdependence, Social, Environmental and Spiritual/Religious with specific domain questions targeted at measuring the quality of life. The WHO has an abridged version of the QOL instruments known as the WHOQOL BREF which has an abridged 26 questions of the full

WHOQOL 100 as well as the WHOQOL HIV BREF which is also an abridged 31 questions of the WHOQOL HIV full version instrument designed specifically to measure QOL among PLWHA.

The WHOQOL-HIV is a complementary module for WHOQOL-100 instrument that has been validated in various studies (Zimpel & Fleck, 2007; Saddki et al., 2009; Canavarro, Pereira, Simões, & Pintassilgo, 2011; Mweemba, Zeller, Ludwick, Gosnell, & Michelo, 2011).

Studies have used both the WHOQOL BREF and the WHOQOL HIV BREF respectively to measure QOL among PLWHA. Imam, Karim, Ferdous, & Akhter, (2011) used the WHOQOL HIV BREF instrument to measure QOL among PLWHA in Bangladesh and found out that majority of the respondents were with low Quality of Life (QoL) in all the domains of HQoL. Also, a study conducted in Ghana by Fosu, (2016) among PLWHA and receiving antiretroviral therapy at the New Juabeng Hospital using the WHOQOL HIV BREF also found poor QOL score in all the domains with Psychological domain being indicated with the poorest score for QOL of the respondents.

Contrarily, Liping, Peng, Haijiang, Lahong, & Fan, (2015) also evaluated QOL among PLWHA in the Zhejiang provinces of China using the WHOQOL BREF and found that a relatively lower QOL scores in social relation and environmental domains with suggestions for social relation and environmental interventions to be strengthened in the study area. Notwithstanding the findings of the above-mentioned studies, this current study will also look at QOL among PLWHA receiving antiretroviral therapy at the Volta Regional Hospital in Ghana using the WHOQOL HIV BREF

2.5 Antiretroviral Therapy and Quality of Life of PLWHA

The introduction of antiretroviral drugs has significantly changed the perception of HIV/AIDS as a deadly disease to that of chronic disease, with significant improvements seen in mortality and QOL of PLWHA as a result of ART. The developing world has witnessed increases in access to ART due to the efforts of both local and international key stakeholders and this has greatly improved the health and survival rates of HIV-infected patients. Several studies (Oguntibeju, (2012; Degroote, Vogelaers, & Vandijck, (2014); Osei-Yeboah et al., (2017) have reported that ART improves the quality of life of PLWHA in both developed and developing country settings.

Despite the fact that clinical improvement of HIV-infected patients receiving ART has often been measured by the reduction in death and other severe AIDS-related symptoms (Crum et al., 2006), the overall assessments of QOL among people living with HIV/AIDS is of interest due to advancements made in treatments and management.

Evidence from a multicentre clinical trial showed significant improvements in QOL among HIV infected patients one month and four-month post-treatment which persisted for 12 months (Mannheimer et al., 2005). Further evidence suggests that better perceived QOL reported by patients at the start of ART most likely will persist over the course of treatment (Carrieri et al., 2003; Jia, Uphold, Wu, Chen, & Duncan, (2005).

2.6 HIV/AIDS Sero-status disclosure, Social Support and Quality of Life of PLWHA

According to Cahill & Valadéz, (2013), PLWHIV continue to live longer because of the availability of ART leading to HIV becoming a chronic disease. This necessitates the provision of support by social relations such as friends and family in the management of the condition.

Cultural settings, beliefs, and psychological elements can greatly influence one's quality of life (Préau et al., 2007). Disclosure of HIV seropositivity is a necessary first step in accessing treatment and support as well as in taking measures to prevent the transmission of the virus to others (Sowell & Phillips, 2016). However, an investigation by Stutterheim, Bos, et al., (2011) revealed that disclosure and failure to disclose presented dual consequences. It indicated that individuals who fail to conceal stressful events have better outcomes. HIV disclosure gives infected persons access to social support, which has been shown to improve health through a variety of mechanisms, including access to resources, enhanced immune response, and improved health-related behaviors. Waddell & Messeri, (2006) and Charkhian et al., (2014) in their studies also found that social support was significantly associated with the patients' overall QOL among PLWHA.

Also, according to Chen et al., (2011), a study on the outcomes of HIV status disclosure among Chinese women showed that women infected with HIV in frictional marriages were stigmatized, lacked support and had terminated marriages when they sought for social support. Such experiences could further demotivate other persons who are yet to disclose their status to their partners.

Social support has been linked to improved quality of life (QOL) among PLWHA in a variety of settings (Khumsaen, Aoup-por, & Thammachak, (2012); Skevington, Norweg, Standage, & Group, (2010). In a study assessing the relationship between satisfaction with social support, hope and QOL among PLWHA in Nepal, participants' overall satisfaction with their social support and hope was positively correlated with all domains of QOL measured (i.e., physical functioning, psychological functioning, social relationships, environmental functioning, and global functioning). Satisfaction from informational and tangible support was a better predictor of quality of life as compared to satisfaction with emotional support (Yadav, 2010).

Khumsaen et al., (2012) confirmed social support was a statistically significant predictor of QOL. When examining the relationship between personal characteristics, coping style, and social support on QOL among Thai PLWHA, they also found QOL to be related to social support, living with family members, spiritual wellbeing, monthly income, and coping style. Additionally, Rotheram-Borus et al., (2010) found social support to be significantly associated with both better QOL and fewer depressive symptoms. A similar study of 409 PLWHA in Thailand also documented a significant relationship between social support and PLWHA's self-perceptions of their physical and mental health. Studies have shown that disclosure of HIV status benefits physical health, psychological health, and adherence to ART (Gaskins et al., 2011).

According to Medley, Garcia-Moreno, McGill, & Maman, (2004), HIV disclosure can lead to increased availability of social support, reduced anxiety and depression and these beneficial effects can influence the individual's physical health and overall well-being.

That notwithstanding other researches have also reported that the disclosure of one's seropositive status may sometimes have negative consequences which may lead to stigma and discrimination accusations of infidelity and loss of economic support (Collins & Miller, (1994); Kilewo et al., (2001); Medley et al., (2004).

Furthermore, studies have also indicated that the concealment of one's seropositive status from others may be stressful and can, therefore, interfere with obtaining and adhering to potential critical medication (Chandra, Deepthivarma, & Manjula, 2003). Research has also demonstrated that people who have not disclosed to anyone other than health care professionals, may prevent potentially negative social, personal and material consequences but may also limit their own opportunities for social support, an important factor in coping and recovery from physical illnesses (Cohen, 2004).

Additionally, satisfaction with social support has been found to buffer the effects of HIV related depressive physical symptoms (Hays, Turner, & Coates, 1992), which in turn improves the overall quality of life of the individual. There is also evidence that perceived support delays the progression of chronic life-threatening illnesses hence the need to carry out this study to determine effects of HIV seropositive status disclosure on the quality of life of PLHWA receiving care at the Volta Regional Hospital. In conclusion, a review of evidence on status disclosure and QoL shows that disclosure may have both positive and negative outcomes for patients depending on their socio-cultural and economic context, relationship status and availability of institutional support. Hence whether a PLWHA will disclose their serostatus or not will depend on their subjective assessment of the risk for support. There is a gap in knowledge regarding the relationship between QOL and status disclosure among PLWHA and the role of support from persons disclosed to. Evidence on this relationship is very much relevant for improving QOL among PLWHA.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

The design was a descriptive cross-sectional study that used quantitative methods.

3.2 Study area

The study was conducted in the Volta Regional Hospital, a 240-bed capacity facility which is located in the Ho Municipality of the Volta region of Ghana. The hospital, since its operationalization in the year 1999 has served as a training ground for students from various disciplines of study across the country. With the establishment of the University of Health and Allied Sciences, there is currently a strong collaboration between the hospital and the university and it is the hope of management that the Volta Regional Hospital would soon be upgraded to the status of a teaching hospital.

According to the 2016 annual report of the Volta Regional Hospital, a total OPD attendance of 103,964 was recorded with malaria being the number one cause of OPD attendance. Pregnancy-Related Complications, Anaemia and Malaria are the three topmost causes of admissions at the time while Cerebrovascular Accidents (CVA), Septicaemia and Pneumonia also accounted for the three topmost causes of deaths at the hospital in 2016.

There are about forty-one (41) key services currently provided by the hospital among which is the ART service for PLHWA. Antiretroviral Therapy Clinic commenced at the Volta Regional Hospital in 2006 and the clinic has since provided counseling services, care, support and treatment for people living with HIV/AIDS in order to help reduce the rate of new infections. In 2016, the hospital tested about 1004 people for HIV/AIDS excluding the 1291 pregnant registrants that received HIV/AIDS Prevention of Mother to

Child Transmission (PMTCT) services. Out of 1004 tested, 16.2% were positive. The ART clinic of the hospital as at the end 2017 had 911 clients on record that accessed various types of antiretroviral therapy support from the hospital.

3.3 Study population

The study population was HIV positive clients who are currently receiving care at the Volta Regional Hospital

3.4 Inclusion and exclusion criteria

Inclusion criteria by the study included people who are eighteen (18) years and above, have been diagnosed with HIV for at least four (4) months prior to the commencement of the study, were receiving care and support at the Volta Regional Hospital and can readily give their consent to partake in the survey. However, People Living with HIV/AIDS who are critically ill were not involved in the survey.

3.5 Study variables

The dependent variable in this study was the health-related quality of life among people living with HIV/AIDS. This variable was generated from the WHOQOL HIV BREF tool which has 29 items grouped into six domains namely physical domain, psychological domain, independence domain, social domain, environmental domain and spiritual/religious domain with an additional 2 facets looking at the general quality of life. For the purpose of this study, the dependent variable known as quality of life is a continuous variable measured on a Likert scale that was transformed to a score of 4 – 20 with 4 being the lowest score and 20 being the highest.

The independent variables included the demographic factors (age, sex, marital status, the highest level of education, Length diagnosis, number of biological children), disclosure

status and types of support received. Refer to table for variable types and descriptions of variables used by the study.

Age in the study was measured as completed age in years and treated as a categorical variable (18 -29, 30 – 39 and 40 -50) in testing for the association and as a continuous variable in the model statistic.

Sex of the respondents is a nominal variable that was categorized into male and female for measurement purpose.

Level of education of the study participants is an ordinal variable that was treated as a categorical variable (up to primary school, secondary and tertiary) in testing for the association and as a continuous variable in the model statistics.

Marital status of the study participants is a nominal variable that was treated as a categorical variable (not married, married, divorced/widowed) in the test of association and was treated as a continuous variable in the model statistic.

Number of years respondents has been diagnosed of HIV positive is an ordinal variable which was categorized as (less than 1 year, 1-5 years and greater than 5years) was used in the test of association and treated as a continuous variable in the model statistic.

Employment status of respondents is a nominal variable treated as a categorical variable (unemployed, self-employed and salaried worker) was used in the test of association and treated as a continuous variable in the model statistic.

Number of biological children is an ordinal variable that has been categorized into (none, 1-2 children, 3-5 children, and greater than 5 children) and used as a test of association in this study and also as a continuous variable in the model statistics.

Disclosure status of the HIV positive respondent is a nominal variable categorized into (yes and no) and used as in the test of association and also as a continuous variable in the model statistics.

3.6 Sampling

3.6.1 Sample size

Yamane's formula, (Oakland, 1953) was used to estimate the sample size for this study because the target population is finite with known population size.

$$n = N / 1 + N (e)^2$$

Where n= Sample size

N= Population size = 911 (estimate from the 2017 VRH Annual report: the total number of PLWHA actively on ART at the Volta Regional Hospital as at 31st December 2017 was **911** with 681 females and 230 males)

e= level of precision (0.05)

Hence substituting the values into the formula, $n = 911 / 1 + 911 (0.05)^2 = 278$

However, in considering a 5% adjustment on the sample size of 278 for incomplete questionnaires and non- response the study arrived at a minimum sample size of 292 respondents as its sample size.

3.6.2 Sampling method

A systematic sampling method was used for the selection of the participants until the required sample size of 292 was obtained. With an average attendance of 60 patients for each clinic day of the week (Tuesday and Thursday), the study planned to recruit 20 out of the 60 clients envisaged for each clinic day. Hence, every third respondent was invited to participate leading to about 40 respondents recruited per week until the total sample size was met. For each of the clinic days, a figure between 1 and 3 was randomly selected to determine the first client to interview for the day. After selecting the first respondent

for the day out of the first 3 clients, the study team approached every other third client visiting after the initial second client selected. This process was repeated on every clinic day to recruit respondents until the required sample size was attained.

3.7 Data Collection Procedures

3.7.1 Instruments for data collection

The data collection instrument (see Appendix B) for the study were in two forms; a structured data collection tool designed by the author to collect information on status disclosure and other variables of interest to the study. and an adopted WHOQOL-HIV BREF instrument which was to be used to examine the respondent's overall perception of quality of life as well as the respondent's overall perception of his or her health. The WHOQOL-HIV BREF instrument was used to evaluate respondents' quality of life from six domains and 29 facets. These facets are scored on a 5-point Likert scale with 5 corresponding to very good and 1 corresponding to very poor. In addition to the six domains examined, the respondents' overall perception of quality of life and general health were examined.

3.7.2 Data Collection Method

Face-to-face interviews with the respondents were used in addition to clinical data extraction where information such as years of diagnosis and the exact type of antiretroviral therapy on which respondent is was extracted from the respondent's folders in order to prevent any recall biases.

3.8 Data processing and analysis

3.8.1 Statistical method

Data collated from the field was coded and entered manually into the Statistical Package for Social Scientist (SPSS) Version 22. Cleaning of data was carried out by running

frequencies for all the variables observed. Data were then imported from SPSS into STATA version – 15 for analysis. Demographic data was presented in frequencies and proportions. Chi-Square test was used to examine the relationship between socio-demographic factors and HIV status disclosure. Welch's t-test was used to examine the effect of serostatus disclosure on quality of life as well as to compare the mean scores for perceived quality of life. Pearson's correlation coefficient was used to determine the degree of correlation (relationship) between the scores of the quality of life domains whilst a multivariate analysis was also carried out to examine the joint effect of HIV disclosure status on quality of life domains.

Also, the WHOQOL-HIV BREF instrument which has 29 facets grouped into six domains with two separate items from the Overall quality of Life and General Health facets on the general quality of life was used for the study. All the 31 questions of the WHOQOL-HIV BREF were verified for completion with values between 1 and 5. Questions with answer scales inverted were reversed. Scores of the domain were obtained by calculating the sum of the scores of "n" questions per the domain divided by the number of domain questions. Results for domain scores were then multiplied with 4 to transform the results to a scale of 4 to 20. Cronbach's alpha was used to measure the internal consistency and reliability of the facets in the 6 domains of the WHOQOL – HIV BREF instrument.

3.8.2 Quality control

Quality control was ensured in the different aspects of the research. In order to ensure reliability, two experienced research assistants were engaged and trained on the purpose of the study and how to administer the study tools. The data collection tool was translated into the local languages in the study area and re-translated into English by the researcher and validated by the research assistants during the tools training to ensure that the

contexts of the tools are not lost. The tools were also pre-tested among PLWHA receiving antiretroviral therapy at the Ho Municipal hospital to ensure for clarity of questions, adequacy of response options and appropriateness of question order. Questionnaires completed for the day are checked for completeness by the researcher.

3.9 Ethical considerations

Ethical clearance for the study was granted by the Ghana Health Service Ethical Review Committee (Protocol ID NO: GHS-ERC 069/02/18). Academic approval was also sought from the authorities of the School of Public Health (SPH). Administrative permit to carry out a survey in the Volta Regional Hospital was sought from the Volta Regional Director of Health Services and the Medical Director of the hospital. Written consent was also obtained from every willing participant after the study procedures, objectives, risks, and benefits of the study had been explained to them prior to participation.

CHAPTER FOUR

4.0 RESULTS AND ANALYSIS

4.1 Introduction

This chapter provides detailed information on the findings of the survey in relation to the study objectives.

4.2 Socio-demographic characteristics and HIV/AIDS serostatus disclosure

In Table 4.1 below, the characteristics of the respondents are described. A total of 311 respondents participated in the study with a mean age of 40.4 ± 8.2 years. More than a quarter of the respondents (25.1%) were males. The majority (73.0%) of respondents had attained secondary educational status with only a tenth having tertiary education status. The majority (59.8%) of respondents were married, 20.2% were not married and 19.9% of the respondents were also either divorced or widowed. The majority of the respondents (73.0%) were self-employed, 19.0% were salaried workers and 7.1% were unemployed. A significantly higher proportion of respondents with tertiary education had not disclosed their status compared to their counterparts with primary and secondary level of education combined (22.6% vs. 23.9%, $p < 0.05$). Less than a tenth (9.3%) of respondents were diagnosed less than a year ago, with about 40% diagnosed for over 5 years preceding the survey. A significantly higher proportion of those diagnosed less than a year did not disclose their HIV serostatus to any of their social relations compared to the proportion of those had been diagnosed more than a year ago (31.0% vs. 19.9%, $p < 0.05$).

However, characteristics such as sex, age, marital status and number of biological children number as examined by this study were not significantly associated with disclosure.

Table 4.1: Socio-demographic characteristics of respondents and HIV Serostatus disclosure

Characteristics	Total	Disclosure status		Chi-square	P-value
		Yes (%)	No (%)		
Age				0.35	0.838
18-29yrs	36 (11.6)	33 (91.67)	3 (8.33)		
30-39yrs	79 (25.4)	70 (88.61)	9 (11.39)		
40-50yrs	196 (63.0)	173 (88.27)	23 (11.73)		
Sex				0.26	0.613
male	78 (25.1)	68 (87.18)	10 (12.82)		
female	233 (74.9)	208 (89.27)	25 (10.73)		
Level of education				6.12	0.047*
Up to primary	53 (17.0)	45 (84.91)	8 (15.09)		
Secondary	227 (73.0)	207 (91.19)	20 (8.81)		
Tertiary	31 (10.0)	24 (77.42)	7 (22.58)		
Marital status				0.22	0.897
Not married	63 (20.3)	56 (88.89)	7 (11.11)		
Married	186 (59.8)	166 (89.25)	20 (10.75)		
Divorced/widowed	62 (19.9)	54 (87.1)	8 (12.9)		
Years after diagnosis				14.32	0.001**
<1year	29 (9.3)	20 (68.97)	9 (31.03)		
1-5years	157 (50.5)	139 (88.54)	18 (11.46)		
>5 years	125 (40.2)	117 (93.6)	8 (6.4)		
Employment status				1.08	0.584
Unemployed	22 (7.1)	21 (95.45)	1 (4.55)		
Self employed	229 (73.6)	202 (88.21)	27 (11.79)		
Salaried worker	59 (19.0)	52 (88.14)	7 (11.86)		
Biological children				3.08	0.38
none	51 (16.4)	44 (86.27)	7 (13.73)		
1 - 2 children	112 (36.0)	104 (92.86)	8 (7.14)		
3 - 5 children	129 (41.5)	112 (86.82)	17 (13.18)		
above 5 children	19 (6.1)	16 (84.21)	3 (15.79)		

*: p-value <0.05. **: p-value<0.01. ***: p-value <0.001

4.3 Descriptive statistics of HIV seropositive who disclosed their status

Table 4.2 below describes who the respondent first disclosed their HIV seropositive status and the type of support received. A total of 276 respondents disclosed their seropositive status in this study. The majority (63.8%) of respondents had disclosed their HIV seropositive status to a nuclear family member with only about 3.6% of the disclosure being done to non-family relations. About 29.4% of those who disclosed their HIV seropositive status never received any support from those whom they disclosed their status to however about a half of those who disclosed their seropositive status received emotional support from a family member.

Table 4.2: Descriptive characteristics among HIV positive patients who disclosed their status

Variable	Frequency (N=276)	Percentage
First disclosed to		
Nuclear family	176	63.77
Extended family	90	32.61
Nonfamily relation	10	3.62
Receive any support		
Yes	195	70.65
No	81	29.35
Type of support received		
Food [#]	173	62.91
Cash for upkeep [#]	149	53.99
Shelter [#]	149	53.99
Medical expenses [#]	133	48.19
Clothing [#]	84	30.43
Most source of emotional support		
Nuclear family	147	53.26
Extended family	126	45.65
Nonfamily relations	3	1.09

[#]: Multiple selections.

4.4 Quality of life of PLWHA

Reliability was determined for the constituent items of the six domains of the WHOQOL-HIV BREF tool used by the study. Five out of the six domains considered by the WHOQOL-HIV BREF tool showed acceptable internal consistency (Cronbach's alpha \geq 0.7) except for the physical domain which had alpha values of 0.60 considered questionable (Field 2009). The psychological, environment and social domains scored excellent on internal consistency, see table 4.2 below.

With the transformed scores for the QOL domains used by the study with mean domain scores on a scale of 4 to 20, the minimum score obtained by a participant was 4.0 and these were obtained in the Social and Environmental domains whilst the maximum score of 20 was obtained by participants for the Social, Environmental and Spiritual domains. The mean score which rates the average quality of life of participants within a given domain shows that quality of life was highest within the Spiritual domain with the highest mean score of 14.3(\pm 2.9) whilst the physical domain indicated the lowest quality of life among the respondents with the minimum mean score for quality of life at 11.9(\pm 2.1). Mean quality of life scores of 12.8 (\pm 1.8), 12.5 (\pm 1.7), 13.1 (\pm 2.4) and 13.2 (\pm 2.0) were obtained for the psychological, independence, social and environmental domains respectively, see table 4.3.

Table 4.3: Summary of the scores on the quality of life domains

QoL domain	Mean	SD.	Minimum score	Maximum score	n (alpha)
Physical	11.93	2.05	6.00	18.00	4 (0.6017)
Psychological	12.82	1.77	8.80	18.40	5 (0.9125)
Independence	12.53	1.67	8.00	18.00	4 (0.8058)
Social	13.07	2.38	4.00	20.00	4 (0.8945)
Environment	13.18	2.02	4.00	20.00	8 (0.9325)
Spiritual	14.27	2.91	6.00	20.00	4 (0.6740)

QoL: quality of life. SD: standard deviation. n (alpha)= number of items (Cronbach's alpha).

Figure 4.1 below depicts the quality of life as perceived by the respondents themselves. Of the 311 respondents interviewed, more than two-thirds of the respondents (68%) perceived their life to be of poor quality.

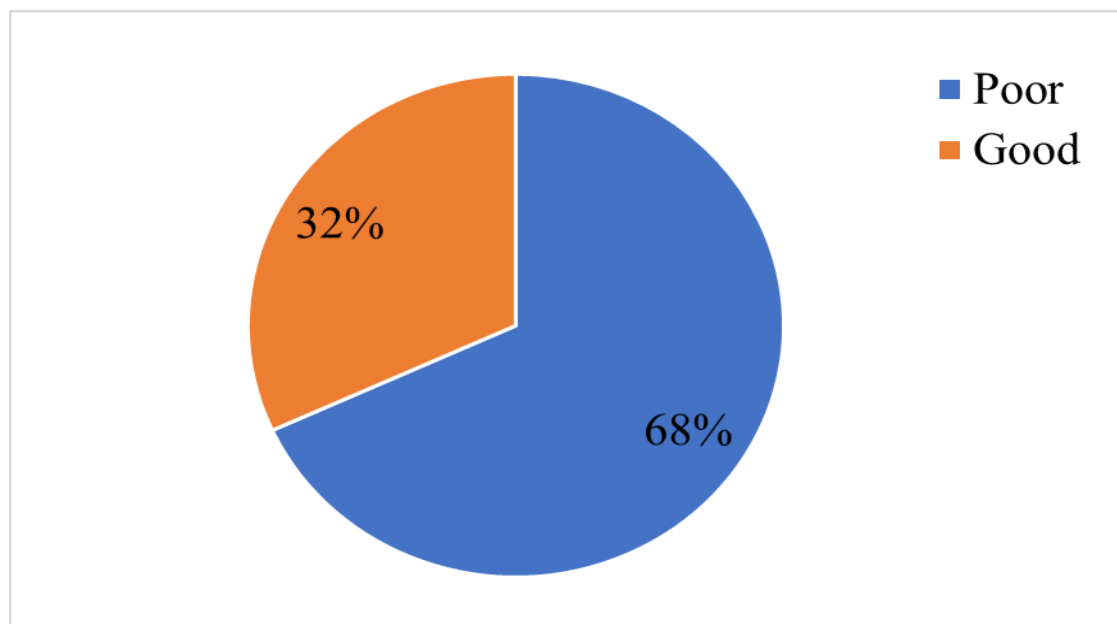


Figure 4.1: Perceived general quality of life of the participants

4.5 Quality of life and HIV serostatus disclosure

None of the six domains of QoL measured with the WHOQOL-HIV BREF tool showed significant differences in their respective mean scores serostatus disclosure. This study

found no differences in reported quality of life of respondents based on status disclosure ($p > 0.05$), see Table 4.4.

Table 4.4: Mean QoL domain scores and HIV status disclosure of participants

QoL Domains	Disclosure status		t-statistic	P-value
	Yes	No		
Physical	11.93 ± 2.03	11.91 ± 2.23	0.04	0.966
Psychological	12.82 ± 1.78	12.82 ± 1.72	-0.02	0.986
Independence	12.5 ± 1.68	12.77 ± 1.61	-0.95	0.349
Social	13.08 ± 2.4	12.97 ± 2.23	0.27	0.79
Environment	13.18 ± 2.03	13.13 ± 1.96	0.16	0.874
Spiritual	14.2 ± 2.96	14.77 ± 2.41	-1.28	0.208
Perceived general QoL			0.68#	0.409
Poor: n (%)	186 (67.39)	26 (74.29)		
Good: n (%)	90 (32.61)	9 (25.71)		

QoL: quality of life. SD: standard deviation. n (%): frequency (column percentage). #: Pearson's chi-square test

4.6 Association between the quality of life domain scores and perceived quality of life

With the exception of the spiritual domain, all the five other domains showed a significant positive association with perceived quality of life. Respondents recorded significantly higher mean scores when they reported good perceived quality of life compared to those with poor perceived quality of life in the physical domain (13.03 ± 1.9 vs. 11.42 ± 1.9 , $p < 0.05$), psychological domain (14.14 ± 1.9 vs. 12.20 ± 1.3 , $p < 0.05$), independence domain (13.76 ± 1.7 vs. 11.95 ± 1.3 , $p < 0.05$), the social domain ($14.76 \pm$

2.3 vs. 12.28 ± 2.0 , <0.05) and the environment domain (14.86 ± 2.1 vs. 12.39 ± 1.4), see table 4.5.

Table 4.5: Mean QoL domain score and perceived quality of life of respondents

QoL Domain	Perceived quality of life		t-statistic	P-value
	Poor	Good		
	Mean \pm SD	Mean \pm SD		
Physical	11.42 ± 1.90	13.03 ± 1.91	-6.96	$<0.001^{***}$
Psychological	12.20 ± 1.33	14.14 ± 1.86	-9.33	$<0.001^{***}$
Independence	11.95 ± 1.31	13.76 ± 1.69	-9.38	$<0.001^{***}$
Social	12.28 ± 1.96	14.76 ± 2.34	-9.15	$<0.001^{***}$
Environment	12.39 ± 1.42	14.86 ± 2.08	-10.73	$<0.001^{***}$
Spiritual	14.24 ± 2.53	14.33 ± 3.60	-0.24	0.8084

QoL: quality of life. SD: standard deviation. *: p-value <0.05 . **: p-value <0.01 . ***: p-value <0.001

4.7 Association between whom the status was first disclosed to and quality of life domain scores

Except for the psychological domain that showed a significant association with disclosures to social relations; all the five other domains did not show any association with whom the respondent first disclosure of seropositive status to social relation members. Respondents who disclosed to non-family relations recorded a significantly higher mean scores within the psychological domain compared with seropositive who disclosed to the extended and nuclear relations respectively (14.00 ± 1.82 , 13.05 ± 1.67 , 12.63 ± 1.80 , $p < 0.05$), See table 4.6.

Table 4.6: Association between whom the status was first disclosed to and WHOQOL domain scores

WHOQOL Domain	First disclosed to			F-statistic	P-value
	Nuclear family	Extended family	Nonfamily		
	Mean ± SD	Mean ± SD	Mean ± SD		
Physical	11.87 ± 2.14	12.01 ± 1.85	12.3 ± 1.42	0.32	0.729
Psychological	12.63 ± 1.80	13.05 ± 1.67	14.00 ± 1.82	4.03	0.019*
Independence	12.41 ± 1.69	12.64 ± 1.68	12.70 ± 1.42	0.66	0.517
Social	12.93 ± 2.28	13.34 ± 2.55	13.40 ± 3.17	0.99	0.372
Environmental	13.02 ± 2.09	13.39 ± 1.80	14.25 ± 2.58	2.49	0.085
Spiritual	14.23 ± 2.96	14.16 ± 2.91	14.10 ± 3.73	0.03	0.974
Perceived Quality of Life				4.05#	0.132
Poor: n (%)	123(66.13)	59(31.72)	4(2.15)		
Good: n (%)	53(58.89)	31(34.44)	6(6.67)		

SD: standard deviation. F-statistic from the One-way ANOVA. n (%) : Frequency (percentage). #: Pearson's chi-square test

4.8 Association between receiving any support and the quality of life domain scores

Those who disclosed their status and received any support from a nuclear family, an extended family member, and non-family relations showed a significant association in the social and environmental domains. Respondents who received any support as a result of disclosing their seropositive status recorded a significantly higher mean scores compared with those who did not receive any support after disclosing their seropositive status in the social domain (13.3 ± 2.5 vs. 12.5 ± 2.1 , $p < 0.05$) and environmental domain (13.4 ± 2.0 vs. 12.8 ± 1.9 , $p < 0.05$) respectively.

Also, the perceived quality of life among those who received any support after disclosure compared with those who did not receive any support after disclosure was insignificant ($p < 0.05$), See table 4.7.

Table 4.7: Association between receiving any support and WHOQOL domain scores

WHOQOL Domain	Receive any support		T-test	P-value
	Yes	No		
Physical	12.02 ± 2.13	11.73 ± 1.74	1.17	0.246
Psychological	12.85 ± 1.86	12.75 ± 1.58	0.43	0.668
Independence	12.55 ± 1.80	12.36 ± 1.34	0.99	0.322
Social	13.30 ± 2.49	12.54 ± 2.11	2.58	0.011*
Environmental	13.35 ± 2.04	12.79 ± 1.95	2.14	0.034*
Spiritual	14.06 ± 3.09	14.54 ± 2.63	-1.32	0.19
Perceived Quality of Life			0.93 #	0.336
Poor n(%)	128(68.82)	58(31.18)		
Good n (%)	67(74.44)	23(25.56)		

SD: standard deviation. n (%) : Frequency (percentage). #: Pearson's chi-square test

4.9 Association between receiving any support and the quality of life domain scores

In table 4.8, source of emotional support was not significantly associated with all the six domains of quality of life including respondents' perceived quality of life.

Source of emotional support was found by this study not to be associated with the perceived quality of life of those who disclosed their seropositive status.

Table 4.8: Association between the most source of emotional support and WHOQOL domain scores

WHOQOL Domain	Most source of emotional support			F-statistic	P-value
	Nuclear family	Extended family	Nonfamily		
	Mean ± SD	Mean ± SD	Mean ± SD		
Physical	11.97 ± 2.18	11.87 ± 1.85	13.00 ± 0.00	0.50	0.605
Psychological	12.80 ± 1.87	12.81 ± 1.68	14.13 ± 0.46	0.83	0.436
Independence	12.49 ± 1.74	12.48 ± 1.59	13.67 ± 2.08	0.74	0.478
Social	13.23 ± 2.35	12.84 ± 2.46	15.67 ± 0.58	2.68	0.07
Environmental	13.20 ± 2.08	13.13 ± 1.99	14.67 ± 1.04	0.85	0.429
Spiritual	13.99 ± 3.13	14.40 ± 2.77	16.33 ± 1.15	1.42	0.244
Perceived Quality of Life				φ	0.491
Poor: n (%)	100(53.76)	85(45.7)	1(0.54)		
Good: n (%)	47(52.22)	41(45.56)	2(2.22)		

4.10 Effect of HIV serostatus disclosure on the quality of life of PLWHA

Results of a multivariable linear regression controlling for background characteristics Table 4.9 revealed that those participants who disclosed their HIV serostatus had a higher quality of life scores in all the six domains compared to those who had not disclose their status, however, there was no significant association between status disclosure and the individual domains and all domains jointly (F = 0.73, p-value >0.05).

Table 4.9: Multivariate analysis of the effect of HIV disclosure status on quality of life of respondents

Disclosure status	Domains						Joint effect
	Physical	Psychological	Independence	Social	Environment	Spiritual	
Yes	ref	ref	ref	ref	ref	ref	
No	0.05 (-0.69-0.78)	0.09 (-0.54-0.72)	0.23 (-0.38-0.85)	0.13 (-0.73-0.99)	0.06 (-0.67-0.79)	0.47 (-0.59-1.54)	
P-value	0.899	0.778	0.450	0.771	0.873	0.383	
Model performance							
R-square	0.128	0.137	0.094	0.122	0.110	0.098	
F-statistic	2.118	2.292	1.491	2.011	1.790	1.575	0.250
Overall p-value	0.004	0.002	0.083	0.007	0.021	0.058	0.960

$\hat{\beta}$ (95% CI): Coefficient parameter (95% confidence interval). ref: reference category.

Coefficients estimated were adjusted for Age, educational status, marital status, employment status, sex, number of biological children and years after diagnosis of HIV

CHAPTER FIVE

5.0 DISCUSSION

5.1 Introduction

This chapter discusses the findings of this study in the light of existing literature in the subject area and their implication for practice, programmes, and research where applicable.

5.2 Discussion

This study's findings of a non-significant association between status disclosure and other sociodemographic factors except for higher educational level is contrary to evidence from (Akani & Erhabor, 2006) who found that better-educated respondents with tertiary education were more likely to disclose their HIV-serostatus. This could be as a result of the negative attitudes and judgments towards people living with HIV/AIDS which might have led to a significant number of the respondents with tertiary education not disclosing their seropositive status.

Similar to works of Biadgilign et al., (2009) in Ethiopia; our study did not find any association between sex and disclosure status.

Also unlike Kalichman, DiMarco, Austin, Luke, & DiFonzo, (2003) who reported that friends were most often disclosed to and perceived as more supportive than family members, our study rather found out that more of the disclosures were done to the nuclear family members than the non-family relations.

This study also found a significant association between the psychological domain and whom status was disclosed to with the highest mean score recorded among those who disclosed to non-family members. This might be explained by the lower likelihood of

non-family members having or expressing negative feelings compared to family members whose expression of disappointment and loss due to emotional ties may suggest victim blaming. It is also possible that the non-family members being the preferred choice for status disclosure may be pre-informed by the patients' perception of their knowledge and capacity to provide positive feedback.

Very similar factors that promote disclosure of HIV status to partners also result in better quality of life (Monti et al., 2011). In this study, the social and environmental domains of quality of life were significantly associated with receipt of social support when respondents disclosed their status compared to when they did not. This suggests that those who disclosed their status may have felt more accepted by whom they disclosed to and this may have made them feel safer and satisfied within the physical environment that they reside compared with those who did not disclose their status. This finding is in congruence with works of Mahalakshmy, Premarajan, & Hamide, (2011) among people living with immunodeficiency virus infection in Puducherry, India. Factors similarly shared by both disclosure and QOL include HIV infected individuals living amongst friends and relatives; good social support, access to psychosocial services and were financially apt; some of which were also seen in this study. Factors that were seen to promote disclosure of HIV status to partners (Susan-Monti et al., 2011) were common factors also associated with better QoL.

From the present study, Quality of Life scores was highest within the Spiritual domain whilst the physical domain indicated the lowest quality of life among the respondents. This finding is very much anticipated considering that the majority (94.1%) of Ghanaians are religious (Ghana Demographic and Health Survey, 2014) and are likely to have received support regarding issues of death, fear for the future and meaningfulness of life in general, which were assessed in the spiritual domain. However, evidence from Nigeria

rather reported better Quality of Life Scores in the Psychological and Physical domains (Folasire et al., 2012).

This study also revealed that respondent who have disclosed their status had higher mean scores on all the six QOL domains compared to those who did not disclose their status although the differences were not statistically significant. However, considering the fact that respondents who received material support recorded significantly higher QOL in the environmental and social domains, may possibly imply that support in the areas of meeting needs, accessing healthcare with probably better living standards which are facets of the social and environmental domains are crucial to the QOL in this population. It may also be possible that even those who have not disclose their seropositive status but are privy to such supports will also have higher QOL of scores hence the probable reasons where on the aggregate level this study did not see any significant association between emotional support and the QOL domains. Therefore, it can be inferred from this study that it is with issues of livelihood, being able to access care and having a good relationship is what seem to be crucial to the people in this setting and hence mere disclosure of seropositive status may not be enough to influence QOL.

Contrary to our findings; a study by Friedland, Renwick, & McColl, (1996) that looked at coping, social life, and QOL among HIV/AIDS patients, found out that emotional and social support were related to QOL. Also, Swindells et al., (1999) on the relationship between HIV infection and the QOL of HIV-infected persons showed that QOL was influenced by satisfaction with social support. Our data supported this evidence and further showed that emotional support in its self is not significantly associated with QOL. This suggests that material support may be more important in this setting and further exploration of specific aspects of support that may be beneficial to QOL of PLWHA.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The study revealed that a high majority (88.7%) of the participants had disclosed their HIV serostatus with a significantly lower proportion of the participants who received a diagnosis in less than one year not disclosing their status. Generally, status disclosure was not significantly associated with QOL. However, the data suggests that support in the area of livelihood, being able to access care and having a good relationship has a possible benefit to QOL.

6.2 Recommendation

- In order to enhance early disclosure of One's seropositive status to One's relevant social relations, disclosure should be part of the pre-test information provided at HIV Testing Services (HTS)
- Recognizing that some of the barriers to HIV status disclosure are rooted in social attitudes about HIV/AIDS such as stigmatization and neglect, there will be the need to improve upon initiatives such as community-based programmes to reduce stigma and neglect associated with HIV/AIDS
- Strengthening of HIV support groups for infected persons will also provide another avenue for the ongoing support that may help PLWHA to work through their disclosure processes for the needed social support.
- A mediated form of HIV seropositive disclosure at the community level may offer a more and culturally sensitive approach to supporting PLWHA.

- Ghana AIDS Commission should enforce the psychosocial Support and Counseling component of the Community Home Base Care (CHBC) policy guideline that sought to improve the mental health and quality of life of PLWHA
- Stakeholders and Coordinators of peer groups for HIV infected persons will need to explore ways of expanding the social and tangible support available for PLWHA due to the possible benefits on QOL.
- Further research is needed to explore other aspects of support that may be beneficial to the population of PLWHA in this setting.

6.3 Study Limitations

This study was cross-sectional and thus, causality cannot be established from statistical inferences.

The study was facility-based and findings may not be generalizable to the entire Ghanaian population living with HIV/AIDS. Nevertheless, it would be impractical to do this same study outside of a facility providing ART services as the role of ART cannot be underestimated in achieving health-related QoL.

Lastly, the WHOQOL HIV BREF instrument used in this study has not been previously validated in this population and probably resulted in the lower internal consistency of some domains of QoL assessed. Nevertheless, the WHOQOL HIV BREF is endorsed as the most appropriate tool for assessing QOL among PLWHA. Thus, the conclusions based on the findings of this study are still valid.

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APPENDICES

Appendix A: Participant Consent Form

School of Public Health, College of Health Science, University of Ghana

A. PARTICIPANT CONSENT FORM

Study Title: HIV Status Disclosure and Quality Of Life among Persons Living With HIV/AIDs and Accessing Care at the Volta Regional Hospital

Introduction: My name is _____ (interviewer's name) and I work with the Volta Regional Health Directorate. I am here to conduct research on the disclosure of HIV serostatus and its effect on the quality of life of person's living with HIV/AIDS. As a result of antiretroviral medications having to prolong the lives of individuals with HIV/AIDS, many PLWHA in recent times may have to be contending with the day-to-day stressors of living with the disease, which may likely to affect their quality of life.

Purpose: The purpose of this study is to examine the influence of disclosure on quality of life of PLWHA. It is expected that the information you give me will generate knowledge regarding the effects of disclosure on quality of life of individuals with HIV infection and the findings from this study will be used in planning programmes that will enhance the well-being of PLHWA in the Volta region and beyond.

Procedures: If you are willing to be part of this study, I will ask you some questions about yourself and experiences about the disclosure of your HIV seropositive status to others, how you are coping with the HIV/AIDS disease condition and how this disclosure or not has really affected your general life. The entire process of administering this questionnaire will take about 45 minutes.

Potential Risks and benefits: The risks of the study may include some possible discomfort with sharing your experiences with HIV disease condition. However, if you should feel such discomfort at any point of the interview process **to share your experience, you are at liberty to withdraw from the discussion or refuse to discuss**

any issue you feel uncomfortable to talk about and this will not in any way affect the services rendered to you by the hospital. In the case of psychological harm as a result of the study, you will be referred to a social worker in the hospital. There are no direct benefits to participating in this survey. However, findings from the study are expected to be used in improving the health-related quality of life among PLWHAs

Costs and Compensation: Also, there will not be any cost incurred by you as a result of participating in this study. You will also not be paid for your participation in this discussion however should your participation in the study result into you incurring any cost then the principal investigator will reimburse it back to you.

Confidentiality: Whatever you say will be confidential so feel at ease to express your opinion. Your name will not be used in analysis or dissemination of results. The information you give us will be put together with what others tell us so it cannot be linked to you. The information that is obtained during the interviews will be used only in a form that cannot be identified with you.

Voluntary participation/withdrawal: Your participation in this study is voluntary and you are free to discontinue with the discussion or refuse to discuss any issue you feel uncomfortable to talk about and this will not affect you in any way however, your views will be much essential in shaping interventions towards improving the quality of life of people living with HIV/AIDS

Outcome and Feedback: The outcome of this study will be used to improve the quality of care to people living with HIV / AIDS in the Volta region and beyond

Funding information: The study is solely being funded by the principal investigator.

Do you have any questions for me to clarify before we proceed further with the discussions?

Yes

No

B. PARTICIPANT STATEMENT AND SIGNATURE

I certify that I voluntarily agree to answer the survey questions, that information on the study has been explained to me in a language that I understand. I was given the opportunity to ask questions about the study and i am satisfied with the responses given. I have agreed to participate in this study with the understanding that my responses to these questions will not affect my access to health services and that I will not be quoted directly in any report and that my responses to these questions will not be traceable to me. I can decline to continue if at any point in the interview I have an objection to the questions being asked. This will also not affect my future access and use of health services in the region.

Respondent's Name/ signature/thumb print

Date

C. INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participant have been addressed. It is my opinion that the participant understands the purpose, risks, benefit, and procedures that will be followed in this study and has voluntarily agreed to participate

Interviewer's Name / Signature

Date

Who to Contact for Clarification: For further information or clarifications, you may contact on **Adams Agbeko** (Principal Investigator) on telephone number **0242189674**, email: agbeko2001@yahoo.com or **Nana Abena (GHS-ERC)** on telephone number **0244712919**, abena.addaidonkoh@ghsmail.org.

Appendix B: Questionnaire

SCHOOL OF PUBLIC HEALTH, UNIVERSITY OF GHANA

DEPARTMENT OF POPULATION AND REPRODUCTIVE HEALTH

This questionnaire is designed to collect data on the socio-demographic characteristics of PLWHA, assess the disclosure of one’s HIV status and the support received from social relations, find out the ART regimens on which PLWHA are placed currently, explore forms of nutritional support available to PLWHA and find out the health-related quality of life (HRQoL) among PLWHA,

Kindly tick (✓) or write the appropriate response per the questions

SECTION A: Demographic Details

1. Age (years) at last birthday:
2. Sex: **Male** [] **Female** []
3. Educational Level: **None** [] **Primary** [] **Secondary** [] **Tertiary** []
4. Marital Status: **Single** [] **Married** [] **Divorced** [] **Widowed** []
5. Number of years of diagnosis: < **1yr** [] **1-5 yrs** [] **6- 10 yrs** [] **≥ 10 yrs** []
6. Employment Status: **Employed** [] **Unemployed** []

SECTION B – DISCLOSURE AND SOCIAL SUPPORT

Q	Questions	Responses	Remarks
1.	When you became aware that you were HIV positive, did you disclose your status to anyone?	Yes.....1 No.....2	If no, skip to Section C
4.	Which of your relations did you first disclose your status to when you found out that you were HIV positive?	Nuclear Family.....1 Extended Family.....2 Non Family Relations.....3	
	Have you received any support from the	Yes.....1 No.....2	If no, skip to

	person(s) you disclosed your HIV status to?		Section C
	If Yes, what form of material support(s) did you receive from the person(s) you disclosed your status to in the past 3 months (Multiple Responses)	Medical Expenses.....1 Cash for Upkeep.....2 Shelter.....3 Food.....4 Clothing.....5 None.....6 Others (Specify).....7	
	What are your sources of emotional support	Nuclear Family.....1 Extended Family.....2 Non Family Relations.....3	
	Which of these sources mentioned above provides you most with emotional support	Nuclear Family.....1 Extended Family.....2 Non Family Relations.....3	
	Are you part of any peer support group?	Yes.....1 No.....2	
	If yes, what support(s) do you get from the group?		

SECTION C – ART UPTAKE AND NUTRITIONAL SUPPORT

Q	Questions	Responses	Remarks
1.	Which ART regimen are you on currently?	1 st Line Regimen.....1 2 nd Line Regimen.....2 3 rd Line Regimen.....3	
4.	How long have you been on this ART regimen?		
	Have you ever received any nutritional support from any organization since the time you were diagnosed with the disease condition?	Yes.....1 No.....2	<i>If no, skip to Section D</i>
	If Yes, what type of nutritional support(s) have you ever received?	Plumpy Nut.....1 Fortified Blended Flour.....2 Others (Specify).....4	

SECTION D: HEALTH-RELATED QUALITY OF LIFE ASSESSMENT TOOL

Section D seeks to assess the HRQoL using four domains which are physical, psychological, level of independence, social relations and environmental factors. In each case, you will be asked to indicate how often you felt or thought in a certain way

1= Not at all 2= A little 3= A moderate amount 4= Very much 5=An extreme amount

PHYSICAL DOMAIN

- | | | | | | |
|--|----------|----------|----------|----------|----------|
| 1. How have you felt that physical pain prevents you from doing what you need to do? | 1 | 2 | 3 | 4 | 5 |
| 2. Do you have energy for everyday life? | 1 | 2 | 3 | 4 | 5 |
| 3. How satisfied are you with your sleep? | 1 | 2 | 3 | 4 | 5 |
| 4. How much are you bothered by any physical problems related to your HIV infection? | 1 | 2 | 3 | 4 | 5 |

PSYCHOLOGICAL DOMAIN

- | | | | | | |
|--|----------|----------|----------|----------|----------|
| 5. How much do you enjoy life? | 1 | 2 | 3 | 4 | 5 |
| 6. How well are you able to concentrate? | 1 | 2 | 3 | 4 | 5 |
| 7. How satisfied are you with yourself? | 1 | 2 | 3 | 4 | 5 |
| 8. Are you able to accept your bodily appearance? | 1 | 2 | 3 | 4 | 5 |
| 9. How often do you have negative feelings such as blue mood, despair, anxiety and depression? | 1 | 2 | 3 | 4 | 5 |

LEVEL OF INDEPENDENCE DOMAIN

- | | | | | | |
|--|----------|----------|----------|----------|----------|
| 10. How well are you able to get around? | 1 | 2 | 3 | 4 | 5 |
| 11. How satisfied are you with your ability to perform your daily living activities? | 1 | 2 | 3 | 4 | 5 |
| 12. How much do you need any medical treatment to function in your daily life? | 1 | 2 | 3 | 4 | 5 |
| 13. How satisfied are you with your capacity for work? | 1 | 2 | 3 | 4 | 5 |

SOCIAL RELATIONSHIP DOMAIN

14. How satisfied are you with your personal relationships?

1 2 3 4 5

15. How satisfied are you with the support you get from your friends?

1 2 3 4 5

16. How satisfied are you with your sex life?

1 2 3 4 5

17. To what extent do you feel accepted by the people you know?

1 2 3 4 5

ENVIRONMENTAL DOMAIN

18. How safe do you feel in your daily life?

1 2 3 4 5

19. How satisfied are you with the conditions of your living place?

1 2 3 4 5

20. Have you enough money to meet your needs?

1 2 3 4 5

21. How satisfied are you with your access to health services?

1 2 3 4 5

22. How available to you is the information that you need in your day-to-day life?

1 2 3 4 5

23. To what extent do you have the opportunity for leisure activities?

1 2 3 4 5

24. How healthy is your physical environment?

1 2 3 4 5

25. How satisfied are you with your transport?

1 2 3 4 5

SPIRITUAL, RELIGION AND PERSONAL BELIEFS

26. To what extent do you feel your life to be meaningful?

1 2 3 4 5

27. To what extent are you bothered by people blaming you for your HIV status?

1 2 3 4 5

28. How much do you fear the future?

1 2 3 4 5

29. How much do you worry about death?

1 2 3 4 5

GENERAL QUALITY OF LIFE

30. How would you rate your quality of life?

1 2 3 4 5

31. How satisfied are you with your health?

1 2 3 4 5

THANK YOU FOR PARTICIPATING