UNIVERSITY OF CAPE COAST

MENTAL HEALTH AND PSYCHOLOGICAL WELL-BEING ASSESSMENT OF PEOPLE LIVING WITH HIV/AIDS IN CAPE COAST TEACHING HOSPITAL

LYDIA BENNIN

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BY

LYDIA BENNIN

Thesis submitted to the School of Nursing & Midwifery of the College of Health & Allied Sciences, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Nursing degree.

JULY, 2024

DECLARATION

Candidate's Declaration

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

Candidate's Signature: ………………………………… Date:….……..……..

Candidate's Name: …………………………………………………………

Supervisor's Declaration

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

Supervisor's Signature: ……………….……………….Date: …...……………

Supervisor's Name: ……………………………………………………...……..

ABSTRACT

This study aimed to investigate the mental health and psychological well-being of PLHIV who used HIV-related services at Cape Coast Teaching Hospital to guide the design of effective mental health-related treatments for PLHIV. Data from PLHIV who visited the ART clinic was gathered using a mixed-method approach that included a survey and in-depth interviews, utilising a questionnaire and interview guide. The data were analysed using descriptive summary measures, multivariable logistic regression, bivariate correlation, and theme analysis. The results showed that 28.6% (95% confidence interval [CI] 24.4-33.3), 40.8% (95% CI 36.0-45.8), 10.6% (95% CI 7.9-14.1), 30.1% (95% CI 25.6-34.9), and 45.3% (95% CI 40.4-50.2) of people living with HIV (PLHIV) reported experiencing depression, anxiety, stress, loneliness, and poor self-esteem. Women reported notably higher levels of stress (12.6%; 95% CI 9.4-17.0), anxiety (44.0%; 95% CI 38.4-49.6), and depression (32.2%; 95% CI 11.1-26.4) compared to men, who had lower rates of depression (17.5%; 95% CI 11.1-26.4), anxiety (30.9%; 95% CI 22.5-40.7), and stress (4.1%; 95% CI 1.2-10.4). Additionally, PLHIV without a regular partner had a 0.63 times higher likelihood of experiencing anxiety compared to those with a regular partner (adjusted odds ratio [AOR] = 0.63, 95% CI 0.40-1.00; p = 0.049). PLHIV, with no formal education, had increased odds of experiencing both anxiety and stress by approximately 0.49 and 0.44. Further, qualitative analysis shows coping approaches, including health-related elements, spirituality and religion, support networks, and behavioural changes to optimise their condition. The findings point to the necessity of incorporating context-specific therapies to lessen the psychological burden brought on by HIV.

KEYWORDS

Anxiety

Coping strategies

Depression

Psychological experiences

Stigma

Stress

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DEDICATION

To my ever-loving children, Iris and Ivan.

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CHAPTER ONE

INTRODUCTION

Background of the Study

Despite significant advancements in HIV prevention and treatment, HIV/AIDS continues to be a global threat that deeply affects individuals and their families (Remien, Stirratt, Nguyen, Robbins, Pala, & Mellins, 2019). In 2018, it was estimated that 37.9 million people worldwide were living with HIV/AIDS (Heath, Levi, & Hill, 2021; World Health Organization [WHO], 2019). Of these, 19.4 million were in Sub-Saharan Africa [SSA], representing nearly two-thirds of the global total (Ayisi Addo et al., 2018; WHO, 2019). In addition, 74% of the 1.5 million deaths due to HIV/AIDS in 2013 occurred in SSA (Kharsany & Karim, 2016).

Additionally, Sub-Saharan Africa (SSA) contributes to about two-thirds of the estimated 6000 new daily HIV infections (Kharsany et al., 2016). Globally, women are disproportionately affected by HIV/AIDS (Kharsany et al.; Ramjee & Daniels, 2013). The situation is especially severe in SSA (Kharsany et al.; Ramjee et al., 2013), where women constitute at least 56–59% of HIV/AIDS patients (Sia, Onadja, Hajizadeh, Heymann, Brewer, & Nandi, 2016).

The World Health Organization (WHO) defines mental health, or psychological well-being, as a condition in which individuals are aware of their strengths, effectively handle life’s pressures, work productively, and actively contribute to their community (WHO, 2018). People with HIV/AIDS experience a range of physiological and psychosocial challenges that can be both traumatic and stressful (Reif et al., 2011). Studies show that individuals with HIV (PLHIV) are more prone to developing mental health problems, including depression, anxiety, suicidal thoughts, and substance abuse, compared to the general population (Catalan et al., 2011; Clucas et al., 2011; Sherr et al., 2011). Moreover, the long-term impacts of HIV and antiretroviral therapy (ART) can cause HIV-associated neurocognitive disorders (HAND) (Rackstraw, 2011). Poor mental health can also negatively affect adherence to ART, which can reduce quality of life and increase mortality rates among PLHIV (Clucas et al.; Sherr et al., 2011).

According to estimates, Ghana has 342,307 residents living with HIV (122,321 men and 219,986 women), with an approximate prevalence rate of 2% (Ghana AIDS Commission, 2019). In 2018, it was estimated that of the 334,713 people living with HIV/AIDS in Ghana, only 35% were men, while women accounted for the majority at 65% (Ayisi Addo et al.). HIV/AIDS is a chronic illness that significantly impacts both physical and psychological health. The psychological effects, such as stigma, depression, anxiety, low self-esteem, loneliness, and reduced quality of life, are substantial burdens of this chronic condition (Collins, Holman, Freeman, & Patel, 2006). Stigma and various mental health issues are commonly observed among people living with HIV (Mahungu, Rodger, & Johnson, 2009; Evangeli, Newell, Richter, & McGrath, 2014).

The risk of HIV infection remains a constant concern for individuals with severe mental illness (Lazarus & Freeman, 2009). People living with HIV (PLHIV) face numerous challenges that negatively impact their psychological and mental health, increasing the likelihood of developing other mental disorders (Motumma, Negesa, Hunduma & Abdeta, 2019). Moreover, the stigma associated with HIV makes the infection emotionally distressing (Altevogt, Hanson, Ssali & Cuff, 2010). HIV can also directly affect the central nervous system, leading to changes in cognition, perception, and behaviour (Altevogt et al., 2010). Furthermore, opportunistic neurological and systemic illnesses, along with their treatments, can contribute to mental health issues (Bing et al., 2001).

Antiretroviral therapy (ART) is a lifelong treatment, and the side effects of the medication are often seen as a major barrier to adherence (Zhang, Li, Lin, Jacques-Tiura, Xu, Zhou, & Stanton, 2016). Moreover, ART typically requires following a strict prescription schedule, which, combined with its unpleasant side effects, can decrease patients' motivation to take their medications as directed (Miller, Ketlhapile, Rybasack-Smith, & Rosen, 2010). Both patients and caregivers face psychological challenges, including depression, anxiety, helplessness, and vulnerability, due to the stress of needing to remain on medication for life (Valjee & Van Dyk, 2014). Additionally, living with HIV can lead to difficulties in coping, social isolation, and poor psychological well-being (Varni, Miller, McCuin, & Solomon, 2012).

HIV-positive individuals frequently experience common mental disorders (CMDs), which encompass various non-psychotic conditions such as depression, anxiety, and somatoform disorders (Adewuya et al., 2007; Deribew et al., 2010; Petrushkin et al., 2005). In the USA, major depressive disorder affects between 16.2% and 36% of HIV patients (Kessler et al., 2003). This rate is 4-7 times higher than the 4.2% prevalence observed in the general population (Tesfaye et al., 2010). According to Motumma et al.

(2019), mental health issues in HIV/AIDS patients can accelerate disease progression, reduce medication adherence, decrease patients' motivation or ability to seek medical care and increase their risk of acquiring other sexually transmitted infections (STIs).

Due to the harmful impact of HIV on the central nervous system, increasing scientific evidence suggests a strong link between HIV/AIDS and mental health as well as overall well-being (Uys & Middleton, 2014). Bongongo, Tumbo, and Govender (2013) estimate that 15–36% of patients with chronic illnesses and 60% of HIV-positive individuals experience depressive symptoms worldwide. Research by Martin and Kagee (2011) indicates that HIV can be a stressor that contributes to HIV-related PTSD. In South Africa, up to 25% of people living with HIV (PLHIV) are believed to suffer from depression when they are unwell (Eller et al., 2014). Additionally, research in Sub-Saharan Africa found that among adult PLHIV, anxiety disorders and mixed anxiety-depressive disorders were common, with prevalence rates of 5.3% and 21.7%, respectively (Motumma et al., 2019).

While there is a growing body of knowledge on how HIV/AIDS affects mental health, prospective studies are required to look at the mental health and psychological well-being of PLHIV/AIDS and how this can help to guide effective Differentiated Service Delivery interventions for mental health.

Statement of the problem

Studies show that individuals living with HIV often experience anxiety and depression as they adjust to their diagnosis, contemplate the consequences of a positive test, learn to manage a chronic, life-threatening condition, and mourn the loss of an HIV-positive friend or loved one (Green & Smith, 2004; Collins et al., 2006). In a large national sample of American men and women with HIV, the estimated prevalence of anxiety and depressive disorders was found to be 16% and 36%, respectively (Bing et al., 2001). Similarly, mental illness prevalence among people living with HIV (PLHIV) in sub-Saharan Africa is believed to be as high as 19% (Breuer, Myer, Struthers, & Joska, 2011).

Estimates from the study by Ali, Amoyaw, Baden, Durand, Bronson, Kim, and Swaminathan (2019) indicate that the HIV prevalence in Ghana is 1.6%, with significant regional variation and certain populations being more affected. Additionally, about 13% of adults in Ghana experience various mental health issues (Roberts, Mogan, & Asare, 2014). Data from Ritchie and Roser (2018) show that between 1990 and 2017, the prevalence of depression, anxiety disorders, and schizophrenia increased by 3.3%, 2.9%, and 0.17%, respectively. At the Central Regional Hospital, psychological disorders were found in 70.9% of HIV-positive patients undergoing treatment (Siakwa, Okanlawon, Druye, Ankobil, Aniweh, & Dzah, 2015).

Several studies conducted in Ghana reveal a notable prevalence of institutional, familial, and societal stigma related to HIV against people living with HIV (PLHIV) (Mumin, Gyasi, Segbefia, Forkuor, & Ganle, 2018). For example, research on HIV stigma and status disclosure in three Ghanaian communities found that 25% of participants had experienced stigma, such as being talked about (56%) or verbally harassed (31%) (Adam, Fusheini, Ayanore, Amuna, Agbozo, Kugbey, & Zotor, 2021). Additionally, in four regional capitals of Ghana, studies identified community-related stigma against HIV-positive men who have sex with men (MSM), including verbal abuse (49%), physical assault (13%), and hesitancy to assist (30%) (Dos Santos, Kruger, Mellors, Wolvaardt, & Van Der Ryst, 2014).

A substantial amount of research has focused on the prevalence of HIV/AIDS and mental health problems in Ghana; however, there has been limited investigation into the mental health and psychological well-being of people living with HIV (PLHIV). Considering the strong evidence linking poor mental health with adverse HIV health outcomes, it is crucial to integrate mental well-being programs into HIV care and implement universal mental health screenings (Remien et al., 2019). A thorough evaluation of each person's mental and psychological well-being could yield results that would enable policies and support mechanisms to offer psychosocial care and enhance the PLHIV population's quality of life. As a result, the objective of the current study was to examine the mental health and psychological well-being of PLHIV, who used HIV/AIDS-related services at Cape Coast Teaching Hospital.

Purpose of the Study

In order to inform appropriate mental health-related Differentiated Service Delivery treatments for PLHIV, the study delved into the mental health and psychological well-being of PLHIV/AIDS who accessed HIV-related services at the Cape Coast Teaching Hospital.

Research Objectives

This study specifically sought to among PLHIV seeking care at the Cape Coast Teaching Hospital;

1) Assess the prevalence of mental health disorders among PLHIV

2) Evaluate how socio-demographic characteristics influence mental health and psychological well-being
3) Determine the relationship between HIV-related stigma, Self-esteem, and Loneliness
4) Identify the coping strategies used by patients to manage their daily activities.
5) Explore how patients describe their experiences living with HIV/AIDS

Research Questions

The current study sought to among PLHIV seeking care at the Cape Coast Teaching Hospital answer the following questions;

1) What is the prevalence of mental health disorders among PLHIV?
2) How do socio-demographic characteristics influence the mental health and psychological well-being of PLHIV?
3) What is the relationship between HIV-related stigma, Self-esteem, and Loneliness among PLHIV?
4) What coping strategies are used by PLHIVs to manage their daily activities?
5) How do patients describe their experiences living with HIV/AIDS?

Significance of the Study

The research titled “Mental Health and Psychological Well-being Assessment of People Living with HIV/AIDS” is highly significant in the nursing profession, impacting practice, education, research, and administration. People with HIV/AIDS often face greater mental distress compared to physical issues (Nasir et al., 2023). This underscores the need for nursing care to focus more on the psychosocial aspects in addition to clinical features, with the support of strong nurse-client relationships to improve service quality (Nasir et al., 2023). Psychological support and coping strategies are crucial for easing the suffering of individuals with HIV/AIDS, supporting their mental health, and improving their overall well-being (Ernawati et al., 2021).

Research on mental health issues among HIV and AIDS patients, including a study from Pakistan, offers valuable insights into mental health challenges at various stages of the disease (Hafeez & Mahmood, 2021). Grasping the interplay between mental health needs, social support, and HIV risk behaviours is essential for addressing the link between mental distress and risky behaviours (Fang et al., 2019). Assessing the knowledge, attitudes, and care practices of healthcare professionals regarding mental health in individuals with HIV/AIDS is crucial for improving care quality (Simwinga, 2020).

Furthermore, incorporating mental health services into primary healthcare settings for HIV patients is crucial because individuals with HIV are at a higher risk of developing mental health issues (Cele & Mhlongo, 2020). Tackling stigma and discrimination against HIV-positive individuals in psychiatric and mental health facilities is vital for enhancing care quality and service use (Alenezi, 2022). Research highlights the frequent occurrence of mental disorders among those with HIV/AIDS, stressing the need for nurses to be well-informed and skilled in delivering mental health care to this group (Chorwe-Sungani et al., 2015).

Moreover, the influence of workplace policies, quality assurance programs, and targeted interventions in mitigating HIV/AIDS-related stigma faced by both patients and nurses is vital for creating a supportive care environment (Hewko et al., 2018). It is crucial to educate nursing students and healthcare professionals about HIV/AIDS, improve their knowledge, attitudes, and practices in caring for those with HIV/AIDS, and address any knowledge deficiencies to enhance care quality and reduce stigma (Esewe et al., 2017; Nanayakkara & Choi, 2020; Jain et al., 2018).

In conclusion, the importance of examining mental health and psychological well-being in people living with HIV/AIDS is that it can lead to advancements in nursing practice, education, research, and administration. By concentrating on psychosocial factors, incorporating mental health support into HIV services, tackling stigma, and improving healthcare professionals' knowledge and attitudes, this study helps to improve the overall quality of care and well-being for those living with HIV/AIDS.

Delimitations

The researcher determines delimitations in research and outlines the study's limits, choices, and scope (Simon, 2011). This study investigated the psychological and mental health of people living with HIV (PLHIV) who used HIV-related services at the CCTH. The participants included adult male and female PLHIV, aged 18 and older, who were receiving care from the CCTH ART clinic during the study period. Only those who were regular clients of the clinic's medical services were included. The quantitative part of the study aimed to collect data on socio-demographic details, the prevalence of mental health issues, HIV-related stigma, self-esteem, loneliness, and coping strategies among PLHIV. The qualitative part involved semi-structured interviews where patients shared their experiences with HIV/AIDS.

Limitations

Simon (2011) suggests that research limitations are issues beyond the researcher's control. This study, which involved adult males and females living with HIV (PLHIV) aged 18 and older, was carried out in a teaching hospital. It did not include PLHIV who were 18 or older but were receiving care from other ART clinics, which affected the generalizability of the findings. To address this limitation, a mixed-method approach was employed, with the quantitative component featuring a large sample size. The researcher also anticipated that respondent cooperation might be a major limitation due to the stigma surrounding PLHIV. Nevertheless, before gathering the data, the researcher could win the respondents' participation by thoroughly outlining the study's objectives, assuring their confidentiality, and maintaining a high level of anonymity.

Definition of terms

Coping: efforts to avert or lessen the threat, injury, and loss, as well as the grief that is frequently brought on by such events.

Loneliness: an acute sense of missing social interaction, belonging, or feeling alone. People often feel that societal expectations are not aligned with what their environment provides.

Mental health: a state of wellness where an individual recognizes their potential, effectively manages life's challenges, performs well in their tasks, and contributes positively to their community.

Self-esteem: an individual's sense of value or worth.

Stigma entails holding unpleasant opinions or treating someone unfairly due to a distinctive trait such as a mental illness, medical condition, or handicap.

Organization of the Study

The current study was organised into five (5) chapters. The study's background, problem statement, purpose, research objectives, and research questions were all highlighted in the first chapter. The chapter also featured the significance of the study, delimitations, limitations, definition of terms, and a summary of how the researcher organised the entire study. Chapter two reviewed the theoretical underpinnings, conceptual framework, and literature relevant to the study based on the study's objectives. The third chapter centred on the techniques applied to carry out the entire study. More specifically, it addressed the research design, the study area, the population, the sampling procedure, the data collection instrument, and the data collection procedure and analysis. Chapter four dealt explicitly with the presentation of results and the discussion of the analysed data. The final chapter entailed a summary of the key finding, conclusions, and recommendations drawn from the study findings

CHAPTER TWO

LITERATURE REVIEW

Introduction

This study sought to investigate the mental health and psychological well-being of PLHIV/AIDS who accessed HIV-related services at the Cape Coast Teaching Hospital. This chapter provides an analysis of the pertinent literature for the investigation at hand. The researcher utilized various online and web-based databases to gather literature. Specific search engines, such as Google Scholar, EBSCO Host, HINARI, Medline, ScienceDirect, and PubMed, were also employed to find journals, theses, and reports from the CDC and WHO concerning the mental health and psychological well-being of individuals living with HIV/AIDS. Keywords like HIV, AIDS, psychological well-being, mental health prevalence, mental health disorders, HIV-related stigma, self-esteem, loneliness, coping strategies, and lived experiences were used in the search. The researcher applied the Boolean operators AND, OR, and NOT to refine the search terms and obtain the most current and relevant articles from the databases.

The literature review was organized into two main sections. The first section focused on prior research pertinent to the study's specific objectives. The second section explored theories and models concerning the mental health and psychological well-being of individuals living with HIV. These theories and models provided a framework for situating the study within its conceptual context. The research objectives addressed include the prevalence of mental health disorders among people living with HIV (PLHIV), the impact of HIV-related stigma, self-esteem, and loneliness on PLHIV, coping strategies employed by PLHIV for daily management, the influence of socio-demographic factors on the mental health and psychological well-being of PLHIV, and the lived experiences of those with HIV/AIDS.

The Concept of Nursing Care, Mental Health, and Psychological Well-Being of PLHIV

According to Brennan, Morley, O'Leary, Bergin, and Horgan (2015), caring for people living with HIV (PLHIV) requires a multifaceted approach. They stress the importance of developing a new model of care that involves collaboration among multidisciplinary and interprofessional teams. Additionally, Mall, Sorsdahl, Swartz, and Joska (2012) highlight that HIV/AIDS care providers' ability to detect mental health issues in PLHIV is essential for enhancing the effectiveness of antiretroviral treatment programs and ensuring adherence to treatment.

Most of the healthcare workers who care for people living with HIV (PLHIV) are nurses. Therefore, nurses must address the mental health needs of these patients (Chorwe-Sungani & Shangase, 2013). In the HIV care continuum, nurses' commitment to providing therapeutic support is vital because, alongside managing the physical effects of the virus, patients also need attention to their mental health (Chorwe-Sungani et al., 2013).

Similarly, nurses around the globe provide vital and enriching care, often serving as the primary or initial point of contact for people living with HIV (PLHIV) (Family Health Intervention [FHI], 2011). For example, the introduction of ART by nurses is anticipated to improve patient access to treatment and empower nurses to manage uncomplicated cases (Modula & Ramukumba, 2018). Given the high incidence of mental health and psychiatric issues among PLHIV, nurses are in a position to assess and address these conditions (Family Health Intervention). Nurses need to address mental health and psychological issues while caring for PLHIV, as psychological well-being is critical in managing a crisis.

Prevalence of Mental Health Disorders among PLHIV

Research indicates that people living with HIV (PLHIV) face significantly more mental health challenges compared to the general population. For example, Bing et al. (2001) found that in 1996 in the United States, over 12% of their sample had tested positive for drug dependency in the past year, nearly 40% reported using illegal substances other than marijuana, and almost 50% were found to have a mental illness. Other studies confirm similar trends. In the U.S., for instance, 15.8% of 2,800 PLHIV from 1996 were diagnosed with generalized anxiety disorder, and 36% suffered from severe depression. In contrast, during the same period, the prevalence of major depression and generalized anxiety in the general population was much lower, at 6.7% and 2.1%, respectively (Centre for Behavioural Health Statistics and Quality, 2017).

In various studies conducted in the United States, Blank et al. (2014) discovered that 4.8% of individuals seeking mental health care at university psychiatric inpatient units, intensive case management programs, and community mental health centers had tested positive for HIV. This rate was notably higher than the general population’s HIV infection rate. Additionally, Do et al. (2014) examined the impact of major depression on HIV-positive individuals compared to the general population and assessed the current rates of depression among those receiving care using data from the Behavioral Risk

Factors Surveillance System (BRFSS) and the Medical Monitoring Project (MMP). They found that depression remains a common comorbidity among people living with HIV. Earlier, Freeman, Nkomo, Kafaar, and Kelly (2008) investigated the prevalence of mental illness among people living with HIV in developing countries and explored how various factors are related to the presence of mental disorders. They found that 43.7% of participants had a diagnosable mental condition, with depression being the most common (11.1% severe and 29.9% moderate), followed by alcohol use disorder (12.4%).

In a study by Egbe, Dakum, Ekong, Kohrt, Minto, and Ticao (2017) involving 1,187 participants aged 18 and older from three HIV treatment centers in Abuja, Nigeria, the researchers investigated the prevalence and risk factors for severe depressive episodes, suicidality, and alcohol misuse among individuals living with HIV in Nigeria. Their findings revealed that these issues were common among people living with HIV (PLHIV). In a similar vein, Al Madhani et al. (2020) examined the prevalence of depressive symptoms in PLHIV across the Arabian Peninsula, finding a rate of 41.6% in this group. Additionally, a cross-sectional study in Harar, eastern Ethiopia, focused on common mental disorders (CMD) among adults undergoing HIV treatment, found that 28.1% (95% CI: 26.14, 30.06) of PLHIV experienced CMD (Motumma, Negesa, Hunduma, & Abdeta, 2019).

Likewise, Magidson, Skeer, Mayer, and Safren (2015) conducted a study to determine the prevalence of mental illnesses and drug addiction among HIV-positive homosexual and bisexual men, as well as the proportion of those diagnosed within the framework of their primary medical care. Their findings revealed that over 47% of participants met the criteria for any anxiety disorder, more than 22% had a depressive mood disorder, and 25% exhibited heightened signs of drug abuse. These findings indicate that drug abuse, mental illnesses, and anxiety are prevalent among homosexual and bisexual men living with HIV.

Amare, Getinet, Shumet, and Asrat (2018) carried out a systematic review and meta-analysis to compile existing data on adult people living with HIV (PLHIV) in Ethiopia. Their review of various databases revealed that the prevalence of depression among PLHIV was higher compared to the general population. Similarly, Brandt (2009) conducted a systematic review focusing on quantitative studies about the mental health of HIV-positive individuals in Africa. Brandt's review, covering research from 1994 to 2008, found that about half of the HIV-positive adults studied had a mental disorder, with depression being the most common issue. Thus, it was concluded that PLHIV often faces more mental health challenges than those who are not infected with HIV.

Cai, Liu, Wu, Pan, Yu, and Ou (2020) investigated the levels of psychological symptoms (depression, anxiety) and the health-related quality of life in people living with HIV (PLHIV) and assessed associated risk factors. The study included 121 PLHIV and 61 healthy individuals as a control group. Results showed that PLHIV had significantly higher depression scores (47.83 ± 10.58) compared to the healthy group (36.52 ± 9.69, $P < 0.001$), and anxiety scores were also higher in PLHIV (41.06 ± 11.24) compared to the control group (32.31 ± 7.99, $P < 0.001$). This led the authors to conclude that PLHIV often experiences higher levels of depression and anxiety. In a separate study, 424 PLHIV from a tertiary institution in southwestern Nigeria were compared with control subjects of the same age and sex, revealing a higher prevalence of depression among PLHIV (39.5%) compared to the control group (22.0%). Anxiety rates were also slightly higher in the PLHIV group (32.6%) compared to the control group (28.7%).

The mental health of women living with HIV (WLWH) was assessed in a different setting. Compared to their male counterparts, WLWH exhibited higher rates of depression, anxiety, and post-traumatic stress symptoms and experienced these issues more frequently than HIV-negative women (Waldron et al., 2021). HIV status is closely linked with neurological and mental health conditions (Baingana, Bannon, & Thomas, 2005). The authors highlighted this connection by exploring the relationship between HIV/AIDS and mental health and underscoring the need for psychological support for people living with HIV. According to Baingana and colleagues, HIV/AIDS can lead to psychological and psychiatric issues that affect the progression of the disease. Consequently, adherence to medical treatment may decline, and there is an increased risk of engaging in high-risk behaviours. In a related view, Asante (2012) notes that women with HIV face heightened levels of stress, depression, and anxiety.

In Iran, Shadloo et al. (2018) assessed psychiatric comorbidity and the utilization of mental health services among people living with HIV (PLHIV). They examined factors such as social support, socioeconomic status, service usage, and HIV itself, as well as the severity of psychiatric issues. The most prevalent diagnosis was major depressive disorder (32.1%), followed by substance use disorders (17.1%) among the 50.2% (95% confidence interval:

43.8-56.6) of participants with psychiatric conditions. The study concluded that there is a strong link between HIV and psychiatric issues, with shared risk factors. Similarly, Kendall et al. (2014) conducted retrospective observational research to analyze the demographics and clinical characteristics of PLHIV in Ontario, comparing them to the general population. Their findings revealed a relatively high incidence of mental health disorders (38.6%), with women experiencing higher rates of comorbidity and multimorbidity compared to the general population.

A study found that anxiety and depression affected 34.4% and 32.0% of individuals, respectively (Duko, Toma, Asnake, & Abraham, 2017). High resilience among people with HIV is associated with lower rates of depression, anxiety, and challenges in performing activities of daily living (McGowan JA, Brown J, Lampe FC, Lipman M, Smith C, & Rodger, 2018). Another study revealed that 20.03% of individuals with an HIV-positive diagnosis were also diagnosed with depression. Time trend analysis ($\chi = 6.428$, df =11, $p = .0$) indicated a significant increase in annual depression rates among the study's participants, rising from 1.95% in 2000 to 6.93% in 2011 (Lu et al., 2018). Additionally, a related study found a high prevalence of depression among HIV patients, with a rate of 67.3%. This finding highlights the need for medical staff in ART clinics to be aware of the potential dangers of depression for HIV patients (Rai & Verma, 2015).

Influence of Socio-demographic characteristics on Mental Health and Psychological Well-being of PLHIV

The well-being of individuals living with HIV/AIDS is influenced by physical, social, economic, and psychological factors. The demands and repercussions associated with the disease impact their quality of life and mental health (Ofovwe, Ofili, & Ofovwe, 2018). A report by the UNAIDS Programme Coordinating Board in 2018 emphasized that comprehensive HIV care and treatment, along with mental health services, are crucial for enhancing the quality of life for those living with HIV (PLHIV). Moreover, research has shown that socio-demographic factors—such as age, gender, marital status, education level, employment status, and environmental conditions—affect psychological well-being, including PLHIV (Khumalo, Temane, & Wissing, 2012). For instance, Seid, Abdu, Mitiku, and Tamirat (2020) found a correlation between depression in PLHIV and age (AOR = 6.58, 95% CI 1.11, 38.9) and marital status (AOR = 7.05, 95% CI 2.32, 21.38). Similarly, Bankole et al. (2017) observed that depression was more common in older age groups (14 to 16 years) and among children who experienced academic failure.

According to research by Dalmida, Koenig, Holstad, and Wirani (2013), 56.7% of the PLHIV cohort exhibited symptoms of depression. The study identified several significant factors associated with depression, including birth sex (with females having an OR of 0.43 and a 95% CI of 0.23–0.80) and marital status (with singles having an OR of 0.52 and a 95% CI of 0.27–0.99). Another study by Metekiya, Wondafrash, and Tesfaw (2020) found a positive correlation between high school education and depressive symptoms among PLHIV (AOR: 2.11, 95% CI: 1.01–4.42). Additionally, Adeoti, Dada, and Fadare (2018) reported that depression was more prevalent among women, the illiterate, those who were divorced or widowed, unemployed, and low-income individuals in a South Western Nigerian tertiary hospital. This study also found that anxiety disorders were associated with younger age, female gender, and low income. Furthermore, research by Sargolzaei, Mohebi, Hosaini, and Farzad (2018) on 110 patients aged 16 and older showed that HIV-positive women had a lower psychological well-being score.

In Conakry, Guinea, a study by Camara et al. (2020) found a strong association between being under 40 years old and anxiety among HIV patients (AOR = 2.81, 95% CI 1.04-7.58). In Korea, a nationally representative sample was used to explore sociodemographic predictors of depressive disorders. The research showed that the use of mental health services was closely related to factors such as age, educational level, and employment status (Park, Jeon, Kim, Kim, & Roh, 2014). Conversely, Asante (2012) found that women with HIV experienced significantly higher levels of stress, depression, and anxiety compared to men. This study also noted that older participants had higher stress levels compared to younger ones, making female gender and older age key predictors of mental health among people living with HIV. Additionally, Huang et al. (2018) found that socio-demographic factors like employment ($p<0.001$), higher educational attainment ($p<0.001$), and older age ($p<0.004$) were all associated with an increased risk of depression.

Being employed or studying was identified as an independent factor influencing the overall quality of life for people living with HIV (PLHIV) (Ruutel, Pisarev, Loit, & Uusküla, 2009). Abrefa-Gyan, Cornelius, and Okundaye (2016) examined how socio-demographic factors and social support affect the quality of life for people with HIV/AIDS in Ghana. They found that having 13 or more years of education, being male, and being younger were linked to a higher quality of life. Conversely, being female, unemployed, and lacking a spouse was associated with increased psychological distress (Obadeji, Oluwole, Kumolalo, Oderinde, Ajiboye, & Piwuna, 2021). Additionally, the study by Basha, Derseh, Haile, and Tafere (2019) indicated that being female (AOR = 3.02; 95% CI: 1.16, 7.82) and illiterate (AOR = 3.91; 95% CI: 1.31, 6.45) were both positively associated with psychological distress.

A study has found no significant association between gender and health-related quality of life (HRQL) among HIV/AIDS-positive individuals (Perez et al., 2009). However, other research has shown that women generally report lower HRQL compared to men (Briongos et al., 2011; Protopopescu et al., 2007; Rao et al., 2007). Several explanations exist for this disparity. Some researchers suggest that women might be more likely to report poor physical health than men, as men are often expected to maintain a more stoic attitude (Rao et al., 2007; Mrus et al., 2005). Additionally, women might experience higher levels of guilt (Cederfjall et al., 2001). Conversely, Mrus et al. (2005) argue that the prevalence of mood disorders, anxiety disorders, and psychosomatic issues among women could contribute to the HRQL differences observed.

Gender significantly influences how people living with HIV (PLHIV) manage the disease burden. For example, research on gender inequality in perceived stigma and coping strategies among PLHIV in Ethiopia showed that men often resorted to maladaptive coping methods like substance abuse, while women more frequently employed emotional coping strategies such as behavioural disengagement and self-distraction (Ataro, Mengesha, Abraham, & Digaffe, 2020). Women, in general, are noted for their tendency to respond to challenges with emotional strategies rather than seeking social support (Melendez, Mayordomo, Sancho, & Tomas, 2012; Carpenter, 2013). Similarly, a study in Malaysia found that despite possessing strong HIV knowledge, high self-esteem, and positive attitudes toward HIV and PLHIV, most female sex workers still experienced significant self-stigma (Mehrabi, Tamam, & Ketab, 2020). In contrast, in Bangladesh, coping strategies among PLHIV did not differ by gender but varied significantly by age group (Islam & Sultana, 2020).

Yousuf, Musa, Isa, and Arifin (2020) investigated the prevalence and correlations of anxiety and depression among women living with HIV, finding that these disorders affected 28.9% and 32.5% of the participants, respectively. Their multivariate analysis indicated that factors such as education, marital status, employment status, monthly income, and co-infections were all significantly linked to depression (AOR= 1.04, 95% C.I (0.40-2.71)). A similar study found significant correlations between marital status and depression levels in women ($P < 0.05$). Additionally, men reported higher average stress levels compared to women ($P < 0.05$), while women experienced higher average levels of depression and anxiety ($P < 0.05$)

(Saadat, Behboodi, & Saadat, 2015).

In a related study, anxiety and depression were found to be common among women expecting their third child, with rates of 34.9% and 9.0%, respectively. Notably, depressive symptoms were twice as prevalent in HIV-positive individuals compared to those who were HIV-negative, with an adjusted odds ratio (AOR) of 1.97 (95% CI: 1.31-2.94) (Chipanta et al., 2021). According to Deshmukh, Borkar, and Deshmukh (2017), 75.9% of their participants were aged between 25 and 44, and half of them experienced depression. Interestingly, depression was more common among women, the illiterate, and unemployed HIV patients compared to men, the literate, and those employed.

Relationship between HIV-related Stigma, Self-esteem, and Loneliness among PLHIV

The recognition of HIV-associated stigma and the lethal effects on the overall well-being of PLHIV and their access to testing and treatment dates back to the epidemic’s beginning (Mahajan et al., 2008; Moussa et al., 2021; Turan et al., 2019). According to Goffman (as cited in Adimora et al., 2019), PLHIVs suffer various degrees of stigma and discrimination that impact their complete quality of life to the point that they are isolated from the general population. Likewise, an earlier study done by (Stutterheim, Pryor, Bos, Hoogendijk, Muris, & Schaalma, 2009) hinted that the stigma and prejudice placed on PLHIV has a wide variety of negative effects, such as low attendance for HIV testing and counselling, existential crises, seclusion, despair, low self-esteem, and a lack of enthusiasm in treating the illness. PLHIV live in fear of losing family and friends, even their job, if their HIV status becomes known, and this in itself is a stigma against the self. In the workplace, at home, or in the social setting, (Audet, McGowan, Wallston, & Kipp, 2013) found that people living with HIV encounter discrimination in all its manifestations, including termination or denial of employment from coworkers and employers, as well as stigma in all its forms, including social exclusion and mockery.

Adaramaja, Opeyemi, and Mojisola (2016) argue that stigmatization adversely affects the psychological and social well-being of people living with HIV (PLHIV), as well as their ability to maintain healthy family relationships. According to the authors, PLHIV often face issues such as low self-esteem, suicidal thoughts, mental health disorders, marital breakdowns, sexual denial, rejection, and isolation. Adimora, Aye, Akaneme, Nwokenna, and Akubuilo (2019) emphasize that individuals' self-esteem can suffer significantly when they are subjected to prejudice and stigma, which they internalize and perceive. Rosenberg (as cited in Adimora et al., 2019) highlights that internalized and perceived stigma can lead to mental health issues like depression, diminished self-esteem, loneliness, and a feeling of helplessness or lack of control. Such conditions may discourage individuals from remaining in care, adhering to treatment plans, or even contributing to suicidal thoughts. Moussa et al. (2021) similarly note that high levels of internalized stigma among PLHIV in Morocco have a profound impact on their life choices and access to healthcare.

An analysis of qualitative data reveals that HIV-associated stigma is a widespread cultural issue observed across various social settings globally (Chambers et al., 2015). According to Kurniawan, Deviantony, and Yunanto

(2019), stigma represents a major barrier to adherence to antiretroviral therapy among people living with HIV. The authors note that stigmatization often leads to negative emotional effects, such as diminished self-efficacy, self-esteem, and increased social isolation. Supporting this, Rueda et al. (2016) found that HIV-related stigma is associated with poorer mental health outcomes, including lower self-esteem (Kang, Rapkin & DeAlmeida, 2006) and increased loneliness (Yoo-Jeong, Hepburn, Holstad, Haardörfer, & Waldrop-Valverde, 2020). In a study of HIV-positive men who have sex with men (MSM) in a rural area of the Midwest, Hubach et al. (2015) examined the relationship between HIV-related stigma, loneliness, and sexual behaviours. They found a significant correlation between HIV stigma and loneliness ($r = 0.619$, $p < 0.01$).

Sebastian, Subathra, and Sadath (2018) investigated how stigma impacts self-esteem in people living with HIV (PLHIV) through a multivariate linear regression model. Their findings revealed that stigma was the most significant factor leading to a decrease in self-esteem. HIV-related stigma is closely linked to increased psychosocial distress and has been negatively associated with resilience and self-esteem across all age groups of PLHIV (Zhang et al., 2018). For PLHIV, who cannot fully hide or reveal their status due to stigma, there is a notable presence of psychological distress, lower self-esteem, and diminished social support (Stutterheim et al., 2011). Furthermore, variations in the experience of stigma play a major role in how illness impacts self-esteem.

Turan and colleagues found that internalized stigma affects how emotional, cognitive, and mental health outcomes are related to perceived community stigma, such as self-esteem, depressive symptoms, avoidance coping, and self-blame. However, Earnshaw and Quinn (2012) used path analysis to show that those who internalize stigma and experience it are less likely to access healthcare and have a lower quality of life. On the other hand, some studies suggest that how individuals cope with stigma can have a direct impact on their psychological and physiological well-being (Major, Quinton, & McCoy, 2002; Schmitz & Crystal, 2000; Wrubel, Stumbo, & Johnson, 2008).

Similarly, previous research has shown that HIV-related stigma is linked to low self-esteem (Berger, Ferrans, & Lashley, 2001) and loneliness (Ware, Wyatt, & Tugenberg, 2006), as well as other mental health issues such as chronic stress (Vanable, Carey, Blair, & Littlewood, 2006), generalized stress (Fang et al., 2015), post-traumatic stress disorder (Katz & Nevid, 2005), depression (Wright, Naar-King, Lam, Templin, & Frey, 2007), and anxiety (Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006). Another study has suggested that people living with HIV might face existential crises, isolation, loneliness, low self-esteem, decreased participation in HIV counseling and testing, and reduced motivation to manage their illness due to stigma and prejudice (Adebayo, Fakolade, Anyanti, Ekweremadu, Ladipo, & Ankomah, 2011).

The study by Harris et al. (2020) also highlights the connection between stigma and loneliness. Emlet (2014) argues, as Harris and colleagues note, that stigma related to HIV is linked to various harmful psychological effects and adverse health outcomes, including difficulties with disclosure and poor medication adherence (Grov, Golub, Parsons, Brennan & Karpiak, 2010; Vanable et al., 2006), depression and loneliness (Grov et al.), and a lower likelihood of engaging in health-seeking behaviours (Cahill & Valadez, 2013).

Coping Strategies used by PLHIV to manage their Daily Activities

Gohain and Halliday (2014) emphasize that coping mechanisms are crucial for the overall health and quality of life of people living with HIV (PLHIV), particularly adults. Research indicates that social support can mitigate the stress associated with HIV, leading to improved psychological well-being. Additionally, some experts argue that many PLHIV depend significantly on their social support networks to manage their condition and address the stigma linked to their illness (McDowell & Serovich, 2007). Perceived social support is also seen as a key resource for managing the disease (Bisschop, Kriegsman, Beekman, & Deeg, 2004; Goldsmith, Brashers, Kosenko, & O'Keefe, 2007). Galvan, Davis, Banks, and Bing's 2008 study in Thailand found that perceived social support might act as a buffer against stress-related crises resulting from HIV-positive status. Moreover, other studies suggest that PLHIVs who receive ongoing social support are more likely to experience a better quality of life and higher self-esteem (Li, Lee, Thammawijaya, Jiraphongsa, & Rotheram-Borus, 2009).

A study on the effectiveness of structured coping methods for managing HIV and the relationship between coping and quality of life found that at the initial assessment, acceptance and religiosity were the most commonly used coping strategies (Khakha & Kapoor, 2015). The researchers noted that there were moderate levels of coping skills, moral support, instrumental support, and positive thinking. Conversely, self-blame, anger, humour, denial, and drug abuse were among the least used coping strategies. Caring for people living with HIV (PLHIV) involves significant challenges, such as financial strain, providing food, stress, and stigma. Both PLHIV and their family caregivers need to develop coping strategies to maintain economic stability, psychosocial well-being, and spiritual support. According to Kathuri-Ogola, Mugenda, & Kerre (2014), some coping methods used by family caregivers include accessing loans, maintaining a positive outlook, engaging in prayer, consulting community health workers (CHWs), and enhancing their understanding of the disease.

People living with HIV face various stressors due to stigma (Adia et al., 2018; Kamen et al., 2012), and these stressors negatively affect their well-being (Brandt et al., 2017). To improve outcomes, there needs to be a greater emphasis on treatment, prevention, and developing effective coping strategies to ensure adherence and continued care (Nachega et al., 2014). Ignoring these needs could deteriorate their quality of life (Rood et al., 2015), accelerate disease progression (Chida & Vedhara, 2009), and lead to poorer treatment adherence (Lyimo et al., 2014).

Moskowitz, Hult, Bussolari, and Acree (2009) identified two primary strategies for coping: seeking social support and engaging in spirituality. Additionally, participating in support groups with other HIV-positive individuals has been recommended as a way to manage stress (Liamputtong, Haritavorn, & KiatyingAngsulee, 2009; Mburu et al., 2013; Peterson, Rintamaki, Brashers, Goldsmith, & Neidig, 2012). Similarly, Adia et al. (2019) highlight that in the Filipino context, people living with HIV (PLHIV) significantly depend on their peers for support and guidance in adapting to their condition. Peers play a vital role in helping PLHIV understand antiretroviral treatment (ART), manage its side effects, address new infections, and cope with concerns related to their HIV-positive status.

Some people living with HIV (PLHIV) use denial (avoidance) as a coping mechanism for their condition. According to Lazarus and Folkman (as cited in Osamika, 2019), this strategy is associated with a notably lower quality of life (QOL). Additionally, research indicates that PLHIV often struggles with managing daily activities (Basavaraj, Navya, & Rashmi, 2010). Using disengagement or avoidance as a coping method is linked to higher health-related stress among PLHIV (Fleishman et al., 2000; Schmitz & Crystal, 2000). Osamika (2019) found that coping styles such as substance abuse and behavioural disengagement negatively affect the quality of life for PLHIV. On the other hand, positive coping strategies like active coping, self-distraction, venting, positive reframing, humour, acceptance, and religion are considered beneficial (Jawad et al., 2016). Seligman (2002) also suggests that maintaining a positive outlook, optimism, and happiness can extend life, reduce disability, and enhance the quality of life for PLHIV.

In various contexts, people living with HIV (PLHIV) have employed avoidance, acceptance-resignation, and confrontation as coping strategies. Research indicates that confrontation is linked to better mental health outcomes, while avoidance and acceptance-resignation are considered maladaptive (Sun, Zhang, & Fu, 2007). Sun and colleagues identified confrontation as the most commonly used strategy, whereas acceptance-resignation and avoidance were strongly associated with greater distress. Rodrigue, Kanasky, Jackson, and Perri (2000) also noted that coping strategies can vary among patients, though confrontation is frequently used. The effectiveness of any coping strategy is influenced by factors such as the severity of the stressor, the individual's resources, and their cognitive appraisal of the situation (Rodrigue et al., 2000). Hsiung and Thomas (2001) argue that the cultural background and values of PLHIV may impact their coping strategies, which can change and evolve.

Lived Experiences of Patients Living with HIV/AIDS

The experience of living with HIV is marked by various forms of social discrimination (Adaramaja et al., 2016; Adimora et al., 2019), grief (Audet et al., 2013), mental health issues (Bing et al., 2001), crises of identity, feelings of isolation, loneliness, and diminished self-worth (Stutterheim et al., 2009). Essentially, the experience of living with HIV is defined by chronic illness, terminal illness, and social stigma. Lekas, Siegel, and Schrimshaw (2006) suggest that people living with HIV (PLHIV) may face a unique form of stigma due to misconceptions that they are putting their families and others at risk of infection. Similarly, the stigma affecting their close associates can lead PLHIV to experience poor mental health outcomes (Donenberg & Pao, 2005; Murphy, Roberts, Hoffman, Molina, & Lu, 2003; Reyland, Higgins-D'Alessandro, & McMahon, 2002). In New York, Black and Latinx individuals with HIV who are low-income have reported experiences marked by racism and classism (Jaiswal, Singer, Siegel & Lekas, 2019). Similarly, in Uganda, women living with HIV faced stigma, social exclusion, and feelings of uncertainty and loss (Sandelowski, Lambe, & Barroso, 2004).

Bogart et al. (2008) examined how stigma affects HIV-positive individuals from the perspectives of different family members, revealing various personal experiences with stigma. Their findings showed that about 97% of participants were concerned about facing discrimination, 79% experienced it, and 10% of uninfected family members faced stigma due to having an HIV-positive relative. In a related study in Uganda, Siu, Bakeera-Kitaka, Kennedy, Dhabangi, and Kambugu (2012) evaluated the HIV status and treatment disclosure experiences of 20 HIV-positive individuals aged 15 to 23 receiving care at the Transition Clinic in Kampala. These individuals noted both positive and negative impacts of living with HIV, including financial and emotional support, stigma, discrimination, and rejection. They also expressed concerns about their autonomy being compromised by third-party disclosure and were worried about the well-being of their loved ones.

A qualitative phenomenological study explored how Korean men with HIV integrate their HIV status into their self-concept, awareness of stigma, relationships, and life plans, aiming to understand the significance of their experiences. Kang and Lee (2016) reported that participants described living with HIV as "turning back from the door of death and learning how to live together." They highlighted that those diagnosed often felt shocked and as though they were living with a ticking time bomb, perceiving their world as falling apart. Additionally, research into the resilience of older adults with HIV/AIDS revealed that participants adopted self-acceptance, enthusiasm, a will to live, generativity, self-management, relational living, and independence to cope with the disease (Emlet, Tozay & Raveis, 2011).

In a study examining the daily challenges faced by people living with HIV (PLHIV), participants reported breaches of confidentiality and discriminatory behaviour from healthcare workers (Senyurek, Kavas & Ulman, 2021). They also struggled with emotional distress following their diagnosis, often avoiding sexual activities, isolating themselves, and seeking external support for survival. Additionally, some participants noted that HIV affected their relationships with family and others (Senyurek et al., 2021). Issues around notifying spouses or partners were also mentioned. In a related study, Edwards, Irving, and Hawkins (2011) investigated perceptions of marriage, life events, and social support among individuals from an HIV/AIDS outpatient clinic. This group found that a significant portion of their time was spent caring for their HIV-positive spouses, which often jeopardized their health and well-being (Edwards et al., 2011).

Emlet (2007) carried out a mixed-methods study with 25 older adults living with HIV/AIDS in the Pacific Northwest to explore their experiences with HIV-related stigma. Emlet found that the participants reported feelings of rejection, anxiety about disclosure, being labelled, maintaining protective silence, and emotional distress. Additionally, Ross, Sawatphanit, Draucker, and Suwansujarid (2007) used in-depth interviews with open-ended questions to examine the lived experiences of ten pregnant women in Thailand following an HIV diagnosis. Their struggles were categorized into four main themes: struggling alone, sharing struggles, struggling for the baby, and navigating ups and downs. Subramoney (2015) aimed to provide Indian women living in South Africa with a platform to articulate their experiences with HIV, leading to themes of struggle, isolation, dependence on others for support, and hope.

Theoretical Framework

In research, the theoretical framework acts as a guiding structure that researchers often adopt to shape their investigations (Osanloo & Grant, 2016; Adom, Hussein, & Agyeman, 2018). It can be compared to a map or travel plan (Sinclair, 2007; Fulton & Krainovich-Miller, 2010). This framework is crafted to ensure that a researcher's work remains scholarly and adheres to established theories. According to Mensah, Agyemang, Acquah, Babah, and Dontoh (2020), the theoretical framework involves specific theories regarding certain aspects of human activities that are useful for studying events. Consequently, Grant and Osanloo (2016) suggest that it encompasses theoretical principles, constructs, concepts, and tenets of a theory. The following theories underpinned the current study:

Stigma Theory

Stigma often affects many people at various stages of their lives (Goffman, 1963). Erving Goffman, an American sociologist, is recognized for introducing the concept of stigma into social theory. He defined stigma as a deeply discrediting attribute (Clair, 2018). Examples of such attributes include an individual's skin colour, body size, criminal record, or mental health struggles. According to Goffman, stigma is a common aspect of social life that hinders ordinary, brief interactions (Clair). Those who do not share the same stigma may mock, overreact to, or ignore those who are stigmatized. Consequently, those who are stigmatized might hesitate to engage with others who do not share their experiences. Goffman's concept of stigma encompasses a range of previously marginalized traits, including "blemishes of character," "racial stigmas," and "physical abnormalities," such as deafness, blindness, and leprosy, as well as homosexuality, addiction, and mental illness.

In their review of stigma published in the Annual Review of Sociology, Link and Phelan (2001) built on Goffman's work and expanded the focus to include the role of power in society. Psychologists further developed the understanding of stigma by exploring its cognitive aspects and its impact on micro-level social interactions, following Goffman's initial description. Initially, psychologists examined the evolutionary origins of stigma, proposing that it may serve a sociobiological function by identifying and removing individuals who could threaten a group through illness or disruption. Additionally, social psychologists studied the personal effects of stigma and how individuals cope with it in their daily lives. Sociologists also applied this concept to explain certain social phenomena, though comprehensive theoretical exploration of stigma as a purely social process is infrequent.

Link and Phelan developed a framework for understanding stigma that allows sociologists to examine its links to fundamental sociological concerns, such as the social construction, maintenance, and impacts of social inequalities. They achieved this by integrating the influence of power and discrimination into their definition of stigma. As mentioned earlier, people living with HIV (PLHIV) face varying levels of stigma and discrimination, which impact their overall quality of life (Adimora et al.). Consequently, HIV-related stigma contributes to numerous mental health issues and symptoms. Prior research has highlighted the associations between HIV stigma and anxiety (Courtenay Quirk, Wolitski, Parsons, & Gomez, 2006), chronic stress (Vanable, Carey, Blair, & Littlewood, 2006), post-traumatic stress disorder (Katz & Nevid, 2005), generalized stress (Fang et al.), depression (Wright, Naar-King, Lam, Templin, & Frey, 2007), loneliness (Ware, Wyatt, & Tugenberg, 2006), and low self-esteem (Berger et al., 2001). UNAIDS (2013) notes that HIV-related stigma imposes substantial psychological burdens, leading to feelings of guilt, humiliation, and suicidal thoughts.

The stigma associated with HIV can significantly undermine treatment programs for people living with HIV (PLHIV) (Uys, 2003) and limit access to free counseling, testing, and initiatives aimed at reducing mother-to-child HIV transmission (Bond, Chase, & Aggleton, 2002). Furthermore, HIV-related stigma has been shown to hinder efforts to promote safe sex practices, such as condom use (Simbayi et al., 2007). Therefore, it is reasonable to argue that HIV-related stigma could impede or delay diagnosis, prevention, treatment, care, and psychosocial support for this at-risk population (Bradford, Coleman, & Cunningham, 2007; Mallinson, Rajabium, & Coleman, 2007).

Transactional Theory of Stress and Coping (TTSC)

The Transactional Theory of Stress and Coping (TTSC), formulated by Richard Lazarus, views stress as an ongoing interaction between an individual and their complex environment. This environment encompasses various systems, including cognitive, physiological, affective, psychological, and neurological aspects (Lazarus, 1966; Lazarus & Folkman, 1984). Essentially, the TTSC highlights the interactive nature of stress, emphasizing that the journey from a stressful event to its outcome is highly unique, situation-specific, and deeply intertwined with the accompanying thoughts and emotions (Dillard, 2019; Lazarus et al., 1984). Additionally, the TTSC argues that both immediate and long-term stress outcomes are shaped by personal and environmental factors (Schneiderman, Ironson, & Siegel, 2005).

Gladstone, Parker, Mitchell, Malhi, Wilhelm, and Austin (2004) suggest that while stressful experiences can increase the risk of developing mood and anxiety disorders, extreme trauma can also lead to greater resilience. Dillard explains that how stressors affect individuals depends on their primary appraisal of the stress (how they perceive the difficulty of the situation) and their secondary appraisal (how confident they are in their ability to manage the stress, including their coping self-efficacy). These evaluations are influenced by the coping strategies employed, which can be either problem-focused or emotion-focused (Lazarus et al., 1984), also referred to as active and passive coping strategies (Jex, Bliese, Buzzell, & Primeau, 2001). Coping mechanisms can involve assertiveness or withdrawal, reflecting approach and avoidance strategies (Anshel, 1996; Anshel & Weinberg, 1999; Roth & Cohen, 1986).

To begin with, Dr. Susan Kobasa introduced the concept of stress as a transaction and defined it through the idea of “hardiness” (Kobasa, 1979). This term describes a set of personality traits that differentiate individuals who remain healthy under stress from those who experience health problems (Kobasa, 1982; Kobasa, Maddi, Puccetti, & Zola, 1985). Kobasa’s notion of hardiness aligns with several psychological personality theories, such as locus of control (Rotter, 1966), sense of coherence (Antonovsky, 1987), self-efficacy (Bandura, 1997), and stress-related development (Scheier, Weintraub, & Carver, 1986). For example, Rotter's theory posits that individuals with an internal locus of control believe their actions and decisions influence their achievements and outcomes, thus attributing failure to insufficient effort.

According to Antonovsky, coherence represents a comprehensive sense of confidence that is consistent, enduring, and dynamic. In contrast, individuals with an external locus of control believe that their achievements and outcomes are determined by fate, luck, or others' actions, meaning that failures are attributed to external factors beyond their control. On the other hand, Bandura's concept of self-efficacy focuses on how strongly a person believes in their ability to perform tasks and reach their goals. Additionally, Scheier and colleagues' concept of stress-related growth, or thriving, refers to a person's ability to see opportunities for personal development rather than just threats or setbacks in response to stress.

Walinga (2008) adeptly applied the concepts of stress and coping to her study of a university soccer team facing multiple stressors in addition to the usual performance pressures. She proposed that the perceived loss of control, rather than anxiety, becomes the primary issue and focus for individuals who feel incapable of managing a threat. Improved health outcomes have been linked to the ability to adapt, resilience, or growth in response to stress. For instance, Shepperd, Maroto, and Robert (1996) found in their longitudinal study of heart disease patients that dispositional optimism was associated with success in making lifestyle changes that reduced the risk of heart disease. This supports Carver's research on dispositional optimism and thriving. Optimism was positively related to better health outcomes, including lower levels of saturated fat, body fat, and overall cardiovascular risk, and was also linked to improvements in aerobic capacity. Additionally, Billings, Folkman, Acree, and Moskowitz (2000) discovered that men caring for AIDS patients experienced both positive and negative emotions depending on their coping strategies. Enhanced positive affect, anticipated from social support coping, was associated with fewer physical symptoms, while avoidant coping was linked to increased negative affect and more somatic symptoms.

Socio-ecological Model (SEM)

The socio-ecological model (SEM), also known as the ecological model, was developed by American psychologist Urie Bronfenbrenner (1979; 1986) to explain how social environments affect individual development. Later, McLeroy, Bibeau, Steckler, and Glanz (1988) adapted the model for health promotion, focusing on both personal and social environmental factors. This approach underscores the importance of examining children within various ecological contexts or environments to understand their development. According to Bronfenbrenner’s ecological systems theory (1979), children engage in a complex web of interactions across different levels of their environment. He proposed that children are influenced by four nested systems: the microsystem, mesosystem, exosystem, and macrosystem, with the chronosystem representing the dimension of time (Berk & Meyers, 1996). Each system represents different factors impacting the child.

Advocates of the model have outlined five interconnected levels of influence on health behaviour (Golden & Earp, 2012). These levels include (1) the intrapersonal level, which encompasses individual characteristics such as demographic details, knowledge, attitudes, beliefs, information, motivation, and capacity to act (Lu et al., 2010); (2) the interpersonal level, focusing on interactions and relationships with significant others like spouses, friends, and family; (3) institutional or organizational factors, which involve the rules, regulations, and policies of social systems; (4) community-level factors, including social norms, the prevalence of disease, availability of health facilities, community engagement, and empowerment; and (5) public policy factors, which cover policies or regulations related to healthy practices, such as access to health services, restrictive policies, resource allocation, and creating supportive environments (CDC, 2014).

The ecological model has been valuable across various health domains (Kumar & Preetha, 2012; Quin, Thompson, & Ott, 2005; Soderlund, 2017). In the U.S., Kumar et al. (2012) utilized this model and discovered that factors at each level of the model were significant predictors of both the intention to receive and the actual uptake of the H1N1 vaccine. Soderlund (2017) applied the model to Hispanic women with type 2 diabetes and found that effective physical activity interventions were linked to the model's intrapersonal, interpersonal, and community levels. The model has also proven useful for assessing risk in HIV epidemics (Quin et al., 2006), targeting specific health correlates and improving outcomes in schools (Townsend & Foster, 2011), and understanding the contextual factors affecting adolescent adherence to prescription medications (Conn & Marks, 2017).

Although the socio-ecological model is valuable, some critics contend that it falls short in supporting interventions across multiple levels (Scholmerich & Kawachi, 2016). Additionally, these critics believe that while the model's proponents have identified connections between different levels, they have not demonstrated how these links impact health behaviour. Therefore, the model needs to offer better guidance for creating effective interventions (Godin, Savard, Kok, Fortin, & Boyer, 1996).

Conceptual Framework

A conceptual framework helps researchers define and outline the key elements of their research topic (Luse, Mennecke & Townsend, 2012). It encompasses ontological, epistemological, and methodological assumptions. Ontological assumptions (concerning the nature of reality) imply that there is a single, stable reality that can be measured and observed (Guba & Lincoln, 1994). Conversely, epistemological assumptions argue that genuine knowledge is objective and quantifiable (Jabareen, 2009). Methodological assumptions relate to constructing the framework and determining what insights it can provide about the “true” world (Jabareen).

Considering the extensive social and mental health effects HIV has on people living with the virus (PLHIV), this study’s conceptual framework is based on the Socio-ecological Model (SEM), the transactional theory of stress and coping, and stigma theory. The SEM recognizes that various interconnected levels of influence—such as individual, interpersonal, institutional, community, and policy factors—often impact health experiences, specifically those related to living with HIV (McLeroy et al., 1988). These factors can be both internal and external to the individual (Feldacker, Ennett, & Speizer, 2011). The transactional theory of stress and coping acknowledges that both acute and chronic stress outcomes, including those related to HIV, are influenced by individual and environmental factors (Schneiderman et al., 2005). While exposure to severe trauma can build resilience, it may also lead to mood and anxiety disorders (Gladstone et al., 2004). Additionally, stigma represents a broader social phenomenon that complicates everyday interactions on a micro level.

The study's conceptual framework is based on two primary, interconnected components: (1) intrapersonal factors and (2) social, cultural, and environmental predictors. These factors help determine the prevalence of mental health disorders (MHD) among people living with HIV (PLHIV). Intrapersonal factors refer to inherent, biological, and behavioural characteristics, including socio-demographic variables such as age, gender, employment status, income source, religion, education, and marital status. Social, cultural, and environmental predictors encompass interpersonal, community, institutional, and policy-level factors. Interpersonal factors involve interactions with significant others like spouses, friends, and family. Community-level factors include social norms, the presence of health facilities, community engagement, and empowerment. The institutional factors concerning social systems' rules, regulations, and policies, as well as public policy considerations, included access to health services, restrictive policies, resource allocation, and creating a supportive environment for all. These factors were highlighted through both qualitative data (interviews) and quantitative data (questionnaires), as discussed in the literature. Collectively, these elements influence how people living with HIV (PLHIVs) manage and perceive their experiences. Essentially, an individual's perception of their experience with HIV and the coping strategies they use to handle these challenges affect their mental health and overall health outcomes. Figure 1 on page 43 illustrates the conceptual framework of the study.

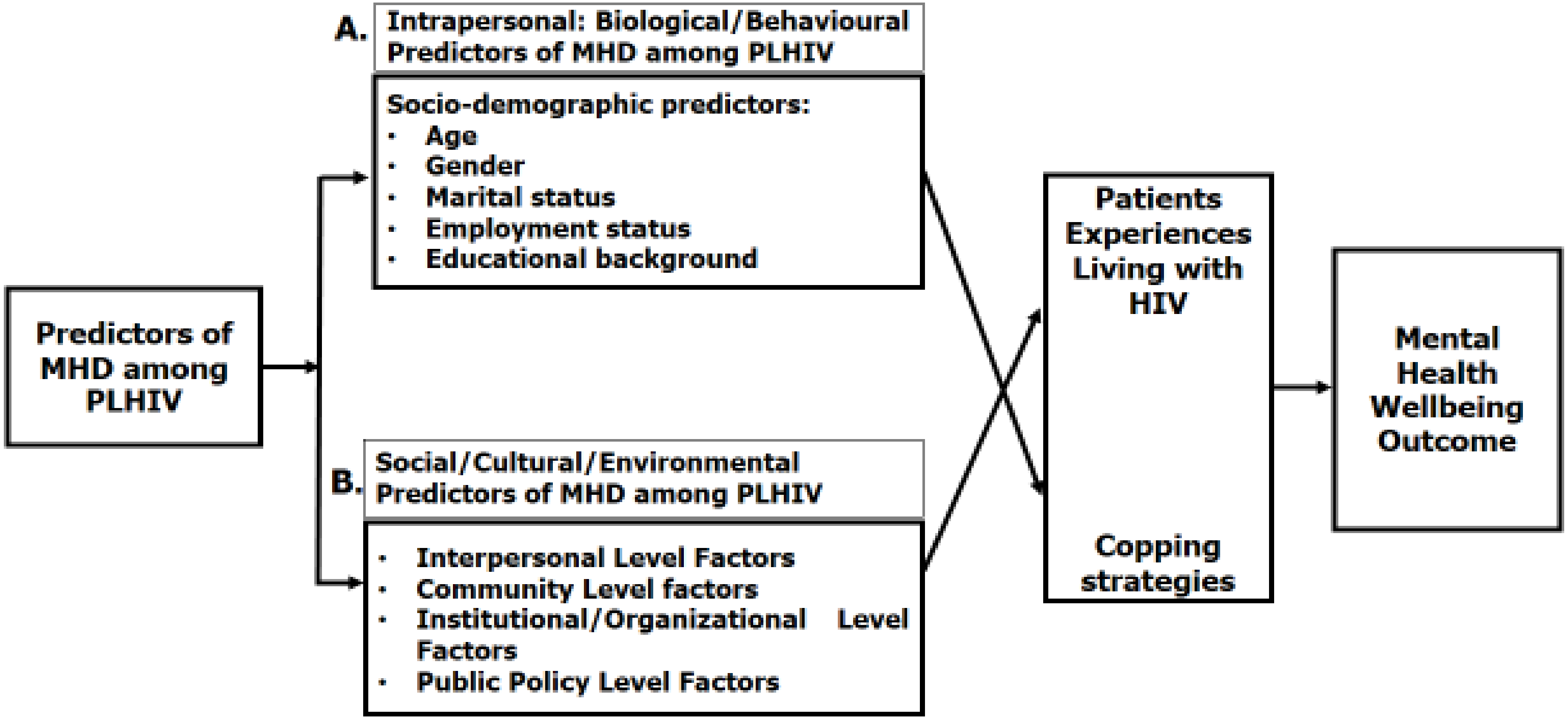

Figure 1. Conceptual Framework of the Study

Source: Adapted from the SEM, TTSC, and Goffman's Stigma Theory

Summary

In this chapter, the researcher discussed pertinent literature regarding the mental and psychological well-being of PLHIV. According to the papers analysed, PLHIV had a greater prevalence of mental health issues than the overall population. Depression, anxiety, and substance use disorders were prevalent among PLHIV. Also, the literature reviewed offered some suggestions that PLHIVs suffer various degrees of stigma and discrimination that affect their overall quality of life. The review highlighted that stigma and discrimination against people living with HIV (PLHIV) lead to several negative outcomes, including reduced participation in HIV testing and counseling, identity crises, social exclusion, loneliness, low self-esteem, and diminished motivation to manage their condition. It also pointed out that coping strategies significantly affect the overall health and quality of life for PLHIV. These strategies include seeking social and emotional support, using humour, denial, substance use, and engaging in religious practices. Additionally, the review indicated that various socio-demographic factors such as age, gender, marital status, educational level, employment status, and environmental context affect the mental health and psychological well-being of PLHIV. The experience of living with HIV often involves social stigmatization, identity crises, isolation, loneliness, and low self-esteem.

Using a multi-conceptual approach that includes the Socio-ecological Model (SEM), the Transactional Theory of Stress and Coping, and Stigma Theory is essential for a comprehensive study. As Bronfenbrenner suggested, the SEM underscores the interconnectedness between individuals and their surroundings, focusing on how different levels of influence affect behaviour and health outcomes (Pantelic et al., 2017). In the case of HIV/AIDS, this model is valuable for examining how factors at the individual, interpersonal, community, and societal levels interact to influence the mental health and well-being of those affected.

The Transactional Theory of Stress and Coping, introduced by Lazarus and Folkman, examines how stress is appraised and managed dynamically (Misir, 2015). This framework, when applied to individuals with HIV/AIDS, helps explain how their perceptions of stress related to HIV and their coping strategies impact their mental health. Additionally, stigma theory is crucial for understanding the social dynamics that contribute to discrimination and prejudice against people with HIV/AIDS (Basha et al., 2019). Stigma impacts mental health directly and also affects access to care and support, increasing psychological distress in this group.

By combining these frameworks, researchers can investigate how individual, social, and environmental factors interact to affect the mental health and well-being of people with HIV/AIDS. The SEM gives a wide view, the Transactional theory provides an understanding of how stress is assessed and managed, and the stigma theory reveals the significant impact of stigma on psychological outcomes.

CHAPTER THREE

RESEARCH METHODS

Introduction

The study sought to investigate the mental and psychological well-being of PLHIV seeking health care in the Cape Coast Teaching Hospital. This chapter relates to the methods, philosophical assumptions, and foundations upon which the researcher built the study. The significant aspects captured in this chapter include the research design, study area, population, and sampling procedures used. The chapter also touches on the instruments used for the data collection, data collection procedures, and techniques for processing and analysing the data collected. The chapter culminates with a summary of what the entire chapter entailed.

Research Design

The sequential explanatory approach is a research method that entails a structured sequence for gathering, analyzing, and interpreting data. In this study, the researcher began by collecting quantitative data and then added qualitative data to gain a thorough understanding of the topic (Apuada, 2022). This method enabled the researcher to explore the subject more deeply by using qualitative data to clarify or expand on the quantitative results (Tachie & Kariyana, 2022).

Researchers frequently use a mixed-methods approach with a sequential explanatory design, which integrates both quantitative and qualitative methods to provide a more complete understanding of the research topic (Rafiq et al., 2022). By combining these data types, a more thorough analysis and interpretation of the results can be achieved (Pradeilles et al., 2021). This design is especially valuable as it allows researchers to cross-check findings from various data sources, thereby improving the validity and reliability of the results (Rafiq et al., 2022).

The sequential explanatory approach has been employed across multiple domains, including education, healthcare, and social sciences, to investigate diverse topics like mental health, educational interventions, and healthcare practices (Munthe & Saragi, 2023; Toubøl et al., 2021; Zubaedi et al., 2021). This method involves a systematic process where quantitative data is collected and analysed first, followed by qualitative data collection and analysis, allowing researchers to offer a more detailed understanding of complex phenomena (Toubøl et al., 2021).

Study Area

The study was carried out at Cape Coast Teaching Hospital (CCTH) in the Cape Coast Metropolis. This facility has the highest number of people living with HIV (PLHIV) who access antiretroviral therapy (ART) services in Ghana’s Central region. Cape Coast is the only Metropolis among the twenty-three districts in the Central Region. Situated west of the Greenwich Meridian, Cape Coast lies between latitudes 5° and 20° and longitudes 1° and 1.41°. The Gulf of Guinea borders it to the south, Komenda Edina Eguafo Abrem District to the west, Abura Asebu Kwamankese District to the east, and Twifu Heman Lower Denkyira District to the north. The Metropolis covers approximately 122 square kilometers, with Brabedze being the furthest point, located about 17 kilometers from Cape Coast, which serves as both the seat of the Metropolis and the Central Region. Established as a municipal assembly by L.I. 1373 in 1987, the Metropolitan Assembly (CCMA) was elevated to metropolitan status by L.I. 1927 in February 2007. Cape Coast's strategic location between major cities like Kumasi, Accra, and Takoradi, as well as its proximity to Ghana's educational and tourist centers, enhances its potential for growth in the service sector.

With the creation of the Faculty of Medical Sciences at the University of Cape Coast, Cape Coast Teaching Hospital (CCTH) was designated as a teaching hospital. This facility, which has 400 beds, is the leading referral hospital in Ghana's central region. Located in the northern Cape Coast, Abura Township borders it to the north, Pedu Estate/4th Ridge to the south, Nkanfua to the east, and Abura/Pedu Estate to the west. Officially opened on August 12, 1998, the hospital was one of the first six state-of-the-art Regional Hospitals built by the Ministry of Health. In 2003, it was recognized as an Outstanding Regional Hospital. The hospital provides a wide range of services, including general and specialized clinic care, public health, rehabilitation, surgery, DEENT, obstetrics and gynecology, pediatrics, imaging, laboratory, pharmaceutical, and mortuary services. Figure 2 on page 51 illustrates the topography of the Cape Coast metropolitan area.

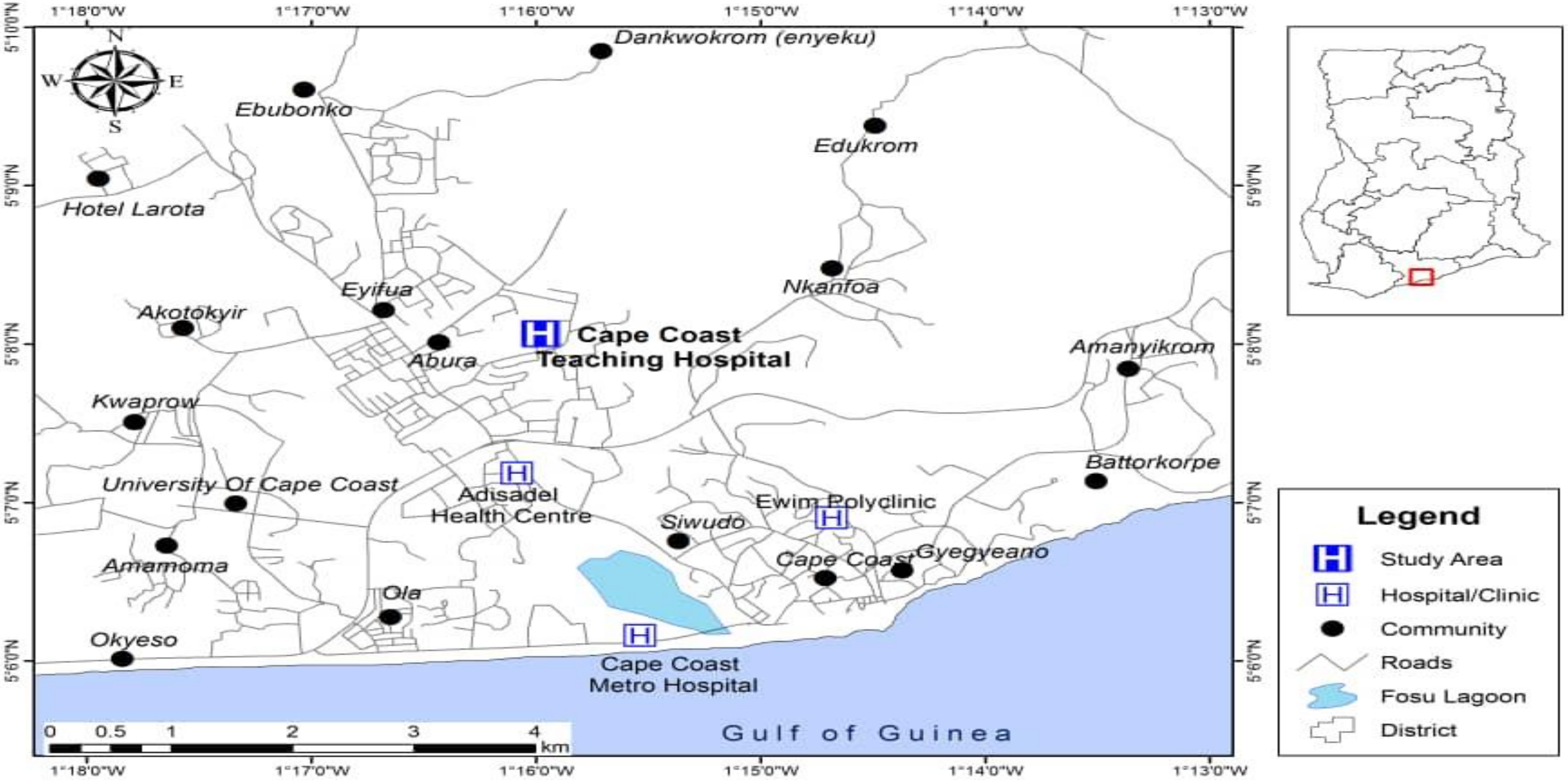

Figure 2. Landscape of Cape Coast Metropolitan

Source: Department of Geography and Regional Planning

Population

The population encompasses the entire group of instances from which a sample is drawn (Taherdoost, 2017). It also represents the full set of cases meeting certain criteria (Polit & Beck, 2004). In this study, the population consisted of all HIV-positive adults aged 18 and older who were receiving care at the Anti-Retroviral Therapy (ART) clinic of CCTH. In 2019, CCTH provided ART to 3,972 HIV-positive adults. The ART clinic in Ghana's Central region serves a notably large portion of this population, which is why the researcher chose to focus on them. So, according to the researcher, they satisfied the requirements for generalisation.

Inclusion criteria

The study focused on individuals with HIV/AIDS (both male and female) who were 18 years or older, had been receiving care at the Cape Coast Teaching Hospital for a minimum of 12 months, and had a confirmed HIV/AIDS diagnosis. This population was included in both the quantitative and qualitative aspects of the research. The initial six months of antiretroviral therapy are particularly critical for PLHIV. The study acknowledged that outcomes could be affected by some PLHIV not responding to treatment as expected or experiencing clinical deterioration (Deshmukh, Borkar, & Deshmukh, 2017). Therefore, only those who had been on antiretroviral treatment for at least a year and had attended the clinic during the survey period were eligible to participate.

Exclusion criteria

The study excluded adult PLHIV who were not at the clinic during the survey. It also left out those who had been on antiretroviral medication for less than 12 months at the time of data collection but had a confirmed HIV/AIDS diagnosis. Additionally, the survey did not include PLHIV who were visiting the ART clinic for the first time or those who were receiving services from ART clinics other than CCTH but came to CCTH for prescription refills due to being away from their primary clinic.

Sampling procedure

Most research efforts rely on a smaller group to collect data since it is impossible to enlist the participation of the target population. Sampling could be used to accomplish this. According to Turner (2020), sampling is choosing a portion of the target population for a research project. The sample size for the quantitative portion of this research was estimated quantitatively using Yamane's (1967) formula at a 95% confidence level, n = $\frac{N}{1+N(e)^2}$. The population size was estimated to be 3,972. Where a = threshold of statistical significance of 0.05, N = target population (3,972), n = intended sample size, and 1 = is a constant (Miller & Brewer, 2003). Therefore, by substitution, n = $\frac{3972}{1+3972(0.05)^2}$ = 363. The sample size was increased by 10% to enhance statistical power and ensure no data was omitted due to missing entries (Gumpili & Das, 2022), although this might also lead to higher costs (Lazic, 2018).

As a result, the study aimed to include a sample of 399 individuals. To achieve this, a simple random sampling method was employed. The researcher began by defining the sample frame by acquiring a list of all individuals with a confirmed HIV/AIDS diagnosis who had received care at the antiretroviral therapy clinic for at least 12 months, as documented by the hospital's records department. Each name on the list was assigned a number, and a random number generator was used to select the sample. Names corresponding to the generated numbers were recorded and added to the sample frame. This process was repeated until the researcher accumulated a total of 399 participants, meeting the study's minimum requirement.

The qualitative component of the study utilized purposeful sampling. While it is often asserted that sample sizes in qualitative research cannot be predetermined, Gust, Bunce, and Johnson (2006) and Francis et al. (2010) propose that a minimum of 12 participants is reasonable. Although qualitative research typically does not require large samples, the sample must be sufficiently large to accurately represent the phenomena under investigation and meet the research objectives. In this study, the researcher applied the data saturation principle to determine the sample size. According to Bryman (2012) and Creswell (2009), data saturation occurs when additional participants no longer provide new insights or information. Therefore, sampling continued until no new information emerged from the interviews. The study initially interviewed 12 subjects but conducted an additional six interviews to ensure saturation, totaling 18 in-depth interviews.

Independent variables: stigma, financial burden, medication and counselling, religious activities, isolation and avoidance, self-efficacy/acceptance, health workers and health system, and diversional activities. These variables play a significant role in influencing individuals' mental health outcomes and well-being.

Dependant variables: stress, depression, anxiety, loneliness, suicidal ideations. These variables are crucial in understanding the impact of HIV/AIDS on the mental health and well-being of individuals.

Data Collection Instruments

According to Kankam and Weiler (2010), research instruments are tools utilized by researchers to collect data. For the quantitative aspect of this study, a self-administered questionnaire was employed to align with the study's objectives. Questionnaires are valuable survey tools that simplify the evaluation of large groups. However, contrary to popular belief, conducting a survey involves significant preparation, time, and effort (Jones, Baxter, & Khanduja, 2013). Self-administered questionnaires are not only cost-effective but also ensure privacy and minimize interviewer bias (Polit & Beck, 2004). Despite their strengths, questionnaires may still face issues like non-coverage and non-response biases unless appropriate measures, such as follow-ups, are taken by the researcher. The items in the questionnaire were adapted from established instruments previously used in studies related to the research topic. The first section of the questionnaire addressed socio-demographic variables such as age, gender, education, marital status, and employment status. Additionally, the survey sought information on antiretroviral drugs, other underlying physical health issues, support systems, and the duration of the diagnosis.

The Depression Anxiety Stress Scale (DASS), created by Lovibond and Lovibond (1995), served as the basis for the second section of the questionnaire. The Depression, Anxiety, and Stress Scale - 21 Items (DASS-21) is a tool used to evaluate emotional states related to depression, anxiety, and stress. It consists of three self-report measures, each with seven items, divided into corresponding subscales. Scores for each emotional state are derived by averaging responses to the relevant items. The DASS-21 uses a 4-point rating scale: (0 = not at all, Never), (1 = some of the time, Sometimes), (2 = considerable degree, Often), and (3 = most of the time, Almost always). Participants assessed how much each statement applied to them over the previous week. The scores for depression, anxiety, and Stress were calculated by adding the results for the pertinent items: depression (normal = 0-4, mild = 5-6, moderate = 7-10, severe = 11-13, and extremely severe = 14+); anxiety (normal = 0-3, mild 4-5, moderate 6-7, severe 8-9, and extremely severe = 14+); and stress (normal = 0-7, mild = 8-9, moderate = 10-12, severe = 13-16, extremely severe = 17+). The depression, anxiety, and stress subscales of the DASS 21 have acceptable Cronbach's alpha values of .88, .82, and.90, respectively. The DASS-21 questionnaire was utilized in this study because it is a well-established instrument for assessing depression, anxiety, and stress in both clinical and non-clinical adult populations. Additionally, research has demonstrated its effectiveness in predicting future mental health outcomes. The DASS-21's reliability and validity have been affirmed in numerous global studies (Antony, Bieling, Cox, Enns, & Swinson, 1998; Bottesi, Ghisi, Altoe, Conforti, Melli, & Sica, 2015; Henry & Crawford, 2005; Sinclair, Siefert, Slavin-Mulford, Stein, Renna, & Blais, 2012; Tonsing, 2014; Vasconcelos-Raposo, Fernandes, & Teixeira, 2013).

The Rosenberg Self-Esteem Scale (RSES), developed by Dr. Morris Rosenberg in 1965, was used to create the third section of the questionnaire. This 10-item scale assesses overall self-worth by measuring both positive and negative self-feelings. Responses are rated on a 4-point Likert scale ranging from strongly agree to strongly disagree. The RSES is known for its high reliability, with a minimum Coefficient of Reproducibility of at least 0.90 and an internal consistency of 0.77. In this study, the RSES was utilized due to its widespread use and proven validity and reliability in various studies (Bagley & Mallick, 2001; Blascovich et al., 1991). Additionally, other research (Fleming & Courtney, 1984; Goldsmith, 1986; Shevlin et al., 1995) has shown that the RSES maintains excellent internal consistency.

The fourth section of the questionnaire was based on the HIV Stigma Scale (HSS) created by Berger, Ferrans, and Lashley in 2001. This 13-item scale measures personal perceptions of stigma among individuals with HIV/AIDS, with a focus on how stigma impacts HIV-positive women. The items are rated on a Likert-type scale from 1 to 4 points. The scale’s purpose is to evaluate the frequency of concerns about stigma or perceived threats due to HIV status. The HSS has a Cronbach’s alpha of .83, indicating good internal consistency. It was included in the questionnaire due to its demonstrated construct validity and reliability across various studies (Emlet, 2005; Lindberg et al., 2014; Mokhtarabadi et al., 2020).

The Brief COPE scale, created by Carver, Scheier, and Weintraub in 1989 as a shorter version of the original 60-item COPE scale, was utilized in the fifth section of the questionnaire. Designed to assess a variety of coping strategies for adults across different situations, the Brief COPE consists of 28 items and uses a four-point Likert scale, where “1” signifies “I haven’t been doing this at all” and “4” represents “I have been doing this a lot.” This scale measures 14 different coping dimensions, including active coping, self-distraction, denial, substance use, emotional support, instrumental assistance, behavioural disengagement, venting, positive reframing, planning, humour, acceptance, religion, and self-blame. The Brief-COPE was first validated in a study involving 168 participants from a community affected by a hurricane (Carver, 1997). Subsequent research by Yusoff, Low, and Yip (2010) demonstrated that the intra-class correlation coefficient (ICC) varied between 0.05 and 1.00, and internal consistencies ranged from 0.25 to 1.00. The average differences across most domains, with an Effect Size Index (ESI) from 0 to 0.53, highlighted the scale's sensitivity. The Brief COPE is widely recognized for assessing various coping responses and is among the most validated tools available (Cooper, Katona, & Livingston, 2008; Garcia, Barraza-Pena, Wlodarczyk, Alvear-Carrasco, & Reyes-Reyes, 2018; Yusoff, 2010; Yusoff, Low, & Yip, 2010).

The UCLA Loneliness Scale, created by psychologist Daniel Russell in 1996, was part of the sixth section of the questionnaire's sixth component. This 20-item scale assessed individuals' feelings of social isolation and loneliness. Participants rated their responses using one of the following options: O (I often feel this way), S (I sometimes feel this way), R (I rarely feel this way), or N (I never feel this way). The scale is highly reliable, with internal consistency coefficients ranging from .89 to .94 and a test-retest reliability of .73 over a year. Due to its strong construct validity and excellent reliability demonstrated in various studies, it was included in the questionnaire (Goossens, Klimstra, Luyckx, Vanhalst, & Teppers, 2014; Kwiatkowska, Rogoza, & Kwiatkowska, 2017; Russell, 1996).

The 98-item questionnaire used in this study was divided into six sections, labelled A through F. Section A included nine close-ended questions about the background of people living with HIV (PLHIV). Section B had twenty-one questions focused on the prevalence of mental health disorders among PLHIV, with responses ranging from 0 to 3. The third section comprised ten questions evaluating the general self-perceptions of PLHIV, using a 4-point Likert scale from strongly agree to strongly disagree. Section D contained ten questions about the extent to which PLHIV agreed or disagreed with various self-related statements, also on a 4-point Likert scale. Section E featured twenty-eight questions regarding the use of different coping strategies by PLHIV, with responses ranging from 1 to 4. The final section, Section F, included twenty close-ended questions assessing the frequency of certain feelings experienced by PLHIV, with answers ranging from never to always on a 4-point scale.

The researcher carried out comprehensive interviews to collect data for the qualitative study, utilizing self-created semi-structured interview guidelines adapted from relevant previous research (Acheampong, Naab, & Kwashie, 2017; Dejman et al., 2015). The interview guides were divided into two sections: the first gathered socio-demographic information about the respondents, while the second focused on exploring the experiences of people living with HIV (PLHIV) with the illness. Key topics included psychological experiences, social support from family and friends, employment, career and health issues, and coping mechanisms. The interviews delved into both the physical and psychological experiences of PLHIV, as well as any strategies they used to cope.

Ethical Considerations

Before data collection, the researcher requested ethical clearance from the CCTH Ethical Review Committee [CCTHERC/EC/2021/028]. Access was granted to people living with HIV (PLHIV) receiving care at the facility, with authorization from the director of public health and the nurse overseeing nursing services at the public health unit. To ensure their support and participation in the data collection process, the nurses involved in the care of PLHIV were informed about the study's goals. Prior to collecting data, the researcher obtained consent from the participants and explained the purpose of the study. The participants were also informed that they could withdraw from the research at any time if they wished. Further, the study solely employed pseudonyms to shield the participants' identities.

Data Collection Procedures

The data collection extended for more than seven months, from May to December 2021. This process was conducted in two parallel stages. Initially, a self-administered questionnaire was used to collect information from respondents who were PLHIV receiving medical care at the ART clinic. Concurrently, qualitative data was obtained through audio-taped semi-structured interviews with a selected group of PLHIVs at the ART clinic. These interviews were scheduled according to the participants' preferred dates, times, and locations.

To assist with gathering quantitative data, five research assistants with at least a bachelor's degree were recruited. The study's objectives, methods for establishing rapport with participants, and the procedures and standards for data collection were clearly outlined for them. They received intensive training using a specially designed manual to familiarize them with the study's goals and overall methodology. Additionally, the nursing staff who were involved in providing medical care to the participants also took part in data collection, ensuring the respect and confidentiality of the subjects were maintained.

At a convenient location within the ART clinic, either the researcher or a trained research assistant administered the questionnaires to each participant using selected consulting rooms. Completing the questionnaire took an average of 30 minutes per participant. The researcher also conducted qualitative interviews independently. Some interviews took place in designated consulting rooms according to participants' preferences, while others were held in more convenient locations, such as participants' homes. Each interview lasted approximately 30 minutes. The questionnaire and interview guide were translated into local dialects (Asante Twi and Fante) to accommodate participants who were not fluent in English. The lead researcher closely monitored the research assistants, addressed any missing data, and validated the submitted questionnaires.

Data Processing and Analysis

Stata MP, statistical software for data science, version 16.0, was employed for all statistical analyses (StataCorp LLC, College Station, TX 77845: USA). At first, the data was examined for anomalies and lacking variables. Again, responses to questionnaire items were numerically translated to facilitate the transition from questionnaires to the data matrix. The variables' kurtosis, skewness, mean, and standard deviation were also computed prior to a more thorough statistical data analysis. Cronbach's alpha scores were used to measure the internal consistency of the mental health and psychological well-being scales. Product Moment Correlations were performed to determine the link between the various scales. The demographic characteristics of the participants were summarised and reported using descriptive statistics like frequencies, percentages, means, and standard deviations. The specific analytical procedures employed to analyse each study question are described in the sections below:

Research Question One: What is the prevalence of mental health disorders among PLHIV?

Research question one assessed the prevalence of mental health disorders among PLHIV seeking health care in the Cape Coast Teaching Hospital. Specific descriptive summary measures, including frequencies and percentages, were employed to analyse and present findings on this particular research question. These statistics were used because they were ideal for analysing single categorical variables (Bryman et al., 2012). The three DASS-21 subscales each have seven items with a similar composition. Each outcome (depression, anxiety, and Stress) was dichotomised to make data interpretation easier. The response categories “mild,” “moderate,” “severe,” and “extremely severe” were merged and renamed “depressed,” “anxious,” and “stressed.” However, the final response category, “normal,” was kept to denote “normal depression levels,” “normal anxiety level,” and “normal stress level.” Scores for depression, anxiety, and Stress were determined by adding the scores for the pertinent items: depression (normal = 0-4, mild = 5-6, moderate = 7-10, severe = 11-13, and extremely severe = 14+), anxiety (normal = 0-3, mild 4-5, moderate 6-7, severe 8-9, and extremely severe = 14+), and stress (normal =

0-7, mild = 8-9, moderate = 10-12, severe = 13-16, and extremely severe = 17+).

Research Question Two: How does socio-demographic characteristics influence the mental health and psychological well-being of PLHIV?

In order to better understand how socio-demographic characteristics affect the mental health and psychological well-being of PLHIV seeking medical care at Cape Coast Teaching Hospital, research question two set out to measure these influences. To assess socio-demographic characteristics and risky health behaviours linked to depression, anxiety, and stress, multivariate logistic regression (MLR) was utilised. Depression, anxiety, and Stress were the dependent variables. Age, gender, married status, religion, employment status, and educational status were the independent variables. Smoking, drinking, and comorbid conditions were the other independent variables. The independent variables could either be categorical or continuous. The current study's use of MLR is based on the ideas of Starkweather and Moske (2011). According to the authors, categorical dependent variables with three or more levels and some predictor variables can be used to explain associations or predictions using MLR.

Research Question Three: What is the relationship between HIV-related stigma, Self-esteem, and Loneliness among PLHIV?

Research question three aimed to determine the relationship between HIV-related stigma, Self-esteem, and Loneliness. The relationship between stigma, self-esteem, loneliness and individual characteristics was evaluated using correlation analysis. The use of the correlation text to analyse this particular question follows the assumptions outlined by McHugh (2013) as follows: 1) Rather than percentages or other data transformations, the data in the cells need to represent counts of instances or frequency of events. 2) The levels (or categories) of the variables must be mutually exclusive, 3) Each subject may enter data into just one cell of the $\chi2$, 4) The research groups must be independent, and 5) Both variables are assessed as categories, often at the nominal level. Data may, however, be ordinal data; 6) Finally, all cells should have anticipated values of five or more, with no cell having an expected value of less than one.

Research Question Four: What coping strategies are used by PLHIVs to manage their daily activities?

The fourth research question focused on figuring out how patients cope with managing their everyday tasks. Descriptive summary measurements, such as means, percentages, and standard deviation, were utilised for this question to investigate and present results. These descriptive summary measures were made possible because they were the most suitable for analysing single categorical variables, such as coping strategies (Bryman.). Various coping strategies with the PLHIV were evaluated using the Brief COPE scale. The subscale had 28 statements about coping mechanisms and four options for each one: 1 = “I have not been doing this at all,” 2 = “a little bit,” 3 = “a medium amount,” and 4 = “I have been doing this a lot.” However, the responses were dichotomised to make data interpretation straightforward. The first and second responses, “I have not been doing this at all” and “a little bit,” were merged and named “I have not been doing this at all.” The third and fourth responses were combined, and given the term “I have been doing this,” The coping statements were grouped under coping strategies to show the many strategies employed.

Research Question Five: How do patients describe their experiences living with HIV/AIDS?

The fifth research question employed thematic analysis to explore how the respondents described their experiences dealing with HIV/AIDS. Braun and Clarke (2021) described thematic analysis as a technique for finding, analysing, and reporting patterns (themes) within data. The six-phase guide to thematic analysis by Braun and Clarke was utilised to examine how respondents described their experiences of living with HIV/AIDS. The principal investigator and an experienced researcher independently read through the audio-taped interviews multiple times to gain a solid understanding of the data.

The most crucial step involved transcribing the audio-taped interviews verbatim to accurately capture the respondents' experiences. This approach followed Braun and Clarke's recommended procedures for thematic content analysis, which include familiarizing oneself with the data, generating codes, identifying themes, reviewing themes, defining and labelling themes, and preparing a report (Korstjens & Moser, 2018). Each transcript was broken down into smaller segments, each assigned a unique code. Relevant words, phrases, sentences, or text segments were highlighted and labelled. The coders performed this task individually.

Later, sub-themes were developed by organizing related and important codes. The findings were presented based on both the explicit and underlying (latent) meanings derived from the analysis (Bengtsson, 2016; Erlingsson & Brysiewicz, 2017). The analysis explored the notable similarities and differences among the emerging themes. Ultimately, these sub-themes were consolidated into primary themes to reveal key issues and deeper meanings within the data. The detailed process used for analysing the qualitative data is explained in the following paragraphs.

Phase one: Familiarising yourself with data

The researcher listened to each audio-taped interview individually, transcribing the subjects' words in the order they were spoken while noting any pauses, breaks, tone shifts, or other nonverbal cues. As they listened, the researcher reviewed the material multiple times to ensure it addressed the study questions effectively. After transcription, the dataset was carefully assessed, with comments on the statements and notable patterns highlighted. The transcribed data was then organized into themes and sub-themes, and the findings were checked for accuracy against the participants' input.

Phase two: Generating codes

A code is a term or brief phrase that symbolically represents a key, identifiable, and emotive characteristic of a specific subset of language-based or visual data in qualitative research (Saldana & Omaster, 2016). Additionally, a code is a construct created by researchers for qualitative data analysis that "translates" or symbolizes data (Vogt, Gardner, Haeffele, & Vogt, 2014, p. 13). It assigns an interpreted meaning to each piece of information, aiding in pattern recognition, categorization, the development of assertions or propositions, theory formation, and other analytical tasks.

The primary element in generating themes is the use of codes. This process involves creating interpretive or descriptive labels for various pieces of data that are pertinent to the study's topics. It is essential for researchers to thoroughly examine the data and pinpoint the key informational elements needed to develop themes. According to Braun and Clark (2012), codes should be concise but detailed enough to independently convey the underlying commonalities among data items related to the study topic.

The transcripts' initial coding procedure is shown in table 1 below. In this table are subthemes and codes discovered after the transcript was read—frequently occurring words and phrases were classified and grouped as codes, some of which were considered for future alteration or later reinterpreted to give a more significant meaning and were integrated into themes. Likewise, all phrases frequently connected to the research questions were coded.

Table 1. Initial Coding Process for In-depth Interviews (IDI)

Subtheme	Code
1. Self-stigma	Feeling worthless
2. Self-isolation	Withdrawal from public
3. Social stigma	Negative Perception of society on PLWH Blemishing a person with a chronic disease

Source: Field Data, 2021.

Phase three: Generating themes

Before creating new concepts, the researcher must divide the basic codes into discrete subjects and gather all relevant data for each theme. The coding of the data was evaluated to see if a theme or subtheme could be formed by grouping the codes under a common name. An example of how the themes were created is provided in figure 3 below, displaying the early codes of "stigmatisation," which include "feeling worthless," "withdrawal from the public," and "negative perception of the public on PLWH." Subsequently, subthemes like social isolation, self-stigma, and societal stigma were developed. The data set also revealed additional themes, including Stress and coping, along with their subthemes.

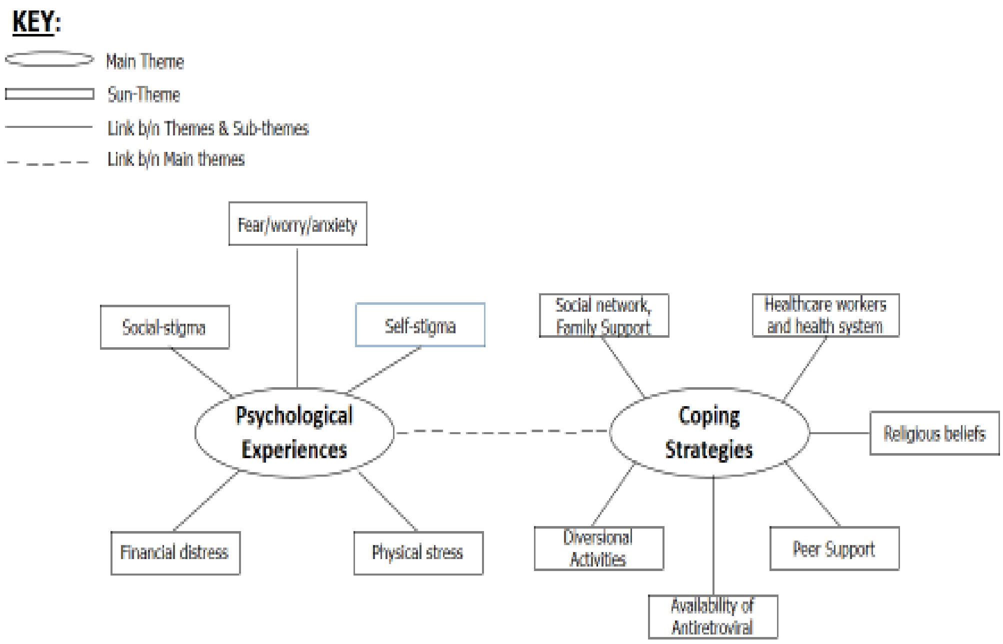

Figure 3. Processes Involved in Theme Generation

Source: Field Data, 2021.

Phase four: Reviewing potential themes

The data items and the codes that served as the basis for each theme and sub-theme were sorted during the analysis to determine their link. The initial themes that were not important in answering the research questions were eliminated after a second assessment by the researcher, and those that were appropriate but poorly defined were updated to match correctly with their themes. It was considered that the codes that came together in a consistent pattern provided a logical justification for their arrangement and added to the story as a whole. Figure 4 below represents how the initial codes generated were reviewed.

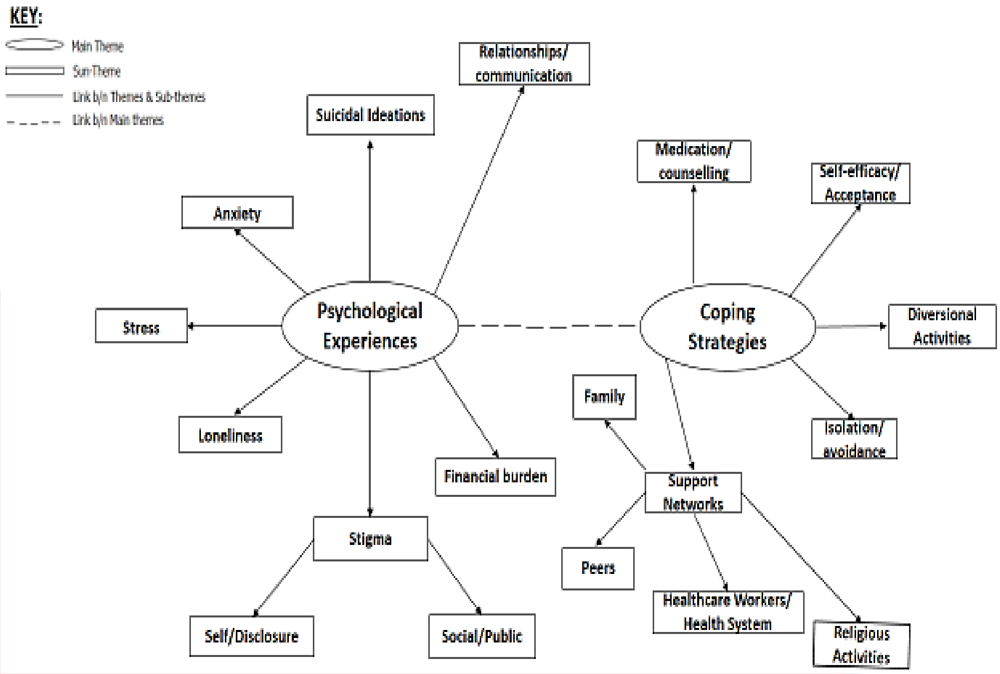

Figure 4. Review of Initial Themes Generated

Source: Field Data, 2021.

Phase five: Defining and naming the theme

While naming themes included coming up with a short and simple name for each topic, defining themes involved determining precisely what each theme represented and how it contributed to understanding the data (Caulfield, 2019), each excerpt was examined in the context of the research question(s) and its wider context, leading to the development of an analytical narrative that explains to the reader what is fascinating about this excerpt and why (Braun & Clarke, 2012).

Phase six: Writing a report

The final step in Braun and Clarke’s thematic analysis method is writing the report. The researcher wants to persuade readers of their interpretations’ validity by articulating their analysis’s complex and multifaceted story within the appropriate scholarly context. The researcher has another opportunity during this stage to fine-tune the analysis through the incorporation of literature or by deciding how the themes should be presented.

Validity and Reliability

Polit and Beck (2010) describe instrument validity in research as the degree to which the tools are used to measure what they are intended to measure. To ensure the reliability of the questionnaire used in this study, two methods were employed. Firstly, the questions in the questionnaire were derived from pre-existing scales with well-established standards. This approach is supported by previous research, which confirms the validity of the standard questionnaire (Bottesi et al., 2015; Garcia et al., 2018; Kwiatkowska et al., 2017; Lindberg et al., 2014; Mokhtarabadi et al., 2020).

Various internet and web-based databases were employed to locate relevant literature. For finding journals, as well as CDC and WHO reports on topics like mental health, psychological well-being, and HIV/AIDS, specific search engines such as Google Scholar, ERIC, EBSCO Host, ScienceDirect, Medline, and PubMed were used. These platforms are known for providing precise and relevant content on the subject matter. Additionally, a pre-test conducted with 25 randomly selected people living with HIV (PLHIV) at the ART clinic of CCTH helped assess the questionnaire's content validity in the local context. The pre-test participants were chosen because they had similar characteristics to those in the study. Although the questionnaire items were based on standardized scales, the pre-test aimed to evaluate the appropriateness of the instruments and their adaptability to the local dialect for the larger study (Bryman et al.). Consequently, the content validity was deemed satisfactory by the thesis supervisor and other experts in mental health and psychological well-being.

Creswell (2014) explains that in qualitative research, validity pertains to the strategies and quality measures the researcher employs to ensure the reliability of the findings. It was confirmed that the semi-structured interviewing technique used in the study was valid. To assess how effectively the instrument was adapted to the local dialect, the content validity of the qualitative tools was first evaluated through pre-testing. Additionally, the phrasing and quality of the questions were reviewed by the thesis supervisor and experts in mental health and psychological well-being.

The pre-tested questionnaires underwent reliability analysis to ensure consistency. Drost (2011) defines reliability as the extent to which a construct remains stable over time or across different data collection methods. Despite the items in the current study's instrument being proven reliable in previous research, an additional reliability test was performed using pre-test data. The internal consistency reliability coefficients were as follows: .89 for the HIV stigma scale, .86 for UCLA's loneliness scale, .71 for Rosenberg's self-esteem scale, .95 for the depression, anxiety, and stress scales, and .95 for the Brief Cope scale. While some scholars argue that there are no strict rules for internal consistency, a minimum coefficient of .70 is generally considered acceptable (Pallant & Bailey, 2005; Whitley, 2002). Thus, the reliability coefficients observed for the subscales in the study were deemed satisfactory.

Campbell (1997) argues that ensuring the reliability of data involves verifying research methods through the examination of raw data, data reduction outputs, and process notes. Additionally, it was demonstrated that the semi-structured interviews used for collecting qualitative data were dependable. Essentially, establishing reliability in qualitative research requires evaluating its credibility.

Lincoln and Guba (1985) suggest that researchers can persuade both readers and themselves of their study's significance by demonstrating credibility. They propose that credibility, along with transferability, dependability, and confirmability, align with traditional quantitative standards of validity and reliability to ensure trustworthiness. Consequently, this study adopted Lincoln and Guba's trustworthiness criteria to assess the rigour of its qualitative component in the following ways:

Credibility

Tobin and Begley (2004) suggest that credibility involves evaluating how well the respondents' opinions align with the researcher's representation of them. In this study, methods proposed by Lincoln and Guba to ensure credibility were utilized, including extended engagement, continuous observation, and data triangulation. Additionally, peer debriefing was employed to provide an external review of the study process. After transcribing the data, member verification was conducted to validate conclusions and interpretations with the participants (Lincoln et al., 1985).

Transferability

Transferability refers to the ability to generalise research findings to different contexts (Nowell, Norris, White, & Moules, 2017). This means that the results can be relevant in various situations (Bryman et al.). The researcher must provide detailed descriptions, even though they cannot foresee where the findings might be useful. Those who wish to apply the findings can evaluate transferability (Lincoln et al.). In qualitative research, transferability serves as a way to demonstrate external validity. In the current study, transferability was achieved by clearly defining the research phenomenon, which allowed the researcher to determine if the study's conclusions could be applied to different settings and populations.

Dependability

Tobin et al. (2004) suggest that ensuring the research process is logical, traceable, and well-documented can enhance dependability. An important aspect of dependability is allowing external reviewers to assess the methodology and results of qualitative research (Lincoln et al.). In this study, the approach was audited for trustworthiness (Koch, 1994), involving the research supervisor and experts in mental health and psychological well-being in evaluating the study's findings, interpretations, and conclusions (Bryman et al.; Creswell, 2009). The process also included external audits and debriefings (Korstjens & Moser, 2017; 2018).

Confirmability

Guba and Lincoln (1989) argue that credibility, transferability, and dependability are achieved when confirmability is established. Confirmability requires showing how conclusions and interpretations were reached, necessitating that the researcher demonstrates how data led to their findings (Tobin et al.). Koch (1994) recommended that researchers include justifications for theoretical, methodological, and analytical decisions throughout the study to ensure transparency. To validate qualitative findings, methods such as external audits, debriefing, and triangulation were employed (Graneheim & Lundman, 2004; Korstjens & Moser, 2018). The study incorporated multiple techniques and researchers and compared perspectives from mental health specialists, other healthcare professionals, and people living with HIV to provide a comprehensive understanding of the phenomenon under investigation. Different viewpoints were used to analyse the study's results.

Chapter Summary

This chapter explicitly dealt with the methods, philosophical assumptions, and foundations upon which the current study was carried out. This study used a sequential explanatory mixed-methods approach. First, the researcher collected and analyzed quantitative data and then built on those findings with qualitative data. The quantitative component used a cross-sectional design, while the qualitative component employed a phenomenological design. As a result, the two phases were interconnected, with the quantitative phase laying the groundwork for the qualitative phase.

The CCTH, which has the highest number of PLHIV who use the ART clinics' medical services in the Central region of Ghana, was the site for the current study. The eligibility criteria for the study included PLHIVs who had received care at the ART clinic for at least 12 months, had a confirmed diagnosis of HIV/AIDS, were present at the clinic during the time of the survey and consented to participate in the study. The study population comprised all HIV-positive adults (age 18 and older), both male and female.

The sample size for the quantitative portion of this research was estimated quantitatively using Yamane's (1967) formula at a 95% confidence level, n = $\frac{N}{1+N(e)^2}$ whereas the data saturation principle was employed to estimate the qualitative sample size. Also, the simple random sampling method and the purposive sampling methods were respectively employed to recruit participants in the quantitative and qualitative phases of the study.

Once more, a self-administered questionnaire was used to collect data for the quantitative study. Conversely, an in-depth interview was conducted for the qualitative study using a custom-designed semi-structured interview guide. The statistical analyses were performed using StataCorp Stata MP statistical software, version 16.0, while Braun and Clarke's six-phase thematic analysis guide was applied to explore how participants described their experiences living with HIV/AIDS. The data collection lasted well over Seven months, between May and December 2021. Before data collection, the researcher requested ethical clearance from the CCTH Ethical Review Committee [CCTHERC/EC/2021/028].

The current study had a notable limitation affecting the applicability of its findings. Conducted in a teaching hospital setting, the results may not be easily generalized. Although the study's mixed-method design included a substantial quantitative component with a large enough sample for generalization, several factors still constrained the findings. The sensitive nature of the topic, concerns about disclosure, and fear of stigma and discrimination against people living with HIV (PLHIV) impacted respondent participation and revealed important issues related to the phenomenon being studied. Nevertheless, the researcher successfully encouraged participation by clearly explaining the study's goals, ensuring confidentiality, and upholding a high level of anonymity.

CHAPTER FOUR

RESULTS AND DISCUSSION

The study sought to investigate the mental health and psychological well-being of PLHIV seeking health care in the Cape Coast Teaching Hospital and, thus, contribute to informing appropriate mental health-related differentiated service delivery (DSD) interventions for PLHIV. Precisely, the current study sought to (1) assess the prevalence of mental health disorders among PLHIV, (2) evaluate how socio-demographic characteristics influence mental health and psychological well-being, (3) determine the relationship between HIV-related stigma, Self-esteem, and Loneliness, (4) explore how patients describe their experiences living with HIV/AIDS, and (5) identify the coping strategies used by patients to manage their daily activities.

This chapter presents the results of a mixed-methods study that combined an analytical cross-sectional survey with in-depth interviews of people living with HIV (PLHIV) who accessed HIV-related services at the antiretroviral therapy clinic at Cape Coast Teaching Hospital from May to December 2021. The quantitative part of the study involved 399 HIV/AIDS patients who used the clinic’s services during this period. However, four questionnaires with incomplete responses were excluded from the analysis, resulting in a final response rate of 99.0% (395 out of 399). The data were analyzed using multivariable logistic regression and descriptive statistics, including frequencies and percentages.

Results

Socio-demographic Characteristics of Participants in Cross-sectional Survey

Three hundred and ninety-five PLHIV representing 99.0% (response rate) of the overall sample, 399 completed and returned the questionnaire. The respondents comprised 122 (30.8%) participants within the age group of 20-39, 206 (52.2%) within the age group of 40-59, and 67 (17.0%) within the age group of 60-80. There were fewer 97 (24.6%) males than 298 (75.4%) females. One hundred and fifty-one persons, constituting 38.2% of the overall sample, were with regular partners, with 244, forming 61.8% without regular partners. The respondents were predominantly Christians 355 (89.9%), followed by Muslims who numbered up to 31 (7.8%), and traditionalists only 3 (0.8%). However, six respondents, representing 1.5% of the overall sample, stated that they had no religion. Self-employment was the predominant mode of employment, 307 (77.7%), with 12 (3%) working for another person/entity and 76 (19.2%) being unemployed. Education distributions of respondents were as follows: Tertiary 38 (9.6%), Non – tertiary 246 (62.3%), and No education 111 (28.1%). Three (0.8%) and 17 (4.3%) persons, respectively, smoked and drank. Table 2 on page 80 below summarises the demographic characteristics of the participants involved in the cross-sectional survey.

Table 2. Socio-demographic Characteristics of Participants involved in Cross-sectional Survey (n=395)

Characteristics		**n (%)**
Age		
	20 – 39	122 (30.8)
	40 – 59	206 (52.2)
	60 – 80	67 (17.0)
	Mean ± SD	46.79 ± 12.53
Gender		
	Male	97 (24.6)
	Female	298 (75.4)
Marital Status		
	Currently with a regular partner	151 (38.2)
	Currently without a regular partner	244 (61.8)
Religion		
	Christian	355 (89.9)
	Islam	31 (7.8)
	Traditionalist	3 (0.8)
	No religion	6 (1.5)
Employment Status		
	Employed by other	12 (3.0)
	Employed by self	307 (77.7)
	Unemployed	76 (19.2)
Educational Level		
	Tertiary	38 (9.6)
	Non – tertiary	246 (62.3)
	No education	111 (28.1)
Do you smoke?		
	Yes	3 (0.8)
	No	392 (99.2)
Do you drink alcohol		
	Yes	17 (4.3)
	No	378 (95.7)
Do you have any other health condition you know of		
	Yes	66 (16.7)
	No	329 (83.3)

Source: Filed Data, 2021.

Forty, 60.6% of the 66 persons with other health conditions were with hypertension, followed by diabetes 5 (7.6%) and asthma 4 (6.1%). Also, three participants had tuberculosis, chronic hepatitis B infection, or a combination of hypertension and diabetes. Only 1 (1.5%) participant was with cancer. Seven participants, representing 10.6% of the comorbid cohort, were with other conditions. Figure 5 below summarises the distribution.

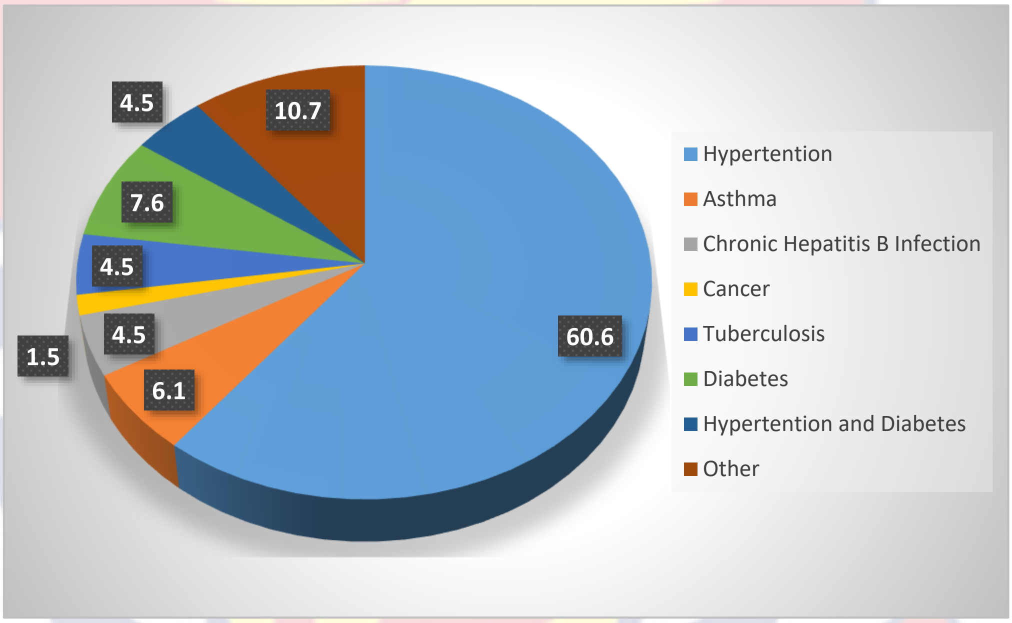

Figure 5. Prevalence of Comorbid Health Conditions among PLHIV (N=66)

Source: Field Data, 2021.

Socio-demographic Characteristics of Participants in In-depth Interview

The majority, 13 (72.2%), of the 18 participants interviewed were female, while 5 (27.8%) were male. The participants' ages varied from 31 to 72 years. In terms of marital status, there were 7 (38.9%) individuals who were divorced, 5 (27.8%) who were married, and the remaining participants were either widowed, single, or cohabiting. Only one (5.6%) participant identified as Muslim, while 17 (94.4%) were Christians. Regarding employment, 13 (72.2%) participants were employed, whereas 5 (27.8%) were not. In terms of education, 3 (16.7%) participants had completed senior high school, 8 (44.4%) had finished middle school, and 3 (16.7%) had no formal education. All participants had achieved some level of education, ranging from primary to tertiary, with the majority (62.3%, n=246) having completed non-tertiary education. Three (16.7%) participants reported having diabetes, while 15 (83.3%) did not. Concerning alcohol consumption and smoking, only 2 (11.1%) participants engaged in both, while 16 (88.9%) did neither. Additionally, 17 (94.4%) participants had given birth, except for 1 (5.6%) respondent. These demographic characteristics were important as they indicated that the participants were well-suited to address the research questions related to the study's focus. A snapshot of the socio-demographic traits of the sample of participants chosen for the in-depth interview is shown in Table 3 on page 81.

Table 3. Socio-demographic Characteristics of Participants involved in In-depth Interviews (n=18)

Identity	Gender	Age	Marital status	Religion	Employment Status	Education level	Duration of diagnosis (yrs)	Other health condition	Smoking status	Drinking status	CEB
IDI 1	Female	48	Divorced	Christian	Unemployed	Primary school	4	No	No	No	Yes
IDI 2	Male	45	Divorced	Christian	Unemployed	SHS	6	No	No	No	Yes
IDI 3	Female	40	Divorced	Christian	Employed	Middle school	9	Yes	No	No	Yes
IDI 4	Female	67	Widowed	Christian	Unemployed	Middle school	5	Yes	No	No	Yes
IDI 5	Female	31	Cohabiting	Christian	Employed	SHS	7	No	No	No	Yes
IDI 6	Female	42	Cohabiting	Muslim	Employed	Middle school	10	No	No	No	Yes
IDI 7	Female	38	Divorced	Christian	Employed	Vocational	8	Yes	No	No	Yes
IDI 8	Female	46	Married	Christian	Employed	Uneducated	2	No	No	No	Yes
IDI 9	Male	72	Married	Christian	Unemployed	Middle school	5	No	No	No	Yes
IDI 10	Male	69	Married	Christian	Employed	Middle school	7	No	Yes	Yes	Yes
IDI 11	Female	55	Widowed	Christian	Employed	Uneducated	6	No	No	No	Yes
IDI 12	Male	52	Divorced	Christian	Employed	Middle school	3	No	No	No	Yes
IDI 13	Female	47	Single	Christian	Employed	Uneducated	13	No	No	No	Yes
IDI 14	Female	40	Married	Christian	Employed	SHS	4	No	No	No	Yes
IDI 15	Female	56	Divorced	Christian	Unemployed	Middle school	9	No	No	No	Yes
IDI 16	Male	70	Divorced	Christian	Employed	Middle school	11	No	Yes	Yes	Yes
IDI 17	Female	38	Married	Christian	Employed	JHS	5	No	No	No	Yes
IDI 18	Female	33	Single	Christian	Employed	Tertiary	3	No	No	No	No

*CEB – children ever born

Source: Field Data, 2021.

Research Question One: What is the prevalence of mental health disorders among PLHIV?

The overall results suggested variable prevalence estimates of stigma [99.0% (95% confidence interval [CI] = 97.4 – 99.4)], anxiety [40.8% (95% CI = 36.0 - 45.8)], depression [28.6% (95% CI = 24.4 - 33.3)], and stress [10.6% (95% CI = 7.9 - 14.1)], during the previous week among the PLHIV. Additionally, estimations of the prevalence of loneliness and low self-esteem among PLHIV over the last week were reported at 30.1% (95% CI = 25.6 – 34.9) and 45.3% (95% CI = 40.4 - 50.2), respectively. A summary of prevalence estimates for psychological and mental health disorders among PLHIV is shown in Table 4 below.

Table 4. Prevalence Estimates of Mental Health and Psychological Disorders among PLHIV

Scale	Prevalence (%)	95% CI
Stigma	99.0	97.4 – 99.7
Anxiety	40.8	36.0 – 45.8
Depression	28.6	24.4 – 33.3
Stress	10.6	7.9 – 14.1
Loneliness	30.1	25.6 – 34.9
Low self–esteem	45.3	40.4 – 50.2

Source: Field Data, 2021.

Research Question Two: How does socio-demographic characteristics influence the mental health and psychological well-being of PLHIV?

This study question examined the relationship between some identified socio-demographic factors (including age, gender, marital status, religion, employment status, and educational level) and the psychological and mental health of PLHIV. Smoking, drinking, and comorbid conditions were other explanatory factors evaluated. Specific socio-demographic characteristics linked to depression, anxiety, and stress were established by employing multivariable logistic regression.

Overall, gender was the only factor with a statistically significant independent association with depression. Specifically, the multivariable logistic analysis indicated that women had about a 0.5 times higher risk of experiencing depression in the past week compared to men (AOR = 0.48, 95% CI = 0.25-0.91; p = 0.03). In contrast, marital status and educational level were associated with increased odds of reporting anxiety (marital status: AOR = 0.49, 95% CI = 0.30-0.79; p = 0.004; educational level: AOR = 0.63, 95% CI = 0.40-1.00). Specifically, individuals without a regular partner were about 0.63 times more likely to feel anxious in the previous week compared to those in stable relationships. Similarly, those without tertiary education had roughly a 0.49 times higher chance of reporting anxiety in the past week compared to those with higher education.

The logistic model revealed that only educational level had an independent relationship with stress, while both gender and educational level had significant bivariate associations with stress across the population. Among participants with and without formal education, those without formal education had approximately a 0.44 higher chance of experiencing stress in the previous week (AOR = 0.44, 95% CI = 0.21-0.89, p = 0.02). For a review of socio-demographic factors related to depression, anxiety, and stress in PLHIV, refer to Table 5 on page 86 below.

Table 5. Some Socio-demographic Factors Associated with Depression, Anxiety, and Stress among PLHIV

Characteristics	**Depression**			**Anxiety**			**Stress**		
	χ^2 (*p*)	**AOR (95% CI)**	***P***	**χ^2 (*p*)**	**AOR (95% CI)**	***P***	**χ^2 (*p*)**	**AOR (95% CI)**	***P***
Age	*1.16 (0.56)*	-	-	*1.04 (0.59)*	-	-	*1.97 (0.37)*	-	-
20–39	-	Ref	-	-	Ref	-	-	Ref	-
40–59	-	1.23 (0.59–2.58)	0.58	-	1.65 (0.85–3.21)	0.14	-	0.63 (0.21–1.84)	0.39
60–80	-	1.38 (0.70–2.66)	0.36	-	1.35 (0.74–2.47)	0.33	-	0.87 (0.35–2.17)	0.77
Gender	-	-	-	-	-	-	-	-	-
Male	7.73 (0.003)	Ref	-	5.15 (0.02)	Ref	-	5.73 (0.01)	Ref	-
Female	-	0.48 (0.25–0.91)	0.03	-	0.78 (0.45–1.34)	0.36	-	0.34 (0.11–1.04)	0.06
Marital status	*1.42 (0.14)*	-	-	*5.92 (0.01)*	-	-	*0.43 (0.31)*	-	-
Currently with a regular partner	-	Ref	-	-	Ref	-	-	Ref	-
Currently without a regular partner	-	0.87 (0.53–1.42)	0.56	-	0.63 (0.40–1.00)	0.05	-	1.81 (0.89–3.69)	0.10
Religion	-	-	-	-	-	-	-	-	-
Christian	-	Ref	-	-	Ref	-	-	Ref	-
Islam	-	1.13 (0.47–2.73)	0.78	-	0.89 (0.41–1.96)	0.77	-	3.84 (0.49–29.99)	0.20
Employment status	*1.01 (0.59)*	-	-	*4.34 (0.11)*	-	-	*3.21 (0.20)*	-	-
Employed by other	-	Ref	-	-	Ref	-	-	Ref	-
Employed by self	-	1.29 (0.35–4.76)	0.70	-	2.45 (0.65–9.26)	0.19	-	2.70 (0.52–14.05)	0.23
Unemployed	-	0.85 (0.47–1.55)	0.60	-	0.79 (0.46–1.38)	0.41	-	1.06 (0.40–2.80)	0.91
Educational level	*6.93 (0.03)*	-	-	*10.52 (0.01)*	-	-	*8.86 (0.01)*	-	-
Tertiary	-	Ref	-	-	Ref	-	-	Ref	-
Nontertiary	-	1.10 (0.47–2.58)	0.83	-	0.54 (0.24–1.24)	0.15	-	0.40 (0.10–1.62)	0.19
No formal education	-	0.62 (0.37–1.03)	0.07	-	0.49 (0.30–0.79)	0.004	-	0.44(0.21–0.89)	0.02
Do you drink alcohol	*1.37 (0.18)*	-	-	*0.001 (0.58)*	-	-	*0.92 (0.26)*	-	-
Yes	-	Ref	-	-	Ref	-	-	Ref	-
No	-	1.95 (0.68–5.65)	0.22	-	1.06 (0.36–3.09)	0.92	-	1.50 (0.36–6.12)	0.58
Comorbid conditions	-	-	-	-	-	-	-	-	-
Yes	0.001 (0.54)	Ref	-	0.001 (0.54)	Ref	-	1.70 (0.14)	Ref	-
No	-	1.00 (0.54–1.87)	0.99	-	1.14 (0.64–2.03)	-	-	1.69 (0.73–3.90)	0.22

- Abbreviations: AOR, adjusted odds ratio; CI, confidence interval.

Source: Field Data, 2021

Gender differences in factors associated with depression, anxiety, and stress

Tables 6 and 7 on pages 88 and 89 detail the socio-demographic characteristics connected to depression, anxiety, and stress in men and women, respectively. “To evaluate the bivariable and multivariable associations of the three outcomes (depression, anxiety, and stress), the statistical analysis was gender-stratified. Curiously, neither the bivariable nor the multivariable analyses of any link among females produced the desired level of statistical significance. However, in males, education level was linked to depression (AOR = 0.11, 95% CI = 0.02-0.73; p=0.02) and anxiety (AOR= 0.18, 95% CI = 0.04-0.86; p=0.03). In particular, compared to men with tertiary education, HIV-positive men without a formal education had an approximately 0.11-fold higher risk of depression in the previous week”. Similar to this, male participants without tertiary education had about a 0.18 increased probability than those with tertiary education of experiencing anxiety over the previous week.

Table 6. Some Socio-Demographic Factors Associated with Depression, Anxiety, and Stress Among Females

Characteristics	Depression			Anxiety			Stress		
	χ^2 (*p*)	AOR (95% CI)	*P*	χ^2 (*p*)	AOR (95% CI)	*P*	χ^2 (*p*)	AOR (95% CI)	*P*
Age	*2.78 (0.25)*	-	-	*0.48 (0.79)*	-	-	*1.16 (0.56)*	-	-
20–39	-	Ref	-	-	Ref	-	-	Ref	-
40–59	-	1.44 (0.62–3.34)	0.40	-	1.68 (0.78–3.61)	0.185	-	0.71 (0.23–2.22)	0.56
60–80	-	1.75 (0.82–3.72)	0.15	-	1.46 (0.73–2.92)	0.28	-	0.84 (0.31–2.23)	0.72
Marital status	*1.09 (0.35)*	-	-	*2.40 (0.14)*	-	-	*1.05 (0.35)*	-	-
Currently with a regular partner	-	Ref	-	-	Ref	-	-	Ref	-
Currently without a regular partner	-	0.73 (0.42–1.28)	0.28	-	0.69 (0.41–1.16)	0.159	-	1.84 (0.87–3.91)	0.11
Religion	*0.04 (>0.99)*	-	-	*0.24 (0.67)*	-	-	*3.64 (0.06)*	-	-
Christian	-	Ref	-	-	Ref	-	-	Ref	-
Islam	-	1.14 (0.43–3.05)	0.79	-	1.50 (0.58–3.83)	0.40	-	-	-
Employment status	*0.94 (0.63)*	-	-	*2.75 (0.25)*	-	-	*2.75 (0.25)*	-	-
Employed by other	-	Ref	-	-	Ref	-	-	Ref	-
Employed by self	-	1.70 (0.43–6.73)	0.45	-	1.84 (0.45–7.50)	0.397	-	2.96 (0.53–16.63)	0.22
Unemployed	-	0.88 (0.44–1.74)	0.71	-	0.60 (0.32–1.15)	0.12	-	0.98 (0.34–2.86)	0.97
Educational level	*2.44 (0.30)*	-	-	*6.19 (0.05)*	-	-	*5.11 (0.08)*	-	-
Tertiary	-	Ref	-	-	Ref	-	-	Ref	-
Nontertiary	-	0.57 (0.19–1.68)	0.31	-	0.32 (0.11–0.88)	0.027	-	0.30 (0.06–1.59)	0.16
No formal education	-	0.76 (0.19–1.30)	0.31	-	0.55 (0.33–0.93)	0.024	-	0.48 (0.23–1.00)	0.05
Do you drink alcohol	*2.61 (0.18)*	-	-	*0.52 (0.54)*	-	-	*2.17 (0.15)*	-	-
Yes	-	Ref	-	-	Ref	-	-	Ref	-
No	-	2.36 (0.67–8.32)	0.18	-	1.39 (0.39–4.93)	0.61	-	1.95 (0.43–8.75)	0.38
Comorbid conditions	*0.45 (0.63)*	-	-	*0.16 (0.76)*	-	-	*0.32 (0.65)*	-	-
Yes	-	Ref	-	-	Ref	-	-	Ref	-
No	-	0.79 (0.40–1.58)	0.50	-	0.94 (0.50–1.79)	0.86	-	1.35 (0.54–3.39)	0.53

- Abbreviation: CI, confidence interval.

Source: Field Data, 2021.

Table 7. Some Socio-Demographic Factors Associated with Depression, Anxiety, and Stress among Males

Characteristics	**Depression**			**Anxiety**			**Stress**		
	χ^2 (*p*)	**AOR (95% CI)**	***P***	**χ^2 (*p*)**	**AOR (95% CI)**	***P***	**χ^2 (*p*)**	**AOR (95% CI)**	***P***
Age	*1.99 (0.37)*	-	-	*2.11 (0.35)*	-	-	*1.81 (0.41)*	-	-
20–39	-	Ref	-	-	Ref	-	-	Ref	-
40–59	-	0.86 (0.13–5.68)	0.88	-	2.58 (0.54–12.31)	0.24	-	-	-
60–80	-	0.28 (0.04–1.86)	0.19	-	1.02 (0.25–4.14)	0.97	-	2.88 (0.19–44.61)	0.45
Marital status	*0.54 (0.59)*	-	-	*1.78 (0.19)*	-	-	*0.57 (0.63)*	-	-
Currently with a regular partner	-	Ref	-	-	Ref	-	-	Ref	-
Currently without a regular partner	-	2.26 (0.41–12.51)	0.35	-	0.36 (0.11–1.14)	-	-	0.95 (0.07–13.84)	0.97
Religion	*0.13 (>0.99)*	-	-	*1.54 (0.24)*	-	-	*1.28 (0.32)*	-	-
Christian	-	Ref	-	-	Ref	-	-	Ref	-
Islam	-	2.65 (0.21–32.98)	0.45	-	0.36 (0.06–2.11)	0.25	-	0.42 (0.02–8.36)	0.57
Employment status	*0.91 (0.64)*	-	-	*2.38 (0.30)*	-	-	*0.07 (0.97)*	-	-
Employed by other	-	Ref	-	-	Ref	-	-	Ref	-
Employed by self	-	-	-	-	-	-	-	-	-
Unemployed	-	1.08 (0.20–5.93)	-	-	2.26 (0.55–9.29)	-	-	0.40 (0.02–9.51)	0.57
Educational level	*16.27 (<0.001)*	-	-	*9.60 (0.01)*	-	-	*1.67 (0.43)*	-	-
Tertiary	-	Ref	-	-	Ref	-	-	Ref	-
Nontertiary	-	2.77 (0.35–21.78)	0.93	-	1.07 (0.16–7.10)	0.94	-	0.31 (0.01–11.60)	0.53
No formal education	-	0.11 (0.02–0.73)	0.02	-	0.18 (0.04–0.86)	0.03	-	0.11 (0.00–2.90)	0.18
Do you drink alcohol	*0.003 (>0.99)*	-	-	*0.61 (0.66)*	-	-	*0.28 (1.00)*	-	-
Yes	-	Ref	-	-	Ref	-	-	Ref	-
No	-	1.91 (0.10–37.10)	0.67	-	0.64 (0.05–7.57)	0.72	-	-	-
Comorbid conditions	*1.82 (0.23)*	-	-	*0.40 (0.53)*	-	-	*4.82 (0.09)*	-	-
Yes	-	Ref	-	-	Ref	-	-	Ref	-
No	-	5.51 (0.76–39.94)	0.09	-	2.28 (0.45–11.47)	0.32	-	10.91 (0.63–188.49)	0.10

- Abbreviation: CI, confidence interval.

Source: Field Data, 2021

Research Question Three: What is the relationship between HIV-related stigma, Self-esteem, and Loneliness among PLHIV?

This research question explored the relationship between HIV-related stigma, self-esteem, and loneliness among PLHIV using correlation analysis. The various factors were correlated, and the results showed some substantial connections between the variables, with varying degrees of intensity. High stigma scores were correlated with high loneliness, depression, stress, and anxiety scores; as a result, when one experienced stigma, they also experienced loneliness, depression, stress, and anxiety, but the correlation was weak. However, self-esteem was low, and this association was weak when stigma was high. Significant but weak direct relationships between loneliness and coping were found. Higher levels of loneliness were correlated with lower levels of stress and self-esteem. There was also an inverse weak significant connection between loneliness and self-esteem. Low levels of self-esteem were substantially correlated with low levels of self-esteem; the association between the two was weak. High scores on depression were strongly correlated with high scores on stress and anxiety. High-stress levels were substantially correlated with high anxiety levels, and self-esteem was found to have a weakly negative association with stress levels. The internal consistency coefficients and bivariate correlations of the categories are summarised in Table 8 on page 91 below.

Table 8. Internal Consistency Coefficients and Bivariate Correlations

Scale	1	2	3	4	5	6	7
Stigma	**(0.67)**						
Loneliness	0.24^*	**(0.72)**					
Brief COPE	0.01	0.32^*	**(0.83)**				
Depression	0.20^*	-0.10	-0.07	**(0.87)**			
Stress	0.12^*	-0.11^*	-0.05	0.83^*	**(0.85)**		
Anxiety	0.20^*	-0.07	0.01	0.83^*	0.78^*	**(0.85)**	
Self – esteem	-0.12^*	-0.11^*	-0.15^*	-0.16^*	-0.18^*	-0.15^*	**(0.40)**

* Statistically significant at $p < 0.05$. * Cronbach alpha in bold, bivariate correlations: 0 – 0.3 = weak correlation, 0.31 – 6.9 = moderate correlation, 0.7 – 1.0 = strong correlation.

Source: Field Data, 2021.

Research Question Four: What coping strategies are used by PLHIVs to manage their daily activities?

This research question sought to identify coping strategies the PLHIV used to manage their daily activities. The descriptive statistical analysis included means, percentages, and standard deviation. The respondents used various coping strategies, including active coping, denial, substance abuse, seeking emotional and instrumental support, behavioural disengagement, venting, positive reframing, self-blame, planning, humour, acceptance, and religious practices. The top five most frequently used coping techniques were discovered to be acceptance (98.5%; n = 389), religion (97.0%; n = 383), positive reframing (94.2%; n = 372), self-distraction (91.4%; n = 361), and active coping (90.4%; n = 357). The five least used coping strategies were self-blame, denial, behavioural disengagement, humour, and substance abuse, with respective rates of 75.6% (n = 300), 69.9% (n = 276), 44.6% (n = 176), and 33.4% (n = 132). Table 6 on page 92 below summarises a few coping strategies.

Table 9. Coping Strategies Employed by Respondents

Coping strategy	M (SD)	I haven't been doing this at all	I have been doing this
		N (%)	N (%)
1. Self – distraction	6.2 (1.9)	34 (8.6)	361 (91.4)
2. Active coping	5.7 (1.8)	38 (9.6)	357 (90.4)
3. Denial	4.2 (1.9)	119 (30.1)	276 (69.9)
4. Substance abuse	3.0 (1.7)	263 (66.6)	132 (33.4)
5. Emotional support	5.4 (1.9)	48 (12.2)	347 (87.8)
6. Behavioural disengagement	4.0 (1.7)	125 (31.6)	270 (68.4)
7. Venting	4.7 (1.8)	71 (18.0)	324 (82.0)
8. Instrumental support	5.4 (1.9)	50 (12.7)	345 (87.3)
9. Positive reframing	5.4 (1.6)	23 (5.8)	372 (94.2)
10. Self – blame	4.5 (2.0)	95 (24.1)	300 (75.9)
11. Planning	5.4 (1.8)	44 (11.1)	351 (88.9)
12. Humour	3.4 (1.8)	219 (55.4)	176 (44.6)
13. Acceptance	6.6 (1.5)	6 (1.5)	389 (98.5)
14. Religion	6.5 (1.7)	12 (3.0)	383 (97.0)

Source: Field Data, 2021.

Research Question Five: How do patients describe their experiences living with HIV/AIDS?

This research question mirrors the results from the qualitative part of the study, which sought to explore participants' accounts of their experiences living with HIV/AIDS. To analyze the qualitative data, the study employed Braun et al.'s (2021) six-phase thematic analysis method. Thematic analysis, as described by Braun and Clarke, is a method for identifying, examining, and integrating patterns (themes) within the data. The findings were detailed through the use of codes, sub-themes, main themes, and meaning units (direct quotes from people living with HIV/AIDS) (Erlingsson & Brysiewicz, 2017).

The qualitative data identified two main themes and eighteen sub-themes. The primary themes from the interviews were psychological impact and coping strategies. Under psychological impact, the sub-themes were anxiety, social stigma, and self-stigma, along with concerns about disclosure, disease burden, financial burden, physical stress, suicidal thoughts, loneliness, and interactions with healthcare professionals. For coping strategies, the sub-themes included self-efficacy and acceptance, support networks (such as family, religion, healthcare workers, and the health system), engaging in diversional activities, isolation and avoidance, and reassurance about the availability of ARVs.

Theme One: Psychological Impact

The psychological impact reflects the internal and external stressors that affected the participants' (PLHIV) psychological well-being. The respondents identified stigmatisation, stress, fear, worry, and anxiety as aspects of their experience of living with the illness (HIV). Ten (10) sub-themes were identified: anxiety, self-stigma, societal stigma, disease burden, financial burden, physical stress, disclosure concerns, loneliness, suicidal ideation, and relationships and communication with healthcare workers.

Anxiety

Anxiety was the first sub-theme to emerge from the data. The participants discussed their levels of anxiety following their HIV/AIDS diagnoses, which some said had an impact on their ability to sleep. Some PLHIV started to worry that they would infect their unborn child while pregnant. Others' anxiety was caused by their spouse, which eventually impacted how often they used the antiretroviral. These opinions were apparent from the participant statements, which are summarised here;

> *"Hmm, when I got to know about it (HIV/AIDS), I became very worried because since my husband died, my children and I agreed that I was not going to have anything to do with any man, and I haven't had an affair with any man so when I was told I got worried, it even affected my sleep"* (IDI 4, female, 67 years, 5 years since diagnosis). *"…my marital issues and the desire to further my education and the profession of my choice. I feel I may miss all of these. Even childbearing, because of the disease, I fear the child might also get infected…"* (IDI 5, female, 31 years, 7 years since diagnosis). *"My husband has been worrying me, and it affects the way I take my medicine. He drinks, so anytime he gets drunk, he creates confusion, and if I respond, then he tries to reveal to people publicly, so I have to avoid him…"* (IDI 8, female, 46 years, 12 years since diagnosis).

Societal-stigma

The second sub-theme discovered had something to do with societal stigma. The participants claimed that after receiving an HIV/AIDS diagnosis, they had to deal with stigma. Some individuals claimed that their family members also stigmatised them. The respondents highlighted this in the tales below;

> *"Hmm… it's my brother when he comes to visit; he doesn't sleep overnight; he tells us he's busy, but I think it's because of me, but I don't bother… not that he goes about telling people. Always that's what he says; he's busy"*. (IDI 2, male, 45 years, 6 years since diagnosis). One other participant also posited, *"…even my siblings, two*

> *of them, are not as close to me as they used to be. They didn't know until my brother's friend came to my house and saw the medicine I take; I think he also takes some, so he may have informed my brother about it, and since then, one of my sisters stopped the child from coming to me. Maybe she thinks the child will also get it if she comes to me. I also went for prayers at some place, and a certain pastor saw my medicines and spoke about it."* (IDI 3, female, 40 years, 9 years since diagnosis).

Self-stigma

The respondents identified the third sub-theme, self-stigma, as their perceptions of their current HIV/AIDS status. Many respondents admitted that having HIV made them feel unworthy. The following is how respondents described this;

> *"This disease is disgusting, so even my children, apart from the one in secondary school who was with me in the hospital, the rest don't know."* (IDI 3, female, 40 years, 9 years since diagnosis). *"…it makes me feel unclean. The way people talk and behave towards you when they hear you have this disease is even embarrassing. If you go to the hospital and they ask if you have any disease, how do you mention that you have HIV? It makes you less of a person; people will even think you did something bad that made you get HIV."* (IDI 4, female, 67 years, 5 years since diagnosis)

Disclosure Concerns

One of the sub-themes of psychological experiences was disclosure concerns. The reasons given by the participants for not disclosing their status to others or for their unwillingness to do so were a source of concern. Some participants argued that telling people would be preferable to leaving them vulnerable to rumours. However, some individuals felt at ease disclosing their predicament to close family members and others they felt could assist them in managing their circumstances more effectively. These were stated as follows in the opinions of several respondents;

> *"No, I haven't done that before; apart from my children and the doctors who are taking care of me, who else can I even mention this to? I don't think it will help me in any way if I tell someone because the person may end up gossiping around… As for telling friends, it will not stay between us, so when I think about it, there is no need to do that"* (IDI 1, female, 48 years, 4 years since diagnosis). *"No! …even when people suspect you, they avoid you how much more you telling them yourself, they won't even come close to you at all so that they will even comfort you"* (IDI 6, female, 42 years, 10 years since diagnosis). *"I don't discuss it. Eii… …human beings can gossip …how then do I sell myself to people for them to go about telling people that I have HIV or AIDS? So, I don't talk about it or look down on myself. No! No! No!!!"* (IDI 9, male, 72 years, 5 years since diagnosis).

Disease Burden

One of the earliest sub-themes of psychological experiences was the disease burden. The participants admitted that it was quite challenging for them to live with the illness (HIV). The participants also mentioned that they were worried about how other individuals made negative remarks about them, which added to their stress levels. Remarkably, one respondent described;

> *"My greatest worry is the disease. Left alone, there is a medicine I can take, and the disease will disappear right now because I want to give birth again. I don't have a male child, and that worries me, but I have made up my mind until the disease is cured, I am not giving birth again"* (IDI 3, female, 40 years, 9 years since diagnosis). One other responded added, *"…It was burdensome for me. Sometimes, I wake up in the middle of the night thinking about where it came from because I am not into men. So suddenly the doctor told me this is the problem, even to date I still think about it…"* (IDI 15, female, 56 years, 9 years since diagnosis).

Financial Burden

One of the earliest sub-themes of psychological experiences was disease burden. The participants admitted that it was quite challenging for them to live with the illness (HIV). The participants also mentioned that they were worried about how other individuals made negative remarks about them, which added to their stress levels. Notably, some respondents recounted;

> *"My major concern has been money. Sometimes when I am due for the clinic, I struggle before I get money to come"* (IDI 6, female, 42 years, 10 years since diagnosis). *"Sometimes when it is about three days to*

> *come to the clinic, I search everywhere in my house, and there is no money, not even a penny on me for transportation. It gets me thinking"* (IDI 8, female, 46 years, 12 years since diagnosis).

Physical stress

Physical stress was a critical sub-theme that was shown by the data set. Regarding this sub-theme, the participants discussed how the illness (HIV/AIDS) has physically affected their stamina and capacity for work. Some respondents claimed that the illness rendered them frail and changed the method that they used to work. Some participants' opinions revealed that they experienced significant stress while visiting the clinic to pick up their prescription medications. The participants disclosed that sometimes the services provided to them, such as giving them their medications, were delayed. As a result, anyone who passed by the waiting room became sceptical of their predicament. The quotes below show the opinions that some respondents expressed;

> *"Yes, it has made me weak; activities that I usually do with ease now I get tired easily. My strength is not as good as before. Now I am careful with what I do as compared to before"* (IDI 18, female, 33 years, 3 years since diagnosis). *"What worries me a little is when we come for medicines from the hospital, the services are delayed, so whoever passes there sees you sitting there, so they realise you are there because of this disease; that is the only thing that stresses me, if not that as at now there is nothing in my life that stresses me"* (IDI 9, male, 72 years, 5 years since diagnosis).

Suicidal ideations

Suicidal thoughts emerged from the data set as the next sub-theme worth mentioning. The participants' feelings of giving up on life due to the sickness (HIV/AIDS) were the emphasis of this sub-theme. The opinions of the respondents are reflected in the narratives that follow;

> *"I became a little scared; I was even tired. I said God should let me go. I used to complain…"* (IDI 2, male, 45 years, 6 years since diagnosis). Another participant also stated, *"The day I went to the hospital and was told about it, I almost did something nasty to myself… I locked myself in the room, and all I could do was cry… It took me over a year, and I kept thinking about it…"* (IDI 6, female, 42 years, 10 years since diagnosis). Another male participant also noted, *"At the beginning, when I was told, truly I went crazy, so I made up my mind if so, then I will call my children and share the little I have for them because I was out of time and wanted to die…"* (IDI 9, male, 72 years, 5 years since diagnosis).

Loneliness

Another prominent sub-theme from the data set that stood out was loneliness. With this sub-theme, the participants discussed how having HIV/AIDS made it challenging for them to form strong relationships with others, including locating a life partner. The following accounts from the interviewees provide examples of this feat;

> *"Me, I don't get help from anyone… even my family, most of them are Muslims, and they are only used to their Muslim brothers and sisters. If you go to them, they only listen to your message and tell you it will*

be well, but they do not help you in any way. I even wish to marry, but I haven't met anyone…" (IDI 1, female, 48 years, 4 years since diagnosis). Another respondent added, *"I do not have friends I go to, or sometimes, maybe we meet at the marketplace morning, then I go to my house, but to go to their house, I don't do that…"* (IDI 11, female, 55 years, 6 years since diagnosis). Other respondents stated, *"The reason is that the way they describe the disease makes people isolate themselves. They will also be pointing their fingers at you. This can get you thinking, so I better keep it to myself…"* (IDI 14, female, 40 years, 4 years since diagnosis). *"I clean my house and go to work if I am on duty. But if I am not on duty, I am always indoors. Sometimes I sleep all day…"* (IDI 5, female, 31 years, 7 years since diagnosis).

In the narratives following, several respondents similarly discussed their struggle to locate suitable employment and their inability to find a lifemate who would understand and be able to deal with their current situation;

"We have challenges with relationships, so if they can get us contacts of people who also have the condition, it may help us because if you marry someone who does not have the condition, sometimes, you can't take your medicines when he is around." (IDI 7, female, 38 years, 8 years since diagnosis). *"I would wish that time for consultation, especially among the youth, if any man who also has the disease and needs a wife, they could link us because if you go for someone who does not have the disease, they will leave you if they find out… and also they can help get work to do to support us"* (IDI 5, female, 31 years, 7 years since diagnosis).

Relationships and Communication with Healthcare Professionals

The final sub-theme of psychological experiences emerged as relationships and communication with health professionals. The behaviour of some healthcare professionals, particularly nurses, alarmed the participants. Some participants, however, asserted that occasionally, they (PLHIV) were to blame for how the medical staff acted. The excerpt below shows how respondents described their interaction with the medical staff:

> *"Ehm, sometimes the way they talk to us is harsh, especially the nurses... To me, they should draw us closer to themselves. Still, I think we are also the cause because sometimes… for instance, they mention your name instead of responding; you don't mind, at least show some respect, but some of us feel so big we disobey what they ask us to do… …at one time, I missed my appointment, so I met one nurse for counselling; she said if they give me the drugs I can choose to take it or not if I die it is not their business, I became uncomfortable, but later when I met the doctor who examined me she was so nice to me. When she checked my labs, she even said I don't look like what my lab report suggests… …I wish they had changed how they speak to us; if not for the disease, some older adults wouldn't come here."* (IDI 5, female, 31 years, 7 years since diagnosis).

Theme Two: Coping Strategies

The coping strategy emerged as the second central theme of the interviews. This theme describes the numerous types of support that respondents have access to assist them in coping with the effects of living with HIV/AIDS. Eight (8) sub-themes under this overarching topic emerged, including self-efficacy and acceptance, support network (family support, religious support, healthcare staff and health system, peer support), diversional activities, isolation and avoidance, medication, and counselling.

Self-efficacy and Acceptance

The first sub-theme of coping strategy emerged as self-efficacy and acceptance. Participants who said they were living in their own homes and were not bothered by the HIV/AIDS disease were exhibiting self-sufficiency. One respondent said in detail,

> *"I have no such problem; I live in my own house, so I don't encounter those things that can make me uncomfortable. I am free; I don't think about it at all. I know it has happened already, so I don't worry about it anymore"* (IDI 10, male, 69 years, 7 years since diagnosis).

Some participants expressed that they were not alone in this situation because other persons whom they believed to be in a better position in society had also developed the illness. To the other participants, their situation was not unique because persons with various conditions may live freely in society. In order to employ the right tools at their disposal to combat the illness (HIV/AIDS), the participants answered that they had to accept their fate. Here are a few opinions expressed by some respondents;

> *"… when I see mothers, youth and even people with university education who also have it, I don't worry about mine; I see I still have a future, so I've taken it normally* (IDI 4, female, 31 years, 5 years since diagnosis). *"As I am saying, people have different kinds of sickness, but they are walking around, so if I have this disease, it doesn't mean I am useless"* (IDI 13, female, 47 years, 13 years since

diagnosis). Another respondent indicated, *"... I have accepted the situation., ...this is what has befallen me, and no matter what I do, I have gotten the disease, so I have to look for a way to protect myself and go through it, so I am not bothered. Some people have not yet accepted their condition, so they are roaming from one prayer camp to the other, but I have accepted my fate that I can't do anything about it*" (IDI 18, female, 33 years, 3 years since diagnosis).

Support Network

The support network was the second sub-theme discovered. From this main sub-theme, four sub-themes emerged: family, peers, healthcare professionals, and religion. The participants discussed the ways in which their family members, friends, healthcare professionals, and religious organisations provided them with financial support, inspiration, friendship, and encouragement. The following are some issues some respondents brought up;

Family Support

In relation to this sub-theme, the participants indicated that they had acquired support and encouragement from family members as well as financial assistance and companionship from spouses. Remarkably, the participants disclosed that their children, in-laws, and siblings provide financial assistance for them.

"*…people who know me encourage me, and I also make sure to take my drugs well"* (IDI 6, female, 42 years, 10 years since diagnosis). Another participant averred, *"...even one of my brothers is a medical doctor at Korle-Bu; sometimes he sends me money for other drugs and upkeep"* (IDI 7, female, 38 years, 8 years since diagnosis). One male respondent also added, *“…mmm, apart from my siblings, I don’t get help from anybody. They support me financially. At times they buy things for me… Even my in-laws, they are all good to me”* (IDI 2, male, 45 years, 6 years since diagnosis). Lastly, one male respondent added that he could cope because of the companionship he received from his wife. He said, *“I was very lucky my wife didn’t have it yet. She supported me till this time*” (IDI 9, male, 72 years, 5 years since diagnosis).

The inspiration participants received from their families was expressed in the view of one participant as follows;

> *“…my mother reminds me to take my drugs and encourage me to eat well. My other siblings who stay at different places too, we communicate on the phone, and I do visit them, we interact well”* (IDI 2, female, 42 years, 6 years since diagnosis).

Religion

This sub-theme reflects respondents’ religious beliefs and participation in religious activities as a coping mechanism for living with HIV/AIDS. The respondents discussed their beliefs about God in order to demonstrate how, despite having the condition, their faith is grounded in their religious upbringing. The following narratives demonstrate the opinions voiced by respondents;

> *“I followed the things the doctors asked me to do when I came to the clinic, and the nurses too encouraged me… they made me understand if I take the medicine well, I can live comfortably, but who kept me going is my reliance on God”* (IDI 8, female, 46 years, 12 years since

diagnosis). *"First of all, I just give thanks to God because it was not easy for me since I was diagnosed with the disease. Is only God who has kept me going"* (IDI 2, male, 45 years, 6 years since diagnosis).

Healthcare Workers and Health Systems

The fourth sub-theme was revealed to be healthcare workers and a supportive healthcare system. Some participants claimed that the services offered at the clinic and the encouragement they received from the doctors and nurses helped to keep them going. A male participant reaffirmed;

"…the nurses and the doctors are all good. Even when I default, they caution me and take good care of me. They are nice; when I compare how the nurses treated us when my mother felt sick in our hometown, I do say the nurses here are good. Last time they even suggested I take transfer because I come from afar, but I refused because I like the way they care for me here" (IDI 12, male, 52 years, 3 years since diagnosis). A female respondent added, *"The doctors and nurses have been very supportive. They treat me well anytime I come to the hospital, especially the elderly one among them; she is always nice to me, even when she sees me in town. They are all good; even those who pick up our folders when we come to the clinic are nice to us. Sometimes, when I am unable to come for my medicines, they collect them and bring them to my house"* (IDI 3, female, 40 years, 9 years since diagnosis).

Peer Support

The next apparent sub-theme was the support that patients received from their friends. Some respondents stated that some of their friends gave them moral support and financial assistance, which helped them manage the financial burden of the sickness. The participants expressed this in the narratives below;

> *"…that my friend also encourages me. Sometimes when I don't have money to come to the clinic, she even gives me money to come. She ensures I am doing better"* (IDI 5, female, 31 years, 7 years since diagnosis). *"…some of my friends also help me sometimes even though I have not told them anything"* (IDI 7, female, 38 years, 8 years since diagnosis).

Diversional Activities

Diversional activities were a significant sub-theme that emerged from the data. The activities respondents engaged in to divert their focus from the difficulties living with HIV had brought on were the focus of this review. Some participants found entertainment in listening to music and watching movies. Other respondents kept busy at their jobs to avoid worrying about their circumstances. A female participant provided the narration;

> *"…I listen to music a lot, and that takes away my worries. I like watching movies too, so I don't think about it (HIV). Again, my work also engages me a lot and makes me busy. I am a teacher, so sometimes some of the students can behave in a way to amuse you, which takes my attention from the disease"* (IDI 18, female, 33 years, 3 years since diagnosis). A male respondent added, *"…I think if I stay at*

> *one place doing nothing, it can weaken me, so I go to work almost every day"* (IDI 10, male, 69 years, 7 years since diagnosis). *"I focus on my work, I am always busy, so I do not have time to be thinking about the disease"* (IDI 12, male, 52 years, 3 years since diagnosis).

Isolation and Avoidance

Isolation and avoidance came up as another significant sub-theme in the transcripts. The interviewees claimed that they occasionally had to avoid social situations at work to avoid rumours regarding their current situation. As told by one of the participants,

> *"…the way people make you feel when they know you have it (HIV) makes life difficult for you. At times, you don't feel comfortable working among people"* (IDI 7, female, 38 years, 8 years since diagnosis). *"…I have to avoid places where people are likely to gossip about me"* (IDI 8, female, 46 years, 12 years since diagnosis).

Assurance of Availability of Antiretrovirals

The promise of antiretroviral availability was the final sub-theme to emerge from the data. Participants' reliance on antiretrovirals for survival and a healthy lifestyle was the focus of this sub-theme. The following is how the participants illustrated this in their narrative;

> *"I am encouraged by the fact that there is medicine to take to live healthily. In the past, if you get it (HIV), you die early, but I have lived with it for many years, and I am still healthy"* (IDI 11, female, 55 years, 6 years since diagnosis). *"…I hope that if I take my medicine well, I will live longer. I admit I will die one day, but even if this is what will cause my death, it should not leave me in a terrible situation;*

I should go peacefully. So, I take my medicine all the time…" (IDI 4, female, 67 years, 5 years since diagnosis). One other participant added, *"I think the medicine because when you take them, you look ok. Also, the way I perceived the disease when I went for counselling and the teachings the nurses gave me made me understand that the disease is not as strange as people think"* (IDI 12, male, 52 years, 3 years since diagnosis). Another participant indicated, *"I follow the teaching the doctors and nurses give us. They counsel you well before treating you, so I listen to them and eat what they teach me.* (IDI 15, female, 56 years, 9 years since diagnosis).

Discussion

Prevalence of Mental Health Disorders among PLHIV

The prevalence of mental health issues among PLHIV presenting to the CCTH was evaluated in this study. The main findings indicate a high prevalence of depression, anxiety, and stress. In the past week, about 40% of people living with HIV (PLHIV) reported depression, 20% reported anxiety, and 10% reported stress. These figures are notably higher compared to those from earlier studies in high-income countries (Lu et al., 2018; McGowan et al., 2018). For instance, in the UK, previous studies found depression and anxiety rates of 19.8% and 13.1%, respectively (McGowan et al.). Interestingly, the results of the current study align with findings from other low- and middle-income countries. For instance, research conducted in South Ethiopia using the Hospital Anxiety and Depression Scale (HADS) reported depression and anxiety rates of 32.0% and 34.4% among people living with HIV (Duko et al., 2019).

A study conducted in India using the DASS-21 revealed that 50% of people living with HIV (PLHIV) experienced depression (Deshmukh et al., 2017). While high rates of depression and anxiety are reported, these figures can vary widely depending on how they are measured. Across the globe, there are notable differences in the prevalence of stress, anxiety, and depression among PLHIV (Chipata et al.; Lu et al.; McGowan et al., 2018; Rai et al., 2015; Saadat et al., 2015; Tran et al., 2019; Yousuf et al., 2020). These variations may be influenced by cultural differences and social desirability bias, which can affect mental health estimates in different income countries. Thapinta et al. (2022) highlighted the connection between internalized stigma and depression among PLHIV in Thailand, emphasizing the significant impact stigma has on mental health outcomes.

Yuan et al. (2024) investigated the impact of perceived social support and stigma on depression among Chinese individuals living with HIV, uncovering a complex interplay between psychosocial factors and mental health. Malava (2018) highlighted a high rate of depressive symptoms among PLHIV in sub-Saharan Africa, underscoring the need for targeted interventions in regions with elevated HIV rates. Likewise, Zerihun and Girma (2023) found a notable prevalence of depressive symptoms among PLHIV in low-resource areas of Ethiopia, stressing the urgent need to tackle mental health concerns in resource-limited environments.

Socio-demographic Predictors of Mental Health and Psychological Disorders among PLHIV

The current study examined how socio-demographic factors impact mental and psychological well-being. Results indicate that women are more likely than men to report experiencing stress, anxiety, and depression, a finding consistent with previous research (Chipata et al.; Duko et al.; Mekonen, Belete, & Fekadu, 2021). This outcome is not surprising, as women are generally more prone to experiencing and disclosing internalizing issues compared to men (Williams, Frech, & Carlson, 2012). The psychosocial effects of living with the virus require significant social and emotional support for individuals with HIV (Birore, Wu, Abrefa-Gyan, & Lewis, 2022). In Ghana, women continue to encounter persistent inequality, reduced social standing, and greater vulnerability to discrimination and mistreatment, especially regarding stigmatized sexually transmitted infections. Gender inequality remains widespread (Birore et al., 2022).

In these circumstances, women with HIV are more likely than men to encounter social challenges, experience social exclusion and isolation, and lack meaningful support, which makes them more vulnerable to negative mental health outcomes such as loneliness, despair, and anxiety.

The capacity of people living with HIV (PLHIV) to build resilience in the face of mental health challenges is linked to having a supportive partner (Hung, Voss, Bounsanga, Graff, & Birmingham, 2019). The study also indicates that PLHIV without a regular partner is more prone to experiencing anxiety compared to those who have a spouse. In Zambia, research showed that divorced, widowed, and single women exhibited higher levels of depression (Chipata et al.). Less stressful marriages can potentially reduce susceptibility to mental health issues (WHO, 2021). While meaningful spousal support can enhance resilience and offer protection against mental health difficulties, it may not always prevent the onset of mental illness among partners (Grundstrom, Konttinen, Berg, & Kiviruusu, 2021).

It is crucial to address the observation that individuals living with HIV (PLHIV) without formal education tend to experience higher levels of stress and anxiety compared to those with higher education. This disparity might be due to the functional health literacy that comes with formal education. In Ghana, HIV/AIDS education is an essential component of the health curriculum from primary school to university (Barnett, de Koning, & Francis, 1995). As a result, individuals with formal education are typically more knowledgeable about HIV and are more inclined to use their educational resources to make healthier choices and manage their condition more effectively.

On the other hand, people living with HIV (PLHIV) who lack formal education might find it challenging to explore alternative solutions, as they may not have sufficient knowledge about the virus and its management. Although further research is needed to confirm the link between functional health literacy and better outcomes for PLHIV with formal or tertiary education, this finding may underscore the necessity of creating a functional health literacy program for uneducated PLHIV in Ghana who attend antiretroviral clinics. Educational interventions have been used in various settings to manage stress and anxiety; music education has been shown to reduce performance-related stress among students (Nwokenna et al., 2022).

Additionally, low education levels are linked to increased anxiety, emphasising the importance of education for mental health (Güney & Coban, 2022). Similarly, other studies have found that lower educational attainment is associated with higher anxiety levels, highlighting education's role in reducing anxiety (Güney et al., 2022).

Relationship between HIV-related Stigma, Self-esteem, and Loneliness among PLHIV

The association between HIV-related stigma, self-esteem, and loneliness was examined in the current study. According to key findings, significant relationships between the variables were found, with varying degrees of severity. In particular, high stigma scores were linked to high loneliness, high stigma scores were linked to poor self-esteem and higher degrees of loneliness were linked to lower self-esteem. The results of the current investigation are consistent with certain earlier related studies. Emlet (2014) highlighted that the stigma associated with HIV has been connected to various harmful psychological states and negative health outcomes. This encompasses challenges like poor medication adherence, difficulties with disclosure (Grov et al., 2010; Vanable et al., 2006), feelings of loneliness and depression (Grov et al.), and a lower tendency to engage in health-seeking behaviors (Cahill & Valadez, 2013). Prior research has also examined the connections between HIV-related stigma and various mental health issues, including loneliness (Ware, Wyatt, & Tugenberg, 2006), low self-esteem (Berger, Ferrans, & Lashley, 2001), chronic stress (Vanable et al., 2006), post-traumatic stress disorder (Katz & Nevid, 2006), general stress (Fang et al., 2015), and depression (Wright et al., 2007).

Adebayo and colleagues emphasize that stigma and discrimination against people living with HIV (PLHIV) can result in adverse outcomes, such as reduced participation in HIV counseling and testing, identity crises, social isolation, loneliness, low self-esteem, and decreased motivation to combat the disease (Adebayo et al., 2011). Conversely, some research indicates that the coping mechanisms individuals use in response to stigma can directly impact both their psychological and physical health (Major et al., 2002; Schmitz & Crystal, 2000; Wrubel et al., 2008). Turan and colleagues found that perceived community stigma affects emotional, cognitive, and mental health outcomes, which then mediate the effects of internalized stigma (such as self-esteem, depressive symptoms, avoidance coping, and self-blame). Furthermore, path analysis by Earnshaw and Quinn (2012) shows that internalizing stigma can lead to less frequent use of healthcare services and a reduced quality of life.

Coping Strategies used by PLHIV to Manage their Daily Activities.

The coping mechanisms employed by PLHIV to manage their everyday activities were identified in this study. The key findings highlighted the coping mechanisms used by PLHIV, including acceptance, religion, positive reframing, self-distraction, and active coping (HIV). This study also uncovered various additional coping strategies, including self-blame, denial, behavioural disengagement, humour, and substance abuse. However, substance abuse was the least frequently utilized among people living with HIV. These findings corroborate previous research. For example, a study investigating the impact of structured interventions on coping with HIV and the relationship between coping strategies and quality of life discovered that religion and acceptance were the most frequently used strategies during the initial assessment. In contrast, self-blame, humor, denial, and substance use were among the least utilized strategies (Khakha & Kapoor, 2015).

Some studies suggest that strategies such as active coping, self-distraction, positive reframing, humour, acceptance, and religion are effective coping mechanisms (Jawad et al., 2016; Moskowitz et al., 2009). Additionally, research on the relationship between psychological distress, quality of life, and coping methods for individuals with HIV has identified coping mechanisms such as substance misuse, behavioural disengagement, and denial (avoidance). Interestingly, these avoidance strategies are linked to a significantly lower quality of life (Osamika, 2019).

The findings of the current study differ from some previous research. For instance, a study in the Philippines showed that people living with HIV (PLHIV) heavily rely on their friends for support in adjusting to their HIV status (Adia et al., 2019). Other researchers suggest that to manage the disease effectively, family caregivers of PLHIV need to expand their resources by borrowing money, maintaining a positive outlook, praying, collaborating with community health workers, and leading a fulfilling life (Kathuri-Ogola et al., 2014). Differences in settings and methodologies across various studies might account for the slight discrepancies between the findings of this study and previous research. Additionally, these variations could be attributed to cultural differences in survey responses concerning mental health and the influence of self- or social stigma on social desirability bias.

Cultural differences significantly influence coping strategies among people living with HIV. For example, spirituality has been highlighted as a key cultural coping tool for Latino male undergraduates (Gloria et al., 2017).

Similarly, Ma et al. (2022) point out the importance of spirituality for Asian international students during their adjustment to a new culture. Zainal-Abidin et al. (2022) explore how spiritual and religious coping methods are used by PLHIV in a Malaysian Muslim community, emphasizing the role of cultural context in these strategies. Additionally, Ahmadi et al. (2018) examine how religion, culture, and meaning-making affect coping mechanisms among cancer patients in Malaysia. Roux et al. (2018) also investigate how cultural coping strategies can impact mental health outcomes, such as depression and hypertension.

Patients' Description of their Experiences Living with HIV/AIDS

This study identified two key themes regarding the lived experiences of PLHIV who used HIV-related services at the CCTH. These included the psychological impact and coping mechanism. People living with HIV (PLHIV) identified several key psychological impacts of the illness, including anxiety, self-stigma, societal stigma, disease and financial burdens, physical stress, concerns about disclosure, loneliness, suicidal thoughts, and challenges in communication with healthcare providers. This observation, which suggests that PLHIV face a range of both physiological and psychosocial pressures—many of which are perceived as traumatic and stressful—aligns with previous research. Specifically, it supports earlier findings that individuals with HIV are more likely than the general population to experience mental health issues such as depression, anxiety, suicidal thoughts, and substance abuse.

Previous research aligns with the findings of this study. Numerous studies (Adaramaja et al., 2016; Adimora et al., 2019; Sandelowski et al., 2004; Siu et al., 2012) have demonstrated that living with HIV often involves experiences of social rejection, isolation, loneliness, and low self-esteem (Stutterheim et al., 2009). Additionally, Black and Latinx individuals living with HIV in New York have reported that their experiences are shaped by racism and classism (Jaiswal et al., 2019). Research on the daily challenges faced by people living with HIV has also revealed issues with healthcare professionals violating confidentiality and providing subpar treatment (Senyurek, Kavas & Ulman, 2021). However, the new study's findings differ from previous investigations. For example, in Thailand, the experiences of ten pregnant women after their HIV diagnosis included facing struggles alone, sharing their struggles, fighting for their baby, and navigating various ups and downs (Ross et al., 2007).

The qualitative aspect of the study particularly emphasized various coping strategies as crucial for surviving HIV/AIDS. Beyond merely documenting experiences and prevalence, the study offers strategies for managing these challenges. Key factors include self-efficacy, acceptance, support from family and spirituality, assistance from medical professionals and the healthcare system, peer support, recreational activities, avoidance and isolation, medication, and counselling. These findings align with previous research demonstrating that family and friend support positively affects individuals dealing with HIV-related isolation and stigma (Ali, Farrer, Gulliver, & Griffiths, 2015; Yeshua-Katz, 2015). A survey on coping mechanisms categorizes these strategies into four groups: compassion, social support, concealing one's HIV status, and self-care (Chow, Lau, Zhuang, Zhang, Wang, & Zhang, 2014). Participants in this study reported hiding or concealing their identity to cope with stigma, which is consistent with findings from a Chinese survey (Ali et al., 2015). However, this contrasts with other research from Africa. For example, a study by Makoae and colleagues across five African countries found that 21% of participants were open about their diagnosis and took on advocacy roles for others (Makoae et al., 2008).

Acknowledging one's self-worth, receiving family support, and maintaining a hopeful outlook on one's HIV status have all been associated with better coping with loneliness and stigma related to HIV (Flickinger et al., 2018). Research indicates that within three months of diagnosis, 81% of individuals disclosed their status to at least one person (Makin et al., 2008). The study also highlighted that people living with HIV highly value both financial and emotional support from family members. Specifically, financial help from in-laws, children, and siblings has been crucial for meeting their needs and managing their condition. Supporting this, other studies have shown that social support can significantly reduce stigma and loneliness among patients with chronic illnesses (Deckx et al., 2014; Kuteesa et al., 2014).

Hence, support from a spouse and family is vital for addressing the isolation and stigma linked to an HIV diagnosis. Moreover, the study revealed that people living with HIV who were self-reliant and lived independently managed their condition more effectively compared to those who relied on others for essential needs. This finding aligns with research by Kuteesa et al., which indicates that HIV-positive individuals who are financially independent and self-sufficient experience less self-stigma.

This research was conducted in an environment with limited resources, where individuals face financial struggles both personally and societally. Despite the availability of free antiretroviral medications, some people are unable to visit clinics to collect their medications due to financial constraints, which can affect their adherence and recovery. Additionally, the African continent is highly religious, and during difficult times, people often turn to their faith as a primary source of support. Therefore, coping with HIV/AIDS often relies heavily on religion and spirituality. Similar studies in the literature (Brando, Angelim, Marques, Oliveira, & Abro, 2020) suggest that faith in God can serve as a coping strategy.

The study found that the negative impacts of isolation and stigma on people living with HIV (PLHIV) were alleviated by medical professionals, nurses, and a supportive healthcare system. For PLHIV, coping mechanisms included encouragement from healthcare providers and the high quality of care received at the ART facility. Those on ART faced less stigma than those not on ART (Deckx, van den Akker, & Buntinx, 2014). Participants highlighted the significance of support from healthcare professionals, especially doctors and nurses, in enhancing their quality of life. To improve treatment adherence and reduce stigma and related issues like loneliness, effective communication and a person-centered therapeutic relationship with clients are crucial.

A related study emphasizes that trust among patients, physicians, nurses, and other team members greatly influences adherence (Brando et al., 2020). Comparable findings in past and present research could explain the observed similarities. However, misunderstandings about HIV transmission might cause minor differences in results (Lekas et al., 2006). Research also highlights the importance of recognizing the lived experiences of people living with HIV (PLHIV) to promote their participation in HIV cure research, stressing the need to address psychological and social factors (Power et al., 2018; Gottert et al., 2019).

Additionally, financial strain and food insecurity exacerbate the difficulties faced by people living with HIV (PLHIV), impacting their daily lives and overall well-being (Folayan et al., 2021). Peer support has been recognized as a crucial resource for PLHIV, offering emotional backing, a sense of community, and opportunities for mutual aid (Øgård-Repål et al., 2022). Spiritual and religious coping methods also influence how PLHIV handle their experiences and the challenges of living with HIV (Zainal-Abidin et al.). Furthermore, research highlights the significance of healthcare providers' attitudes and the role of peer navigators in improving the well-being and care experiences of PLHIV (Power et al., 2021; Leyva-Moral et al., 2020). Addressing the comprehensive needs of PLHIV, including mental health, social support, and stigma reduction, is essential for enhancing their quality of life and treatment outcomes (Li et al., 2017; Kietrys et al., 201).

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

The current study sought to investigate the mental health and psychological well-being of PLHIV/AIDS who accessed HIV-related services at the Cape Coast Teaching Hospital and, thus, contribute to informing appropriate mental health-related differentiated service delivery (DSD) interventions for PLHIV. Precisely, the current study sought to (1) assess the prevalence of mental health disorders among PLHIV, (2) evaluate how socio-demographic characteristics influence mental health and psychological well-being, (3) determine the relationship between HIV-related stigma, Self-esteem, and Loneliness (4) identify the coping strategies used by patients to manage their daily activities, and (5) explore how patients describe their experiences living with HIV/AIDS. A review of the entire study is highlighted in this chapter. It includes a summary of key findings obtained from the quantitative and qualitative aspects of the study, conclusions drawn from the various findings, and recommendations made for policy, practice, and future research.

Summary

Individuals with HIV/AIDS face numerous physiological and psychosocial difficulties that can be both traumatic and distressing. Mental health, or psychological well-being, is the condition in which a person can function effectively, handle life's stresses, and contribute to their community. Research indicates that people living with HIV (PLHIV) are at a higher risk for mental health issues, including depression, anxiety, suicidal thoughts, and substance abuse, compared to the general population. Poor mental health can make it harder for individuals to adhere to antiretroviral therapy (ART), which can reduce their quality of life and increase mortality. In Ghana, where approximately 2% of the population is HIV-positive, this amounts to about 342,307 people, with a notably high proportion being women.

Antiretroviral therapy (ART) is a lifelong treatment that often involves significant side effects, making it challenging to stick to the prescribed regimen. The need to adhere to a strict medication schedule and endure uncomfortable side effects can reduce motivation. This ongoing requirement for medication may lead to psychological issues such as depression, anxiety, feelings of helplessness, and vulnerability for both patients and their caregivers. Additionally, living with HIV can exacerbate coping difficulties, social isolation, and poor mental health. Research shows that individuals with HIV frequently experience depression and anxiety as they deal with their diagnosis, contemplate the implications of a positive test result, adjust to a chronic and potentially life-threatening condition, and cope with the loss of loved ones affected by HIV/AIDS.

Although numerous studies have explored HIV/AIDS and mental health issues in Ghana, there is a lack of research focusing specifically on the mental health and psychological well-being of people living with HIV (PLHIV). Considering the strong evidence connecting poor mental health with adverse HIV health outcomes, it is crucial to incorporate universal mental health screening and preventive and therapeutic mental health measures into HIV care. Comprehensive assessments of individuals’ mental health and psychological well-being could help shape policies and support systems to offer better psychosocial care and enhance the quality of life for the PLHIV community.

An examination of prominent behavioral theories and models reveals that most people experience stigma at some point in their lives. Those who are stigmatized might be reluctant to interact with others who don’t share their stigma, while those unaffected by it might mock, overreact to, or ignore those who are stigmatized. Some suggest that stigma has sociobiological functions, helping to identify and exclude individuals who could pose a threat to a community, whether through disease transmission or perceived social problems. Additionally, stigma related to HIV can impact the adherence to treatment for individuals living with HIV and restrict their access to supportive counseling, testing, and prevention services aimed at reducing mother-to-child HIV transmission.

Considering the extensive social and mental health impacts of HIV on people living with HIV (PLHIV), this study’s conceptual framework is shaped by the socio-ecological model (SEM), transactional theory of stress and coping (TTSC), and stigma theory. The SEM recognizes that health outcomes, including those related to living with HIV, are influenced by interrelated factors at various levels personal, interpersonal, institutional, community, and policy. These factors affect health experiences both internally and externally. The TTSC suggests that the effects of stress, such as those experienced with HIV, are influenced by personal and environmental factors. Exposure to such traumatic events can lead to resilience development, but these experiences may also increase the risk of future mood and anxiety disorders.

The study's conceptual framework is supported by two core interconnected and interdependent elements: (1) intrapersonal predictors and (2) social, cultural, and environmental predictors. The intrapersonal (individual) factors are primarily socio-demographic predictors, such as age, gender, employment status, source of income, religious affiliations, educational background, and marital status. These factors were conceptualised as inherent, biological, and behavioural characteristics. These variables indicate whether mental health disorders (MHD) are common among PLHIV.

The current research used a sequential mixed methods design, employing both quantitative and qualitative methods in a step-by-step manner within the same study. Data were gathered from people living with HIV (PLHIV) who used HIV-related services at the CCTH. The study utilized both cross-sectional and phenomenological approaches. In the quantitative phase, data were collected from 399 PLHIV using a self-administered questionnaire consisting of 98 items divided into six sections: A, B, C, D, and E. Section A focused on the socio-demographic characteristics of the participants, while Section B examined the prevalence of mental health disorders among them.

Section C assessed the impact of socio-demographic factors on the mental health and psychological well-being of participants. Section D investigated the connections between HIV-related stigma, self-esteem, and loneliness among them. Section E focused on the coping strategies that respondents use to handle their daily activities. In the qualitative phase, the experiences of individuals living with HIV/AIDS were examined through semi-structured interviews with 18 people. Although standardized tools were used for this research, these tools were pre-tested on PLHIVs who were not part of the final study sample.

The study employed StataCorp Stata MP version 16.0 for collecting and analyzing quantitative data. A simple random sampling method was used for quantitative analysis, while participants for the qualitative part were selected intentionally. In-depth interviews continued until no new theoretical insights were gained. To explore the prevalence of mental health disorders and coping strategies among people living with HIV (PLHIV), frequencies and percentages were examined. Multivariate logistic regression was used to evaluate the relationships between socio-demographic factors, risky health behaviours, depression, anxiety, and stress. Correlation analysis investigated the connections between stigma, self-esteem, and loneliness, and thematic analysis was applied to address the fifth research question.

Key Findings

The study found that stress, anxiety, and depression were notably common among people living with HIV (PLHIV). Specifically, around 40% of PLHIV reported experiencing depression, 20% reported anxiety, and 10% reported stress in the past week. Additionally, high levels of loneliness and low self-esteem were also observed among this group.

The results of this study showed that, according to the multivariable regression analysis, only gender was significantly associated with depression independently. In particular, women were approximately 0.5 times more likely than men to have experienced depression in the past week.

Also, participants were more likely to report worry if they were married and had greater educational levels. PLHIV without a regular partner had approximately a 0.63 greater probability of feeling anxious than those in a regular relationship. Additionally, PLHIVs with tertiary education had a 0.49 percent higher chance of expressing anxiety in the previous week than those without tertiary education.

In the logistic model, stress was independently associated only with educational level. However, both gender and educational level showed statistically significant bivariate relationships with stress throughout the entire population. Thus, comparing those with and without formal education, those without formal education had roughly a 0.44 higher risk of experiencing stress in the preceding week.

Additionally, the results of the current study revealed a weak correlation between high stigma scores and high Loneliness, depression, stress, and anxiety scores. Also, lower stress levels and self-esteem were associated with higher degrees of Loneliness. Moreover, poor self-esteem was significantly connected with low self-esteem. However, the link between the two was weak. High stress and anxiety levels were significantly linked with high levels of depression.

Moreover, quantitative results showed that PLHIV used a variety of coping mechanisms, such as acceptance, religion, positive reframing, self-distraction, active coping, self-blame, denial, behavioural disengagement, humour, and substance abuse. The regularity with which the PLHIV used these coping mechanisms in their daily lives was the basis for outlining them.

Furthermore, the qualitative research revealed that psychological effects and coping mechanisms influenced how people living with HIV saw their daily lives. Anxiety, self-stigma, societal stigma, disease burden, financial burden, physical stress, disclosure concern, Loneliness, suicidal ideation, and relationships (communication) with healthcare professionals are just a few of the vital elements of the psychological effects of the illness (HIV) that the PLHIV listed. Participants also mentioned specific coping mechanisms, such as self-efficacy and acceptance, support systems (family, religion, healthcare professionals, and health system), diversionary activities, isolation and avoidance, and assurance that ARVs were readily available as coping mechanisms that helped them deal with the stress of having the disease.

Conclusions

In light of the findings of the current study, the following conclusions were made:

1. The findings suggest that PLHIVs experience significant levels of stress, anxiety, and depression, with females experiencing these symptoms at disproportionately greater rates. Nonetheless, the impact of mental health issues on people living with HIV is often misinterpreted, which poses a significant problem in a resource-limited economy like Ghana and its sub-Saharan context.
2. The prevalence of mental health disorders (depression, anxiety, and stress) among the PLHIVs varied by socio-demographic factors (gender, marital status, educational attainment), which could heighten or inhibit treatment adherence and disclosure difficulties among PLHIV or engagement in differentiated mental health services interventions.
3. The current study's findings suggest that high stigma levels orchestrated high Loneliness and low self-esteem among PLHIV.

4. The findings of the current study suggest that some contextual coping strategies based on social networks, cultural norms, and values may offer invaluable avenues for assisting and augmenting modern ways employed by people living with HIV/AIDS to enhance their quality of life.
5. The current study's findings further suggest that PLHIV would be better able to deal with the adverse effects of their infection if various forms of psychosocial support were made available. The existing programmes in Ghana must be modified to provide counselling and psychological assistance to PLHIV so they may learn how to solve problems and cope with the stress of living with HIV.

Recommendations

In light of the conclusions of the current study, the following strategies are recommended:

1. People living with HIV should make a concerted effort to get involved in programmes, including seeking counselling, social support, and appropriate coping mechanisms (such as resilience and self-efficacy), in order to help them accept their HIV-positive status and cope with any difficulties they may face due to HIV-related stigma and psychological distress.
2. The Healthcare professionals forming part of the ART team at the CCTH should offer sensitization on differentiated mental health service interventions and their relevance to improving mental health and general well-being to foster treatment adherence and eliminate the disclosure difficulties among the PLHIV.

3. The management of the Cape Coast Teaching Hospital should collaborate with other teaching hospitals, mental health institutions, and regional and district hospitals to design user-friendly differentiated mental health programmes to be incorporated into routine mental health assessment and management for PLHIV.
4. The Ministry of Health, Ghana Health Service, Regional Health Directorates, and all other policymakers should intervene in the fight against mental health-related issues among PLHIV through funding and policy directives.
5. The National AIDS Control Programme should revive efforts to reduce stigma in the national HIV response, focusing on HIV awareness and education initiatives. The various interventions to fight HIV-related stigma should be directed at various levels, including social institutions like workplaces and schools.

Suggestions for Further Study

In light of the current study's findings, the following suggestions for future research were made:

1. An implementation study that focuses on the interactions between pertinent socio-demographic variables like age, gender, marital status, employment status, educational attainment, comorbid conditions, religion, and the uptake of differentiated mental health services among the PLHIV population is required.
2. There is a need for interventional studies to unearth appropriate health policy that focuses on the causal effect of HIV-related stigma on treatment adherence and disclosure difficulties among PLHIV.

3. A longitudinal study is required to investigate how workable mental health-related differentiated service interventions for PLHIV promote adequate adherence to ART and improve the standard of living of the PLHIV population over time.
4. The current study should be replicated among PLHIV who utilise HIV-related services in other teachings, regional, and district hospitals throughout the entire nation, to gain a better understanding of how a thorough assessment of the mental health and psychological well-being of PLHIV could result in findings that would allow for the provision of psychosocial care and improve the PLHIV population's quality of life.

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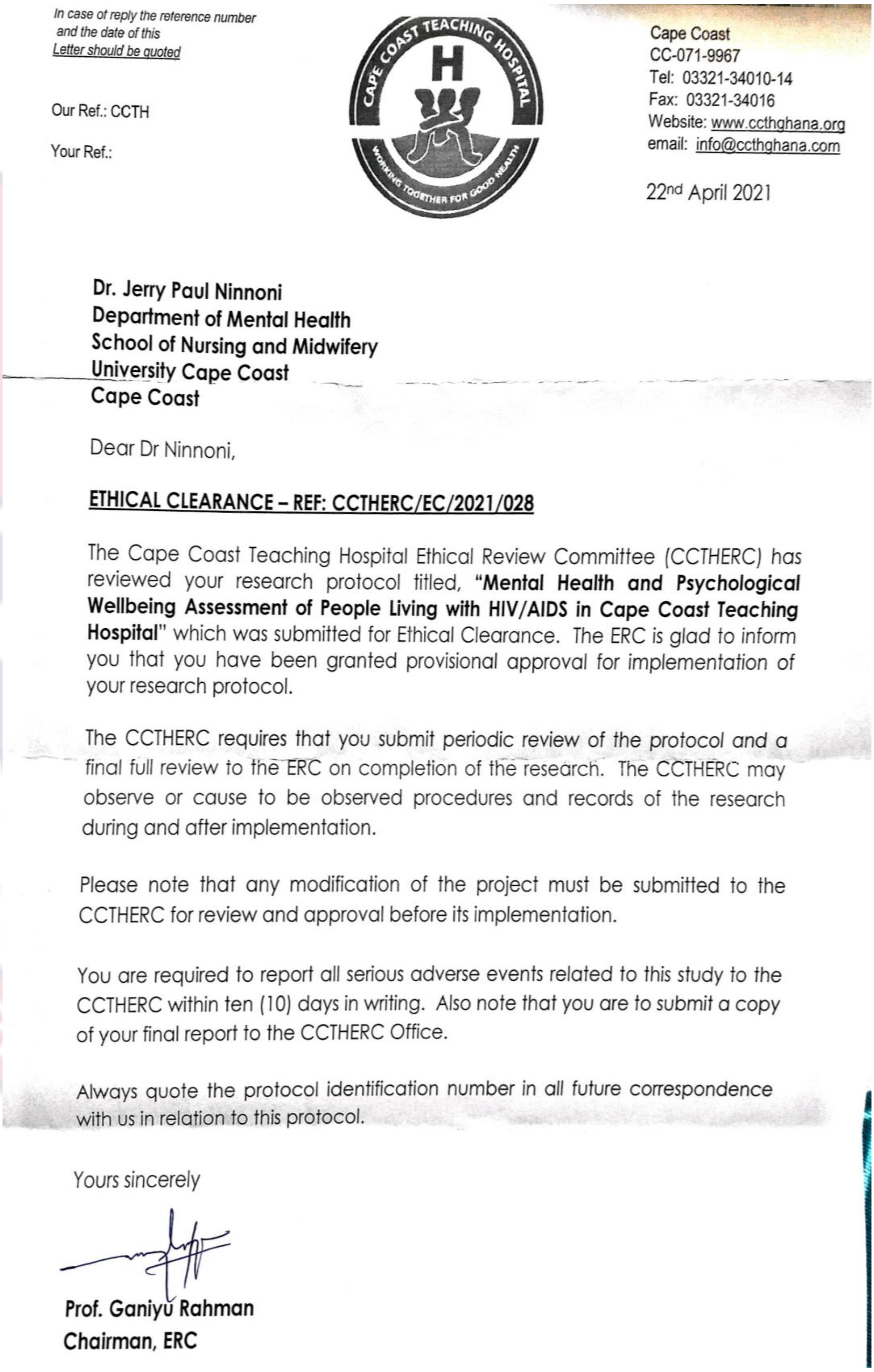
APPENDICES

APPENDIX B: ETHICAL CLEARANCE



In case of reply the reference number
and the date of this
Letter should be quoted

Our Ref.: CCTH

Your Ref.:

Cape Coast
CC-071-9967
Tel: 03321-34010-14
Fax: 03321-34016
Website: www.ccthghana.org
email: info@ccthghana.com

22nd April 2021

Dr. Jerry Paul Ninnoni
Department of Mental Health
School of Nursing and Midwifery
University Cape Coast
Cape Coast

Dear Dr Ninnoni,

ETHICAL CLEARANCE – REF: CCTHERC/EC/2021/028

The Cape Coast Teaching Hospital Ethical Review Committee (CCTHERC) has reviewed your research protocol titled, **"Mental Health and Psychological Wellbeing Assessment of People Living with HIV/AIDS in Cape Coast Teaching Hospital"** which was submitted for Ethical Clearance. The ERC is glad to inform you that you have been granted provisional approval for implementation of your research protocol.

The CCTHERC requires that you submit periodic review of the protocol and a final full review to the ERC on completion of the research. The CCTHERC may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the CCTHERC for review and approval before its implementation.

You are required to report all serious adverse events related to this study to the CCTHERC within ten (10) days in writing. Also note that you are to submit a copy of your final report to the CCTHERC Office.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours sincerely

Prof. Ganiyu Rahman
Chairman, ERC

APPENDIX C: INFORMED CONSENT FORM

INFORMATION SHEET FOR SURVEYS

Title: Mental health and psychological well-being assessment of people living with HIV/AIDS in Cape Coast Teaching Hospital

Principal Investigator: Lydia Bennin

Address: School of Nursing and Midwifery, University of Cape Coast

General Information

This research is to find out how this disease affects your mental health and well-being. If you agree to take part, we will have some discussions with you and ask you some questions about living with the disease. The objectives of the study are to: The objectives of the study are to: find out how the disease affects your psychological and social well-being; examine how people perceive you with this disease, investigate coping strategies you use to manage this disease. The survey may take about 50-60 minutes of your time to complete.

Procedure

To find out answers to these questions, we write to invite you to take part in this research. If you accept you will be required to fill out a survey questions which will be provided by the researchers. You are being chosen to take part in this study because we feel that your experiences living with this disease will contribute to our understanding of the disease and how it affects your life. If you do not wish to answer any of the questions you may skip them and move to the next question. The survey will take place in a location jointly agreed by you and the researcher to ensure safety and privacy. Information and all data collected will be considered confidential and no one else **except** the researcher/s will have access to the information or data

Possible Risks and Discomfort

Possible risks and discomfort to this study may include risks of Covid-19 infection. Strict Social Distancing Protocol will be enforced throughout the study. Personal Protective Equipment (PPE) including sanitisers will be provided to protect self and others. Also, you may feel some discomfort in disclosing certain sensitive information about your life. Please, let the interviewer know and the interview will stop. We will provide you with all necessary support including counselling will be offered to enable you to continue if you like or the interview may be stopped entirely.

Possible Benefits

There are several possible benefits to the outcomes of this study. These include the identification of mental health conditions among people living with this disease; the life experiences and coping strategies that can be shared among people with this disease. Also, outcomes or results from this study may help make policies leading to the integration of mental health services and the treatment and prevention of HIV/AIDS.

Confidentiality

Your confidentiality is very important to us. Any information or data about you will be securely kept and no one can access any information **except** the researcher/s. You will not be identified in reporting anything about this study.

Compensation

You will be compensated for any lost relating to the study.

Additional cost

Any cost incurred by participants will be reimbursed including travel expenses.

Voluntary participation and Right to Leave the Research

Your participation in this study is voluntary. Participants can leave this study without giving any reasons.

Contacts for additional information

If you want to know anything more about this study, please contact any of the following people and they will be happy to help you:

Lydia Bennin: Tel. 0242706338; Email: benninlydia@gmail.com

Prof. Dorcas Obiri-Yeboah Tel: 0244527387; Email: dobiri-yeboah@ucc.edu.gh

Dr Jerry Ninnoni: Tel. 0554025222; Email: jerry.ninnoni@ucc.edu.gh

Dr Elizabeth Agyare: Tel. 0244837618; Email: lyzagyare@gmail.com

VOLUNTEER'S AGREEMENT TO PARTICIPATE IN THE SURVEYS

The information describing the benefits, risks, and procedures for the research title (Mental Health and Psychological Wellbeing Assessment of People Living with HIV/AIDS in Cape Coast Teaching Hospital) has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

Volunteer's Name: …………………… Volunteer's Mark/Thumbprint………

Date: ……………………………………………

If volunteer cannot read the form themselves, a witness must sign here: I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Witness's Name: ……………………….. Witness's Mark/Thumbprint: ……

Date: ………………………………………………

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Researcher's Name: ……………………… Researcher's Signature: ………….

Date: ……………………………………………………….

INFORMATION SHEET FOR INTERVIEWS

Title: Mental health and psychological well-being assessment of people living with HIV/AIDS in Cape Coast Teaching Hospital

Principal Investigator: Lydia Bennin

Address: School of Nursing and Midwifery, University of Cape Coast

General Information

This research is to find out how this disease affects your mental health and how you feel about this disease since you were diagnosed. If you agree to participate, we will have some conversation with you and ask you some questions about living with the disease. The objectives of the study are to: find out how the disease affects your psychological and social well-being; examine how people perceive you with this disease, investigate coping strategies you use to manage this disease. The interviews may take about 45-50 minutes of your time if you agree to take part in the study.

Procedure

To find out answers to these questions, we write to invite you to take part in this research. If you accept you will be required to participate in an interview with the researcher. You are being chosen to take part in this study because we feel that your experiences living with this disease will contribute to our understanding of living with HIV/AIDS. If you do not wish to answer any of the questions posed during the interview, you may say so and the interviewer will move on to the next question. The interview will take place in a location jointly agreed by you and the researcher. Information recorded and all data collected will be considered confidential, and no one else except the researchers will have access to the information or data.

Possible Risks and Discomfort

Possible risks and discomfort to this study may include risks of Covid-19 infection. Strict Social Distancing Protocol will be enforced throughout the study. Personal Protective Equipment (PPE) including Sanitisers will be provided to protect self and others.

Possible Benefits

There are several possible benefits to the outcomes of this study. These include the identification of mental health conditions among people living with this disease; the life experiences and coping strategies that can be shared among people with this disease. Also, the most important outcome of this study is that the finding will may shape policies leading to the integration of mental health services and the treatment and prevention of HIV/AIDS.

Confidentiality

Your confidentiality is very important to us. Any information or data about you will be securely kept and no one can access any information except the researchers. We will not be identified in reporting anything about this study.

Compensation

You will be compensated for any lost relating to the study.

Additional cost

Any cost incurred by participants will be reimbursed including travel expenses.

Voluntary participation and Right to Leave the Research

Your participation in this study is voluntary. Participants can leave this study without giving any reasons.

Contacts for additional information

If you want to know anything more about this study, please contact any of the following people and they will be happy to help you:

Lydia Bennin: Tel. 0242706338; Email: benninlydia@gmail.com

Prof. Dorcas Obiri-Yeboah Tel: 0244527387; Email: dobiri-yeboah@ucc.edu.gh

Dr Jerry Ninnoni: Tel. 0554025222; Email: jerry.ninnoni@ucc.edu.gh

Dr Elizabeth Agyare: Tel. 0244837618; Email: lyzagyare@gmail.com

VOLUNTEER'S AGREEMENT TO PARTICIPATE IN THE INTERVIEWS

The information describing the benefits, risks, and procedures for the research title (Mental Health and Psychological Wellbeing Assessment of People Living with HIV/AIDS in Cape Coast Teaching Hospital) has been read and explained to me. I have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate as a volunteer.

I agreed to have the interviews taped. Yes [ ] No [ ]

Volunteer's Name: ……………………… Volunteer's Mark/Thumbprint……

Date: ………………………………………………

If volunteer cannot read the form themselves, a witness must sign here: I was present while the benefits, risks and procedures were read to the volunteer. All questions were answered and the volunteer has agreed to take part in the research.

Witness's Name: …………………….. Witness's Mark/Thumbprint: ………

Date: ………………………………………………

I certify that the nature and purpose, the potential benefits, and possible risks associated with participating in this research have been explained to the above individual.

Researcher's Name: ……………………… Researcher's Signature: ………….

Date: ……………………………

APPENDIX D: QUESTIONNAIRE

Title: Mental health and psychological well-being assessment of people living with HIV/AIDS in Cape Coast Teaching Hospital

Please, before we proceed, I would like to take some background information from you.

1. Gender: Male [ ]. Female [ ].
2. Age (years).
3. Marital status: Married [ ]. Single [ ]. Divorced. [ ]. Co-habiting [ ]. Separated [ ]
4. Religion: Christian [ ]. Islam [ ]. Traditionalist [ ]. No religious [ ].Other Specify [ ]
5. Employment status: Employed [ ]. Unemployed. [ ] Student [ ].
6. Educational level: Tertiary [ ]. SHS [ ] JHS/Middle Sch [ ] Vocational [ ].
7. Do you have any other health condition you know of? Yes [ ]. No [ ]. If Yes Specify
8. Do you smoke Yes [ ]. No [ ]
9. Do you drink? Yes [ ] No. [ ]

The HIV Stigma Scale

Instructions: Please indicate how strongly you agree or disagree with each statement about you living with this disease.

		Disagree	Strongly disagree	agree	strongly agree
1	I have been hurt by how people reacted to learning I have HIV.				
2	I have stopped socializing with some people because of their reactions of my having HIV.				
3	I have lost friends by telling them I have HIV.				
4	I am very careful who I tell that I have HIV				
5	I worry that people who know I have HIV will tell others.				
6	I feel that I am not as good a person as others because I have HIV.				
7	Having HIV makes me feel unclean.				
8	Having HIV makes me feel that I'm a bad person.				
9	Most people think that a person with HIV is disgusting.				
10	Most people with HIV are rejected when others find out.				

UCLA Loneliness Scale

Instructions: The following statements describe how people sometimes feel. For each statement, please state how often you feel the way the statement described you living with this disease by ticking the space provided

		never	**rarely**	**sometimes**	**Always**
*1	How often do you feel that you are “in tune” with the people around you?				
2	How often do you feel you lack companionship?				
3	How often do you feel that there is no one you can turn to?				
4	How often do you feel alone?				
*5	How often do you feel part of a group of friends?				
*6	How often do you feel that that you have a lot in common with people around you?				
7	How often do you feel that you are no longer close to someone?				
8	How often do you feel that your interests and ideas are not shared by those around you				
*9	How often do you feel outgoing and friendly?				
*10	How often do you feel close to people?				
11	How often do you feel left out?				
12	How often do you feel that your relationships with others are not meaningful?				
13	How often do you feel that no one really knows you?				
14	How often do you feel isolated from others				
*15	How often do you feel you can find companionship when you want it?				
*16	How often do you feel that there are people who really understand you?				
17	How often do you feel shy?				
18	How often do you that people are around you but not with you?				

*19	How often do you feel that there are people you can talk to?				
*20	How often do you feel that there are people you can turn to?				

Rosenberg Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself living with this disease. Please indicate how strongly you agree or disagree with each statement.

		Strongly agree	Agree	Disagree	Strongly disagree
1	On the whole, I am satisfied with myself.				
2	At times I think I am no good at all.				
3	I feel that I have a number of good qualities.				
4	I am able to do things as well as most other people.				
5	I feel I do not have much to be proud of.				
6	I certainly feel useless at times.				
7	I feel that I'm a person of worth, at least on an equal plane with others				
8	I wish I could have more respect for myself.				
9	All in all, I am inclined to feel that I am a failure.				
10	I take a positive attitude toward myself.				

Depression, Anxiety and Stress Scale - 21 Items (DASS-21).

Instructions: Please read each statement and tick (√) a number 0, 1, 2 or 3 which indicates how much the statement applied to you over the past years living with this disease. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all,
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of the time
3 Applied to me very much, or most of the time

		0	1	2	3
1	I found it hard to wind down (cool down/settle down)				
2	I was aware of dryness in my mouth				
3	I couldn't seem to experience any positive feeling at all				
4	I experienced breathing difficulty (e.g., excessively rapid breathing, breathlessness in the absence of physical exertion)				
5	I found it difficult to work up the initiatives to doing things				
6	I tended to over-react to situations				
7	I experienced trembling (e.g., in the hands)				
8	I felt that I was using a lot of nervous energy				
9	I was worried about situations in which I might panic and make a fool of myself				
10	I felt that I have nothing to look forward to				
11	I found myself getting agitated				
12	I found it difficult to relax				
13	I felt down-hearted and blue				
14	I was intolerant of anything that kept me from getting on with what I was doing				
15	I felt I was close to panic				
16	I was unable to become enthusiastic about anything				
17	I felt I wasn't worth much a person				
18	I felt that I was rather touchy/quick to take offence				
19	I was aware of the action of my heart in the absence of physical exertion e.g., feel heart rate increase, heart missing a beat				
20	I felt scared/afraid/frightened without any good reason				
21	I felt that life was meaningless				

The Brief COPE scales

The Brief COPE scale was designed to assess a broad range of coping responses among adults for all diseases.

Instructions: The following questions ask how you have been managing to cope with the hardship of living with this disease in your life. Read the statements and indicate how much you have been using each coping style

		I haven't been doing this at all	A little bit	A medium amount	I've been doing this a lot
1	I've been turning to work or other activities to take my mind off things	1	2	3	4
2	I've been concentrating my efforts on doing something about the situation I'm in.	1	2	3	4
3	I've been saying to myself "this isn't real".	1	2	3	4
4	I've been using alcohol or other drugs to make myself feel better	1	2	3	4
5	I've been getting emotional support from others.	1	2	3	4
6	I've been giving up trying to deal with it.	1	2	3	4
7	I've been taking action to try to make the situation better.	1	2	3	4
8	I've been refusing to believe that it has happened	1	2	3	4
9	I've been saying things to let my unpleasant feelings escape.	1	2	3	4
10	I've been getting help and advice from other people.	1	2	3	4
11	I've been using alcohol or other drugs to help me get	1	2	3	4

	through it.				
12	I’ve been trying to see it in a different light, to make it seem more positive.	1	2	3	4
13	I’ve been criticizing myself.	1	2	3	4
14	I’ve been trying to come up with a strategy about what to do.	1	2	3	4
15	I’ve been getting comfort and understanding from someone.	1	2	3	4
16	I’ve been giving up the attempt to cope	1	2	3	4
17	I’ve been looking for something good in what is happening.	1	2	3	4
18	I’ve been making jokes about it.	1	2	3	4
19	I’ve been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.	1	2	3	4
20	I’ve been accepting the reality of the fact that it has happened.	1	2	3	4
21	I’ve been expressing my negative feelings.	1	2	3	4
22	I’ve been trying to find comfort in my religion or spiritual beliefs.	1	2	3	4
23	I’ve been trying to get advice or help from other people about what	1	2	3	4
24	I’ve been learning to live with it.	1	2	3	4

25	I’ve been thinking hard about what steps to take	1	2	3	4
26	I’ve been blaming myself for things that happened	1	2	3	4
27	I’ve been praying or meditating	1	2	3	4
28	I’ve been making fun of the situation.	1	2	3	4

APPENDIX E: INTERVIEW GUIDE

The Mental Health of People Living With HIV/AIDS attending clinic at Cape Coast Teaching Hospital

Interview Guide

Thank you for accepting to participate in this study. This study is mainly for research purposes and we shall do every to protect your identity and confidentiality as discussed with you. Before we proceed, I would like to take some background information about you.

1. Gender: Male [ ]. Female [ ].
2. Age (years).
3. Marital status: Married [ ]. Single [ ]. Divorced. [ ]. Co-habiting [ ]. Separated [ ]
4. Religion: Christian [ ]. Islam [ ]. Traditionalist [ ]. No religious [ ].Other Specify [ ]
5. Employment status: Employed [ ]. Unemployed. [ ] Student [ ].
6. Educational level: Tertiary [ ]. SHS [ ] JHS/Middle Sch [ ] Vocational [ ].
7. Do you have any other health condition you know of? Yes [ ]. No [ ]. If Yes Specify
8. Do you smoke Yes [ ]. No [ ]
9. Do you drink? Yes [ ] No. [ ]

Psychological experiences (stigma, stress, fear/worries and anxiety regarding HIV/AIDS)

1. Please, tell me how things have been for you living with this disease over the years.
2. Are there any particular worries living with this disease?
3. Tell me a typical day since you had this disease. What do you do on daily bases?
4. Have there been any changes in your ways of life since you were first told you had this condition? / What do you think has changed?

Social networks/family support

5. Do you have families and friends? (Any contacts with them?)
6. Tell me how you relate to your families and friends?
7. Are there anything changes in the way you relate with your families and friends? (Probe for reasons)

Employment

8. Are you working or have any form of income?
9. If employed, how do you relate with your employer?
10. Have there been any changes in your working relationships with your employer?

Professional/health related issues

11. What can you tell me about your doctors and nurses?
12. How do you relate to your doctors and nurses?
13. Do you have anything to tell me about coming to the hospital/clinic, medications or communication with your doctors and nurses
14. Have there been any changes in your life since you had this disease?

Defences/coping strategies

15. What kept you going since you were told you had this disease?
16. Is there anything you do differently to cope with this disease on daily bases?
17. Do you get help and support from anywhere?
18. What did you do differently or what has changed with your doctors and nurses, friends and families since you had this disease?
19. Is there anything think you like to tell us or changed?

Others

Is there anything else you would like me to know?