Exploring the Impact of Social Support on the Mental Health of Individuals Living with HIV in Nigeria: A Systematic Review

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Certification

This is to certify that **Tunmise Daramola, KOLAWOLE** with matriculation number LCU/PG/002818 carried out this research work titled "Exploring the Impact of Social Support on the Mental Health of Individuals Living with HIV in Nigeria: A Systematic Review" in the Department of Public Health, Faculty of Basic Medical Sciences, Lead City University, Ibadan, Oyo state, for the award of Master of Public Health Degree (MPH) in Public Health and that this has not been previously submitted.

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Dedication

This research work is dedicated to God almighty.

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Abstract

PLWHA are known to be socially isolated and also face discrimination as a result of their illness. Poor social support can lead to depression and is known to worsen depression and other physical illnesses in PLWHA. This systematic review investigates the intricate relationship between social support, HIV/AIDS, and mental health outcomes among individuals affected by HIV. The study synthesizes findings from diverse research sources to underscore the pivotal role of social support structures in shaping mental health resilience among people living with HIV/AIDS (PLWHA). It highlights the mediating influence of HIV-related stigma on mental health challenges, emphasizing how stigma intensifies social isolation and discrimination, exacerbating mental health issues. The review also emphasizes the intersectionality of vulnerabilities, elucidating how the convergence of mental illness, HIV/AIDS status, and socio-economic factors compounds the mental health burden faced by PLWHA. The study's recommendations propose targeted interventions, integrated healthcare approaches, and de-stigmatization efforts as crucial avenues to mitigate mental health disparities among this population. These insights contribute to a deeper understanding of the complexities surrounding social support, HIV/AIDS, and mental health, providing valuable guidance for policymakers, healthcare providers, and researchers.

Keywords: Social Support, HIV/AIDS, Mental Health, Stigma, Nigeria

Word Count: 185 words

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Chapter One

Introduction

1.1 Background

HIV/AIDS and mental illnesses are two illnesses of public health importance; both causing significant public health burdens across the globe[1]. People of all age groups, genders, and socioeconomic and cultural backgrounds may experience depression, and about 350 million people are affected by depression worldwide[2]. HIV continues to spread despite global concerted public health efforts to prevent the disease with about 34 million people reported to be affected by HIV by 2021; 2.5 million of them were newly affected. People living with HIV/AIDS (PLWHA) also experience mental health illness, including depression, more than the general population[3].

PLWHA are known to be socially isolated and also face discrimination as a result of their illness[4]. Poor social support can lead to depression and is known to worsen depression and other physical illnesses in PLWHA. Poor social support and HIV-related stigma cause can worsen depression in PLWHA and also mediate the effect of sources of available support on depression. PLWHA are a vulnerable group of people who are at risk of developing health problems such as opportunistic infections; tuberculosis; cancers; hepatic, cardiovascular, renal, cognitive and endocrine problems; and are also known to have social and psychological problems[5].

Depressed patients are also a vulnerable group. Some symptoms of mental illnesses such as low energy levels, poor motivation, poor appetite, low self-esteem, and poor concentration put

depressed people at risk of neglect and exploitation[6]. People in this vulnerable group are often subjected to discrimination and stigma, which restricts their access to health and social care services, resulting in worse health outcome[7]. They often live in poverty, poor physical health, and are subject to human rights violations. PLWHA who suffer with mental illnesses are a more vulnerable group with increased risk of developing more disability and dying prematurely[8].

Social support has been shown to affect mental health in general. High levels of stigma have also been shown to be associated with HIV/AIDS, and HIV-related stigma has been shown to affect mental health in PLWHA.

1.2 Statement of Problem

HIV/AIDS and mental health disorders represent intertwined public health challenges with substantial global implications. The area of HIV/AIDS and depression has been well-researched in recent decades.

While significant strides have been made in addressing these issues independently, the nexus between social support, mental health, and the experiences of individuals living with HIV/AIDS remains inadequately understood. People living with HIV/AIDS (PLWHA) encounter multifaceted challenges, including depression exacerbated by social isolation, discrimination, and HIV-related stigma, which significantly impact their mental well-being and overall quality of life.

Understanding these complexities is essential for developing targeted interventions that enhance mental health resilience and overall well-being in PLWHA, ultimately contributing to more comprehensive and effective public health strategies for the management of HIV/AIDS.

1.3 Study Justification

Despite significant progress in the prevention and treatment of HIV/AIDS, the disease continues to be a major global health challenge, particularly in low- and middle-income countries. Individuals living with HIV/AIDS often face significant challenges related to stigma and discrimination, which can negatively impact their mental health and well-being.

Although research has shown that social support can have a positive impact on mental health outcomes, including in individuals living with HIV/AIDS, the specific types of social support that are most effective, as well as the cultural and demographic factors that may influence the effectiveness of social support interventions, are not well understood.

Also, given the significant impact of HIV/AIDS on global health, there is a need for evidence-based interventions to improve the mental health and well-being of individuals living with the disease. By identifying the most effective types of social support interventions, as well as the factors that may influence their effectiveness, the study can contribute to the development of more effective and targeted interventions.

This study has the potential to promote greater social inclusion and equity for individuals living with HIV/AIDS, by identifying specific interventions and strategies that can help address the social stigma and discrimination often faced by this population. This can help promote greater

access to healthcare services and improve overall health outcomes for individuals living with HIV/AIDS.

1.4 Aim and Objectives of the Study

Study Aim:

The aim of this study is to explore the impact of social support on the mental health of individuals living with HIV/AIDS in Nigeria.

Specific Objectives:

1. To examine the relationship between social support and mental health outcomes (e.g., depression, anxiety, quality of life) in individuals living with HIV/AIDS in Nigeria.
2. To identify the different types of social support (e.g., emotional, informational, tangible) that are most strongly associated with positive mental health outcomes in individuals living with HIV/AIDS in Nigeria.
3. To evaluate the effectiveness of different strategies for providing social support to individuals living with HIV/AIDS to improve mental health outcomes in Nigeria.
4. To investigate the role of demographic and cultural factors (e.g., age, gender, ethnicity, sexual orientation) in moderating the relationship between social support and mental health outcomes in individuals living with HIV/AIDS in Nigeria.
5. To examine the impact of HIV-related stigma and discrimination on the availability and effectiveness of social support for individuals living with HIV/AIDS in Nigeria, and to identify potential interventions to address these barriers.

1.5 Study Significance

The significance of the study is that it can provide valuable insights into the impact of social support on the mental health of individuals living with HIV/AIDS in Nigeria. This is an important area of research, as individuals living with HIV/AIDS are often subject to social stigma and discrimination, which can negatively impact their mental health. By understanding the role of social support in promoting positive mental health outcomes in this population, healthcare providers, policymakers, and community organizations can develop effective interventions to improve the well-being of individuals living with HIV/AIDS in Nigeria.

Additionally, the study can help identify specific types of social support that are most effective in improving mental health outcomes in individuals living with HIV/AIDS, as well as cultural and demographic factors that may influence the effectiveness of social support interventions. This information can be used to tailor interventions to the specific needs of different populations and promote greater equity in healthcare.

Overall, the study has the potential to contribute to the development of evidence-based interventions and policies that can improve the mental health and well-being of individuals living with HIV/AIDS, and promote greater social inclusion and support for this vulnerable population.

1.6 Expected Outcomes

The primary outcome of the study is the impact of social support on the mental health of individuals living with HIV/AIDS. This was assessed through various measures of mental health outcomes, including depression, anxiety, quality of life, and other relevant measures.

The secondary outcomes of the study include:

1. The identification of different types of social support (e.g., emotional, informational, tangible) that are most strongly associated with positive mental health outcomes in individuals living with HIV/AIDS.
2. The evaluation of the effectiveness of different strategies for providing social support to individuals living with HIV/AIDS to improve mental health outcomes.
3. The investigation of the role of demographic and cultural factors (e.g., age, gender, ethnicity, sexual orientation) in moderating the relationship between social support and mental health outcomes in individuals living with HIV/AIDS.
4. The examination of the impact of HIV-related stigma and discrimination on the availability and effectiveness of social support for individuals living with HIV/AIDS, and the identification of potential interventions to address these barriers.

1.7 Review Questions

1. What is the relationship between social support and mental health outcomes in individuals living with HIV/AIDS?
2. How do different types of social support (e.g., emotional, informational, tangible) impact mental health outcomes in individuals living with HIV/AIDS?
3. What are the most effective strategies for providing social support to individuals living with HIV/AIDS to improve mental health outcomes?
4. Are there any demographic or cultural factors that influence the relationship between social support and mental health outcomes in individuals living with HIV/AIDS?

5. How do HIV-related stigma and discrimination affect the availability and effectiveness of social support for individuals living with HIV/AIDS?

1.8 Scope of the Study

The research focuses on articles that report the impact of social support on the mental health of people living with HIV. This research reviews all English studies that estimated the impact or described the association of social support with the mental health of people living with HIV in Nigeria.

1.9 Limitation of Study

While conducting this systematic review, exploring the influence of social support on the mental health of individuals living with HIV in Nigeria, certain study limitations that may impact the validity and generalizability of the study's findings were recognized and addressed.

One crucial limitation was publication bias. Systematic reviews are susceptible to this bias, which occurs when studies with positive or statistically significant results are more likely to be published than those with negative or non-significant findings. This can potentially skew the results of the review, leading to an overestimation of the positive impact of social support on mental health. To mitigate this issue, we made diligent efforts to identify and exclude unpublished or gray literature in our review.

The quality of the studies included in our systematic review presents another potential limitation. Some studies exhibited methodological flaws, such as small sample sizes, inadequate control groups, or biased assessments, which can compromise the overall quality of the review.

Moreover, Nigeria is a nation of remarkable diversity, encompassing a wide array of cultural, socioeconomic, and regional differences. Consequently, the findings of our systematic review may not be universally applicable to all regions or cultural groups within the country.

Temporal changes represent another potential limitation to consider. The impact of social support on the mental health of people living with HIV may evolve over time due to shifting healthcare practices, improved access to treatment, and changing societal attitudes. To account for this, we explored temporal trends by conducting sensitivity analyses to assess whether the impact of social support on mental health has changed over different time periods. Such analyses will allow us to contextualize our findings within the broader temporal framework of HIV care in Nigeria.

Finally, the issue of incomplete reporting in some studies cannot be overlooked. Some studies lacked comprehensive reporting of relevant details or contain missing data, making it challenging to fully assess their findings. To tackle this limitation, we proactively contacted study authors to request missing information, where feasible.

1.10 Operational Definition of Terms

Acquired Immunodeficiency Syndrome: Acquired immunodeficiency syndrome (AIDS) is a chronic, potentially life-threatening condition caused by the human immunodeficiency virus (HIV).

Human Immunodeficiency Virus: is a virus that attacks cells that help the body fight infection, making a person more vulnerable to other infections and diseases.

Mental Health: Mental health encompasses the emotional, psychological, and social well-being of individuals living with HIV in Africa. It includes the assessment of psychological symptoms (e.g., depression, anxiety, stress), overall psychological well-being, quality of life, and coping strategies. Mental health may be measured using validated assessment tools such as the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Disorder (GAD-7) scale, or other relevant instruments.

People Living with HIV: People living with HIV in Africa are individuals who have been diagnosed with HIV (Human Immunodeficiency Virus) and reside in countries within the African continent. This category includes individuals at various stages of HIV infection, from newly diagnosed to those with advanced disease, and may also include those receiving antiretroviral therapy (ART) or other medical interventions.

Social Support: Social support refers to the tangible or emotional assistance, care, and encouragement provided by individuals, groups, or communities to people living with HIV in Africa. This support can manifest through various means such as family members, friends, healthcare professionals, or community organizations. It encompasses emotional support (e.g., empathy, understanding), instrumental support (e.g., practical assistance), informational support (e.g., guidance, advice), and appraisal support (e.g., feedback, validation).

Endnotes

Chapter Two

Literature Review

2.1 Human Immunodeficiency Virus

The human immune systems typically fight against germs and viruses[1]. White blood cells in the immune system shield it against pathogens. White blood cells are composed of CD4+ cells, generally referred to as helper or T cells. These pathogens exploit the immunological system of the body causing infections that result in a number of health challenges[2]. HIV also causes a decline in CD4 cell count. AIDS cannot be cured, but there are medications that can be used to delay the onset of AIDS[3].

2.1.1 Epidemiology of HIV

Since the HIV pandemic broke out in the early 1980's, it has increased the disease burden of countries and has been one of the leading causes of both mortality and morbidity such that in sub-Saharan Africa, life expectancy has been reduced by more than 20 years, economic growth slowed, and household poverty deepened[4]. HIV remains a global burden in the world with 30 years long-standing history of infecting over 70 million people with 35 million deaths recorded due to HIV[5]. It is an established fact that the majority of factors such as demographic factors, alcohol use, smoking, late testing for HIV, previous history STI, multiple sexual partners, of and infrequent condom use and knowledge on HIV interplay to contribute to the prevalence of HIV in the world. These have serious consequences on the individuals who are at higher risk of deaths and to the community in which these individuals reside probably giving rise to many of new infections being reported[6]. The Joint United Nations Programme on HIV/AIDS estimated that

2.1 million individuals worldwide were newly infected with HIV in 2015, but only 70% of the people infected with HIV know their HIV status with over 40% untested and not on Antiretroviral Therapy[7]. The World Health Organization, estimates that about 36.7 million people in the world were infected with HIV at the end of 2016 but significant proportions of adults aged 15–49 years are living with HIV[5]. According to the global HIV and AIDS statistics, out of the 36.7 million HIV infected people in the world, 1.8 million were children aged less than 15 years old with a majority of these children living in sub-Sahara Africa[8].

Estimates indicate that globally, HIV is the leading cause of DALYS among people age 30-44 years. With an increasing burden of the disease in most countries, HIV/AIDS is considered a major global public health issue and the "single greatest reversal in human development" in modern history[9]. From the year 2000 to 2014, it was estimated that 38.1 million people were infected with HIV and 25.3 million people died from AIDS-related illnesses. However, the incidence of new infections has decreased by 35% from 3.1 million in 2000 to 2.0 million by the end of 2019 and an estimated prevalence of 36.9 million people as at the end of 2019[10]. In addition, the decrease in the incidence of HIV between 2000 and 2019 was accompanied by a decrease of 24% globally in AIDS-related deaths from a peak of 2.0 million deaths in 2004/2005 to 1.2million deaths in 2019[10]. This has been attributed to a concerted effort of all countries in achieving the Sustainable Development Goals (SDGs) on HIV/AIDS.

Although with an estimated population of 11% of the world's population, sub-Saharan African (SSA) carries the heaviest burden of the HIV/AIDS pandemic[11]. In most countries in SSA where the disease has a high prevalence, the socio-economic impact of HIVIAIDS includes a decrease in life expectancy, a reduction in economic growth and an increase in household poverty levels[12].

Estimates as at the end of 2014 indicate 25.8 million people with HIV/AIDS live in SSA with 57% being women. In addition, an estimated 1.4 million new infections were accountable to SSA but this is a decrease of about 41% between 2015 and 2018[13]. Despite this progress, SSA still leads in the global proportion of total new infection and AIDS related deaths in SSA in 2019 were estimated to be 790,000 people representing 34.2% of the global estimate but this is seen as a decrease by 48% between 2014 and 2019[14].

The prevalence of HIV varies from country to country, however, the majority of the cases come from low and middle-income countries including Africa. The number of HIV infected people during 2016 in sub-Sahara Africa was 25.5 million as compared to 6.7 million in Asia and 4.2 million in Europe and America[15]. HIV/AIDS affects people of all ages and sex. Compared to the percentage of adults living with HIV/AIDS in ten countries with the highest prevalence of HIV/AIDS in the world, Swaziland had the highest prevalence of 27.2%, followed by Lesotho with 25%, Botswana with 21.9%, South Africa 18.9%, Namibia 13.8%, Zimbabwe 13.5%, Zambia 12.4%, Mozambique 12.3%, Malawi 9.2% and Uganda, 6.5%[16].

2.1.2 HIV Transmission

While HIV has been known for more than 35 years, it has remained a major public health problem which affects approximately 37.7 million people globally. Sub-Saharan Africa has been identified as the region of the world most severely hit by the HIV scourge accounting for more than two-thirds of the global HIV infections[17]. HIV is spread from one infected person to another through blood-to-blood contact or sexual contact. There are several body fluids that have been shown to spread HIV, including blood, semen, vaginal fluid, breast milk, and other body fluids containing blood. Infection occurs when an infected individual transfers via one of the

body fluids, the HIV virus to an uninfected individual. The common modes of transfer are via sexual intercourse (heterosexual or homosexual; anal and vaginal), intravenous drug-use with a shared, infected needle, and from HIV-infected women to their babies in utero, during birth, or through breast-feeding after birth[18]. Infection has also occurred through the use of contaminated blood transfusions and through inadvertent exposure to contaminated blood by health care workers[19]. Treatment of blood products and donor screening has essentially eliminated the risk of HIV in developed countries, while in developing countries contaminated blood and needles remain important means of infection[20].

However, HIV cannot be transmitted through fecal-oral route, insects or causal contact like kissing, hugging or sharing of household's items. HIV can be transmitted from an infected person to others through: Blood, semen, vaginal secretions or breast milk. Unprotected sex, direct blood contact and Mother to child are activities that allow HIV transmission. Overall, the best preventative measures in curtailing the HIV epidemic have been through education leading to prevention measures[21].

2.1.3 Behavioral and Psychosocial Aspects of HIV

Multi-partner sexual behavior is a critical influence concerning the spread of HIV/AIDS[22]. A study's large sample, despite being geographically specific, produced great insight into the prevailing belief systems of the participants. One of the more interesting findings had to do with the participants' specific beliefs supporting their negative attitudes toward condom use.

Many individuals believe that condom use could lead to the waste of sperm, loss of masculinity, and discontinuity of a clan name. These cultural biases could be useful when developing behavioral change intervention programs[23].

In addition, another study found a significantly higher rate of clinical depression in patients with AIDS than previous research involving cancer patients, despite the fact that fewer desired a hastened death. Twenty-seven percent of participants demonstrated a major depressive disorder, in comparison to 12% to 17% of cancer patients[24] [25]. There also was a greater association between symptoms of clinical depression and hopelessness and the desire for a hastened death among the AIDS patients than those with cancer. Eighty percent of the studied patients in Rosenfeld et al.'s analysis with a high desire for hastened death also met the criteria for major depressive disorder, versus 47% to 58% of cancer patients in previous studies[26].

The researchers highlighted the psychological factors affecting patients with advanced AIDS. They found a clear relationship between depression and a sense of hopelessness and the desire for a hastened death. Less clear were the associations between a desire for hastened death and adequate social support, physical symptom distress, to patients' physical functioning. What the researchers were not able to determine was a connection between hopelessness, depression, and a desire for a hastened death and the appropriateness of assisted-suicide policies.

2.3 HIV and Mental Health

A diagnosis of HIV carries far-reaching implications that extend beyond the physical aspect of the disease. It has a profound and multifaceted impact on an individual's mental health and well-being[27]. This impact is exacerbated by the pervasive stigma, discrimination, and fear of disclosure that individuals living with HIV frequently encounter[28]. The psychological toll of HIV is a critical aspect of the disease that merits extensive discussion.

Receiving a diagnosis of HIV can be a deeply traumatic experience. It introduces a life-altering reality that often comes with a myriad of emotional responses. Individuals may experience shock, fear, anger, sadness, and confusion. The uncertainty surrounding the future course of the disease, potential health complications, and the perception of HIV as a life-threatening condition can lead to heightened levels of anxiety and distress[29].

One of the most pervasive challenges faced by people living with HIV is the enduring stigma associated with the virus. Stigma arises from deeply ingrained societal misconceptions, myths, and fears surrounding HIV transmission. This stigma manifests itself in various ways, including social exclusion, verbal abuse, and even physical violence. It operates on both individual and structural levels, affecting not only how others perceive individuals with HIV but also how they perceive themselves[30]. This self-stigma can be profoundly damaging, leading to feelings of shame, guilt, and low self-esteem[31].

The fear of disclosure is a natural consequence of the pervasive stigma attached to HIV. Many individuals living with the virus are hesitant to disclose their status to friends, family members, or partners due to the fear of rejection or discrimination. This secrecy can lead to a profound sense of isolation and loneliness[32]. Living in secrecy and constantly concealing one's condition can exacerbate feelings of stress and anxiety, as individuals grapple with the burden of maintaining this hidden truth.

Moreover, the threat of discrimination in various aspects of life, including employment, healthcare, and education, hangs over the heads of those living with HIV. Discrimination can have severe repercussions on an individual's mental health[33]. The constant worry about potential discrimination can lead to a state of hypervigilance, anxiety, and a sense of powerlessness. It can

affect one's ability to access necessary healthcare and support services, thereby further compromising their physical and emotional well-being[34].

Stress, anxiety, and depression are common mental health challenges experienced by individuals living with HIV, and they often co-occur[35]. The ongoing stressors related to the disease, coupled with the emotional toll of stigma and discrimination, can contribute to the development or exacerbation of these mental health conditions. Stress may manifest as persistent worry about one's health or future, while anxiety can lead to a heightened state of nervousness and restlessness. Depression may result in feelings of hopelessness, sadness, and a loss of interest in previously enjoyed activities[36].

In summary, a diagnosis of HIV goes beyond the physiological aspects of the disease. It brings with it a complex web of emotions and challenges that can significantly impact an individual's mental health. The stigma, discrimination, and fear of disclosure associated with HIV contribute to a heightened risk of stress, anxiety, and depression among those affected. Recognizing and addressing the mental health needs of individuals living with HIV is a critical aspect of comprehensive care, as it not only improves their psychological well-being but can also positively influence their ability to manage the physical aspects of the disease and engage in effective treatment and support. - Studies have shown that people living with HIV are at an increased risk of experiencing mental health challenges compared to the general population.

2.3.1 HIV/AIDS and Depression

HIV/AIDS and depression are two diseases of public importance[37]. HIV/AIDS and depression cause significant health burdens globally and occur across all age groups, genders, socioeconomic, and cultural backgrounds[38]. There have been concerted efforts over the past 3

decades to curb the spread of HIV/AIDS[39]. Some progress has been made but the public health burden created by these two diseases still remains[40]. Depression is more common in WLWH than in the general population[41]. Socioeconomic factors such as poverty, social isolation, poor living environment, and discrimination and physical illnesses such as HIV/AIDS and its complications are known to cause depression and are also known to worsen depression in people already suffering with depression[42]. WLWH who suffer from depression more than the general population are known to have fewer social contacts than the general population and are also discriminated against because of their disease status[43]. These factors are likely to further increase their rates of depression as poor social support and HIV-related stigma have been shown to cause and worsen depression in WLWH[44]. WLWH are a vulnerable group of people who suffer from a superimposed depressive illness, which further increases their vulnerability and worsens the prognosis of their illness[45]. HIV/AIDS and depression have been well researched over the last few decades; but, the combined effect of social support and HIV-related stigma on depression in WLWH has not been well studied[46].

2.3.2 Depression

Depression is a common mental health disorder that is characterized by low mood, loss of pleasure or interest (anhedonia), feelings of guilt, hopelessness and worthlessness, low self-esteem, disturbed sleeping patterns, poor appetite, low energy levels, and poor concentration[47]. Depression can become severe, chronic, or recurrent bringing about impairment in peoples' ability to cope with daily life and work obligations, which can lead to suicide, resulting in the loss of almost 1 million lives every year in more severe cases. Depression is the leading cause of disability globally in terms of total years lost due to disability and is a contributor to the global

burden of disease. It is estimated to affect 350 million across the globe, affecting women more than men[48]. Between 2019 and 2021, depression was more common in people with physical illnesses in the United States. The CDC also reported that depression could affect the course of common chronic conditions adversely. The aetiology of depression is multifactorial in nature. Biological, psychological, and social factors play different roles in causing depression. The biological causative factors include genetics (runs in families), neurochemistry (imbalance in neurotransmitters such as serotonin, noradrenaline, and dopamine), neuroendocrinology, cerebral pathophysiology, cellular factors, and immunology components. Psychological components include psychodynamic, cognitive, and behavioral components[49]. Social components include predisposing/vulnerability factors such as a lack of a confiding relationship, unemployment, and social isolation and precipitating factors/life events such as bereavement, separation, redundancy, marital discord, physical illnesses, acute stressors, and poor social networks[50]. Depression leads to poorer outcomes for chronic diseases. Following an assessment of 473 patients on demographic and clinical variables within the first week of hospital admission for acute myocardial infection (MI) found out that somatic/affective symptoms of depression (low mood, low energy levels, altered sleeping pattern, poor appetite, poor motivation, and lack of enjoyment or interest) were associated with MI severity and cardiovascular prognosis[51]. Depression has also been found to be higher in patients with other physical health problems, such as diabetes mellitus and obesity, and can also worsen their prognosis[52].

Chronic physical health problems such as stroke, cardiovascular diseases, and HIV/AIDS can cause and exacerbate depression. The pain, functional impairment, and disability associated with these chronic physical health problems play a role in an individual developing depression.

Depression is about two to three times more common in people with chronic physical health problems, and functional impairment is likely greater when people suffer from both depression and chronic illness than if they had depression or chronic illness alone[53].

Having more than one physical health problem also further increases peoples' chances of developing depression and also perpetuates depression in people already suffering with depression leading to poorer outcome for both physical illnesses and the depression[54].

2.3.3 Depression in Africa

Depression, just like in other parts of the world, is a serious public health problem in Nigeria with lifetime prevalence of 3.1% in the adult population[55]. Depression in Nigeria has high comorbidity rate with anxiety disorders, musculoskeletal conditions, chronic pain and ulcer; and brings about increase lifetime odds ratio of suicide attempt[56]. Depression is also about five times more common in WLWH in Nigeria than in the general population[57]. Among the Nigerian population; depression was more common in females, unemployed people, and in people who have had HIV for more than 3 years. Having a child and living with others reduced depression rate amongst Nigerians[58].

People who were depressed were more likely to be separated or divorced, living alone, and socially isolated. The point on the social isolation being common in depressed individuals is relevant to this study as one of the aims of the study is to find out the effect of social support on depression in PLWH[59]. Some socioeconomic factors associated with depression include unemployment, low social class, lower predicted intellectual function, lack of formal educational qualifications, living in poor neighborhood, and living in urban environment[60].

2.3.4 Relationship Between HIV/AIDS and Depression

Researchers have associated depression with HIV/AIDS. Different rates of depression among PLWH have been reported across the globe, ranging from approximately 72% in China, 24% to 38% in Botswana to 27% in Cameroon, approximately 15% in Western Europe, and 56.7% in Africa[61].

Depression has also been reported to be the most common mental health disorder in PLWH[62]. People newly diagnosed with HIV are even at higher risk of developing mental health illnesses including depression and are also more likely not to link in with care[63]. Following a prospective cohort study of people newly diagnosed with HIV infection, some 67% of their 180 study participants screened positive for depression and results from a multivariate analysis showed depression to be associated with female sex, annual income of less than 25,000 dollars, poor access to medical care at baseline, recent substance misuse, and low self-efficacy. Fifty-six percent of depressed study participants as against 68% of non-depressed study participants linked in to care after diagnosis with HIV infection[63]. The etiology of depression in general is multifactorial in nature and is even more multifactorial and complicated in PLWH considering the fact that they face peculiar difficulties in life which range from difficulties relating directly to their physical health, to psychosocial difficulties including stigma due to their illness often resulting in social isolation, and poor quality of life[64].

Some of the problems faced by PLWH which are thought to contribute to depression include problems associated with disclosure, problems relating to the physical health complications of HIV/AIDS, relationship problems including problems with intimacy, and the problem of taking antiretroviral drugs treatment and their side effects[65]. A cross-sectional study examined the

relationship between social support, HIV disclosure, and depression in 340 rural African American women living with HIV. They found out that availability of social support and HIV disclosure were inversely correlated with depression[66].

This further highlights the emotional and psychological stress that people newly diagnosed with HIV go through as disclosing their status can bring about reduction in depressive symptoms. Social responses of fear, denial, and discrimination were often the initial reactions of people newly diagnosed with HIV infection and their relatives and friends. The first reaction following diagnosis was fear (74%) followed by depression (48%), and then suicidal thoughts (12%). They also found out that 85% of the 801 people they included in their study disclosed to their spouses and that the spouses' reactions were crime (i.e., that the newly diagnosed relative had committed a crime by contracting HIV), followed by horror, and then anger; and also, that friends, work colleagues, neighbors, and relatives discriminated against newly diagnosed people[66]. Other factors that can trigger mental health problems including depression in people newly diagnosed with HIV infection include worry about how to cope with the infection, peoples' usual coping styles, perceived lack of social support, and worry about how to live a life of ongoing antiretroviral treatment with its side effects[67].

Depression has been shown to have a negative effect on physical illnesses in general including HIV/AIDS which on its own can lead to several other physical illnesses especially at the later stages of the illness[68]. People with mental health problems including depression and substance misuse have been shown to have higher rates of HIV infection and people with HIV infection have also been shown to have higher rates of mental health problems including depression[69]. Several reasons have been suggested for this by different researchers. Nonadherence to treatment

including medications has been consistently reported as a major contributory factor to poor health outcomes in PLWH suffering with depression[70].

A South African study compared adherence to combined antiretroviral therapy and virology response between immigrant and indigenous HIV31-infected patients; and also checked if any difference was related to difference in psychosocial variables such as HIV-related stigma, quality of life, depression, and personal belief about medications. They detected higher viral loads amongst immigrants and following multivariate analysis found out that higher HIV related stigma and prior virology failure were associated with non-adherence to combined antiretroviral therapy and depressive symptoms; and those depressive symptoms were also associated with nonadherence to treatment in general. Severe depression was associated with poor adherence to antiretroviral therapy[71].

Even though most researchers have reported positive correlation between depressive symptoms and nonadherence to antiretroviral treatment, some have suggested that antiretroviral medications can cause depression in PLWH.

There have also been reports of gender difference in the way PLWH adhere to treatment with antiretroviral therapy especially in intravenous drug users, with women suffering with depression being less likely to adherer to treatment[72]. The researchers discussed in this paragraph highlight the need for emphasis to be laid on making an effort to find out the reasons for deterioration in the health of WLWH and also to pay close attention to depressive symptoms and its possible effects on adherence to antiretroviral medications. It is equally important to watch out for a possible depressant effect of antiretroviral medications and the effect psychosocial factors such as HIV-related stigma and gender may be having on nonadherence.

There are several other features of depression which can result in poorer health outcome for PLWH who suffer depression. Some of these features include poor motivation, poor concentration, cognitive impairment including memory impairment and loss of ability in activities of daily living, death wish which can result in nonadherence to treatment in the hope that their health will deteriorate and subsequently result in their death, and immunosuppression which has been associated with depression[73]. There is also strong research evidence that depression is associated with poor quality of life in PLWH.

Hence, literature reviewed so far demonstrate the case for healthcare professionals including clinicians to be more vigilant for mental illnesses in PLWH as earlier detection and treatment can improve the general health and QOL of the individuals. Diagnosing mental illnesses in PLWH does not go without its own challenges. There is an overlap between some symptoms of some mental illnesses such as depression and that of HIV/AIDS. Some of the overlapping symptoms include low energy levels, poor motivation, poor concentration, feelings of hopelessness and worthlessness, poor appetite, disturbed sleep/altered sleeping pattern, lack of enjoyment in things, guilty feelings, death wish, and suicidal ideas and intent. It needs thorough assessment and taking into account peoples' presentation over a period of time with the aid of clinical assessment tools by trained personnel to make a correct diagnosis. Despite the adverse health implications of depression on PLWH, depression is still not adequately recognized and treated in general and in PLWH.

W.H.O reported that despite the adverse health implications of depressant in general that less than half of people suffering with depression receive treatment. This has been attributed to lack of resources, lack of trained health care providers, social stigma associated with mental disorders,

and inaccurate assessment. Mental illness is strongly associated with HIV/AIDS and that there are many factors that contribute to this association.

2.4 HIV and Mental Health in Africa

HIV and its impact on mental health remain significant concerns in Africa, where the HIV/AIDS epidemic has been a long-standing public health challenge[74].

Africa has historically been the region most heavily affected by the HIV/AIDS pandemic. Sub-Saharan Africa, in particular, bears a disproportionate burden of the disease. In 2020, an estimated 25.7 million people were living with HIV in the Continent, accounting for approximately 68% of the global total. Southern Africa, including countries like South Africa, Swaziland, and Lesotho, had some of the highest prevalence rates[75].

Living with HIV in Africa often entails a range of psychosocial challenges that can significantly impact mental health[76]. While not all individuals living with HIV experience mental health illnesses, the disease's social, economic, and psychological consequences can contribute to mental distress. These challenges may include stigma, discrimination, financial hardship, and uncertainty about the future[76].

Depression and anxiety are among the most common mental health disorders affecting people living with HIV in Africa[77]. Research has indicated that the prevalence of depression in this population can be notably high. In some studies, rates of depression among people living with HIV in African countries have been reported to be as high as 30%[78].

Access to mental health services in Africa can be limited, particularly in resource-constrained settings. In many countries, the availability of mental health professionals and resources is inadequate to meet the growing demand for mental health support among individuals with HIV. This lack of access to mental health care exacerbates the challenges faced by those living with HIV[79].

Mental health issues can also have implications for the adherence to HIV treatment regimens. Depression, for example, has been associated with lower rates of adherence to antiretroviral therapy (ART), which is critical for managing HIV and reducing viral load[80].

Efforts and Progress on Mental Health Care for People Living with HIV in Africa

Efforts have been made to address these challenges, including the integration of mental health services into HIV care and treatment programs. Additionally, community-based interventions and peer support networks have been established to help individuals living with HIV cope with the psychosocial aspects of the disease[81 82].

While progress has been made in expanding access to HIV treatment and support services in Africa, continued efforts are needed to improve mental health support for individuals living with HIV. This includes de-stigmatization campaigns, increased access to mental health professionals, and comprehensive care that addresses both the physical and psychological well-being of those affected by HIV in the region[83].

2.5 HIV and Mental Health in Nigeria

Nigeria is one of the countries most affected by the HIV epidemic, particularly in West Africa. As of 2020, an estimated 1.8 million people in Nigeria were living with HIV, making it one of

the countries with the highest HIV prevalence in the world. While significant progress has been made in HIV prevention, treatment, and care, challenges persist, and the burden of the disease remains a significant public health concern[84].

The intersection of HIV and mental health in Nigeria represents a complex and multifaceted issue, Nigeria continues to grapple with a high burden of HIV and the associated mental health challenges[85]. Addressing these challenges necessitates a holistic approach, involving not only healthcare providers but also communities, policymakers, and civil society. By promoting acceptance, reducing stigma, and improving access to mental health services, Nigeria can enhance the mental well-being of individuals living with HIV, ultimately improving their overall quality of life[86].

Living with HIV in Nigeria often brings about complex psychosocial challenges, and these can have profound implications for mental health[87]. Individuals diagnosed with HIV may experience a range of emotions, including fear, anxiety, depression, and uncertainty about the future. The psychosocial aspects of HIV, coupled with factors like stigma and discrimination, can exacerbate mental health issues[88].

Stigma and discrimination remain pervasive issues in Nigeria concerning HIV. People living with HIV often face social exclusion, stereotypes, and prejudice, both within their communities and sometimes within healthcare settings[89]. The fear of disclosure and the potential consequences of discrimination can lead to secrecy and isolation, contributing to anxiety and depression[90].

Anxiety and depression are among the most common mental health challenges faced by individuals living with HIV in Nigeria. The chronic stress of managing a stigmatized condition, coupled with concerns about health, can lead to persistent anxiety[91]. Depression may result from isolation, fear of disclosure, and the psychosocial impact of the disease. Studies have indicated that the prevalence of depression and anxiety is notably high among this population[92].

Access to mental health services in Nigeria can be limited, particularly in rural and underserved areas[93]. The availability of mental health professionals, resources, and awareness of mental health needs is often inadequate to meet the growing demand. This lack of access can hinder timely and appropriate support for individuals facing mental health challenges related to HIV[94].

Mental health issues can also have practical implications for the management of HIV. Some individuals living with HIV who experience anxiety or depression may struggle with treatment adherence, potentially impacting the effectiveness of antiretroviral therapy (ART)[95]. Inconsistent medication adherence can lead to viral load rebound and health complications[96].

Efforts to address these challenges are ongoing. Nigerian authorities, NGOs, and international organizations have been working to integrate mental health support into HIV care and treatment programs[97]. Community-based initiatives, counseling services, and peer support networks have been established to help individuals cope with the psychological aspects of HIV[98].

Despite progress, significant challenges persist. Reducing HIV-related stigma, expanding access to mental health services, and increasing awareness about the interplay between HIV and mental health remain critical areas of focus.

2.6 Stigma and discrimination

Stigma and discrimination related to HIV remain pervasive issues in many African societies. These social factors can compound the psychological distress experienced by individuals living with the virus, contributing to anxiety, depression, and a reduced quality of life[99]. Stigma and discrimination related to HIV continue to be pervasive and deeply entrenched issues in many societies. These social factors not only have a profound impact on the lives of individuals living with the virus but also contribute to a range of negative psychological and emotional consequences, including anxiety, depression, and a significantly reduced quality of life[100].

Stigma associated with HIV in African societies is multifaceted and can manifest in various ways. This stigma is often rooted in misconceptions, fear, and prejudice. People living with HIV are frequently subjected to social exclusion, negative stereotypes, and devaluation[101]. They may face discrimination in healthcare settings, education, employment, and even within their own families and communities. This pervasive stigma can lead to secrecy, silence, and fear of disclosure among those living with HIV[102].

The experience of stigma and discrimination can lead to profound psychological distress among individuals living with HIV. The fear of rejection, isolation, or public shaming can create intense anxiety. The constant need to hide one's HIV status can result in chronic stress and emotional turmoil. The psychological impact is often exacerbated by the internalization of negative societal attitudes, leading to feelings of shame and self-blame[103].

Anxiety and depression are common mental health consequences of HIV-related stigma in Africa. The fear of disclosure and the anticipation of rejection can lead to persistent worry and anxiety.

Depression can result from the isolation, loss of social support, and the burden of managing a stigmatized identity. Research has shown that individuals living with HIV who experience stigma are more likely to report symptoms of depression and anxiety, further complicating their overall well-being[104].

Stigma and discrimination not only affect mental health but also diminish the overall quality of life for individuals living with HIV. The fear of being "found out" and the avoidance of healthcare services due to discrimination can lead to delays in seeking treatment and care, which can ultimately impact physical health outcomes. Moreover, reduced social support and isolation can exacerbate feelings of loneliness and despair, further diminishing the individual's quality of life[105]. Stigma and discrimination can also have practical implications for HIV care and treatment[106]. Individuals who fear discrimination in healthcare settings may be less likely to adhere to antiretroviral therapy (ART) and engage in regular medical check-ups. This, in turn, can lead to poorer health outcomes and increased morbidity[107].

Addressing HIV-related stigma and discrimination in African societies requires a multi-pronged approach. Community-based initiatives, advocacy, and education campaigns play a crucial role in challenging stereotypes and reducing prejudice[108]. Many organizations and NGOs are actively working to promote acceptance and inclusion for people living with HIV. Legal and policy frameworks that protect the rights of people living with HIV are essential. Laws that criminalize HIV transmission or non-disclosure can perpetuate stigma and discourage people from getting tested and seeking care. Efforts to reform such laws and enact comprehensive anti-discrimination policies are ongoing in various African countries[109].

In conclusion, the stigma and discrimination associated with HIV in African societies continue to be significant barriers to effective HIV prevention, care, and support. These social factors can have severe consequences for the psychological well-being of individuals living with HIV, leading to anxiety, depression, and a reduced quality of life. Addressing HIV-related stigma and discrimination requires a coordinated effort involving communities, policymakers, healthcare providers, and civil society to create a more supportive and inclusive environment for people living with HIV in Africa. By reducing stigma and promoting acceptance, we can improve the mental health and overall well-being of individuals affected by HIV.

2.6.1 Negative Effects of HIV/AIDS-Related Stigma and Discrimination

Regardless of the setting, HIV/AIDS-related stigma and discrimination can lead to certain negative effects, making it more difficult for individuals to cope with the disease and seek help. Stigma and discrimination can have a major impact on individuals' decisions, behaviors, and outcomes. In addition, HIV/AIDS-related stigma and discrimination can negatively affect their willingness to be tested for HIV/AIDS and receive the necessary treatment or engage in preventive behaviors[110]. Stigma and discrimination also can make people reluctant to join educational meetings and counseling sessions on HIV/AIDS[111]. Because HIV/AIDS-infected women are afraid to be labeled negatively, they will refuse to participate in programs that can teach them to avoid transmitting HIV/AIDS to their children[112]. Stigma and discrimination can negatively affect lifestyle choices and quality of life of HIV/AIDS-infected persons. Because of the stigma and discrimination associated with HIV/AIDS, people are less likely to engage in HIV/AIDS prevention programs, testing, and treatment[113]. They do not want to be associated with HIV/AIDS services and publicize their HIV-positive status[114 115 116].

Early diagnosis and care are critical to the survival of HIV/AIDS infected persons. If their status is diagnosed early and they receive proper treatment, PLWHA are more likely to survive and less likely to transmit HIV/AIDS to others, including their own children[117 118].

Project Accept, an intervention meant to increase testing in communities by changing community norms and ultimately reducing the stigma and discrimination associated with HIV/AIDS. Results showed that reducing stigma and discrimination increased testing rates fourfold. It was asserted that reducing stigma can significantly increase individuals' willingness to participate in HIV/AIDS prevention and treatment activities, especially by testing for HIV/AIDS so that early diagnoses and care can be provided. The study claimed that HIV/AIDS testing is needed to reduce the number of PLWHA in South Africa. However, HIV/AIDS-related STIGMA AND DISCRIMINATION, along with perceptions that there is a low chance of societal HIV/AIDS testing, leads to reduced testing rates, making early diagnoses and treatment impossible. The researchers took data from Soweto and Vulindlela, the South African sites focused on in Project Accept, a multinational HIV/AIDS prevention intervention gathered data based on self-reported HIV/AIDS testing, stigma and discrimination, and social norms to analyze how HIV testing, stigma and discrimination, and perceptions of societal testing rates are interrelated[119].

Stigma and discrimination can be negative attitudes toward HIV/AIDS-infected people, negative perceptions toward HIV/AIDS-infected individuals, and negative perceptions of fair treatment[120]. Through a univariate logistic regression, decreased negative attitudes toward HIV/AIDS-infected people were found to lead to higher rates of HIV/AIDS testing. Increased perceptions that HIV/AIDS-infected individuals experience discrimination and should be treated fairly also were found to lead to increased rates of HIV/AIDS testing. The researchers reported the finding that

individuals who have already been tested for HIV/AIDS tend to think that the majority of people have already undergone the same test. The researchers concluded that interventions such as Project Accept can address stigma and discrimination and perceptions of societal testing effectively, ultimately having a positive effect on testing rates[121].

In non-Western countries such as Nigeria, there is a misconception that HIV and STD is a gay disease. In Western countries, there is a notion that it is an African American disease[122].

Successful programs must have a many great things, but one of the most important is cultural competency. Messages about the prevention and treatment of HIV/STDs must be tailored to the specific needs of populations or they will not be effective. These messages must demonstrate several factors. First, they must be sensitive to the particular cultures that the messages are trying to reach. This sensitivity must consider educational level, sex, age, sexual orientation, geography, race, norms, values, beliefs, and other significant issues. Consideration also should be given to the appropriateness of the messages to the developmental status of the intended audience, especially if the audience is from a different cultural background. The messages should be appropriate to the level and style of language of the cultures receiving the messages[123].

Although a government might feel that it is conveying a message that will have mass appeal, it might actually be producing a message that has very narrow appeal. The reason might be that different cultures view the message content differently and might not speak about certain topics or might discuss them only in certain circumstances. By not being sensitive to these considerations, the message might be disregarded by some cultures and not seen as relevant[124].

2.6.2 Effect of HIV-Related Stigma on Depression in PLWH

HIV-related stigma does not only affect the social life aspects of PLWH but also affects their mental health including depression. A study examined the prospective relationships between experiencing HIV-related stigma and symptoms of anxiety and depression, and risk behavior for sexual transmission of HIV. They found that experiencing HIV-related stigma was prospectively associated with symptoms of depression and generalized anxiety. They also found that perceived HIV-related stigma was prospectively associated with transmission risk behaviors including unprotected sexual intercourse with HIV-negative persons or persons with unknown HIV status. It was concluded that HIV-related stigma may increase the risk of mental health problems and risk for sexual transmission in WLWH[125].

The effect of HIV-related stigma on depression has been demonstrated in different parts of the world including African countries such as Uganda where it showed that major depressive disorder was associated with AIDS-related stigma[126]. It was found that HIV-related stigma was associated with increase depression and that this association was partially mediated through resilient coping. It was also found out that HIV-related stigma, gender discrimination, and racial discrimination were significantly correlated with each other and with depression. The researcher highlighted the importance of considering the multiple intersecting forms of stigma when developing healthcare interventions[127].

2.6.3 Effect of Sociodemographic Factors, Quality of Life, and Time Since HIV Diagnosis on Depression in PLWH in Africa

Sociodemographic factors, QOL, time since HIV diagnosis, and depression have been shown to be inter-related in PLWH. Researchers have given different views on the effect of sociodemographic factors and QOL on depression in WLWH with some reporting positive

association and others 46 reporting no association. They reported that lack of employment and having low level of education was significantly associated with depression in WLWH[128]. A study aimed at assessing QOL in PLWH in three South African hospitals over a 20-month period found that low internalized stigma, being employed, less severe HIV infection, and low depressive symptoms were independent predictors of good QOL. Interventions that addressed stigmatization and improved economic and employment opportunities were needed in order to maximize QOL for patients on antiretroviral therapy[129].

Some researchers have reported negative or no association between socioeconomic factors, QOL, and depression in WLWH. The authors discussed so far suggested that there is inconclusive evidence as to whether sociodemographic factors and QOL have any significant effect on depression in WLWH or not.

Some evaluated the prevalence and correlates of depressive symptoms before diagnosis of HIV and determined the effect these symptoms had on seeking care for HIV in a clinic in South Africa through a cross-sectional study. They identified that depressive symptoms were common among newly diagnosed HIV study participants and that this had a significant effect on CD4 uptake. They advised that screening for depression at the time of HIV diagnosis was important for improving linkage to mental health and HIV services in South Africa[130].

2.7 Gender Differences

Nigeria exhibits notable gender disparities in HIV prevalence. Numerous studies and reports indicate that women, particularly young women, are disproportionately affected by HIV[131]. Factors contributing to this disparity include gender-based violence, economic vulnerability, and

unequal power dynamics within sexual relationships. As a result, women in Nigeria often face a higher risk of contracting HIV, which directly influences their mental health outcomes[132].

Research consistently highlights how HIV-related stigma and discrimination affect men and women differently. Women living with HIV in Nigeria may encounter unique challenges due to societal expectations and traditional gender roles. They often bear the brunt of stigma, fearing not only the discrimination associated with HIV but also concerns about their social status and relationships within the family and community[133]. These added pressures can significantly impact their mental well-being, leading to higher rates of anxiety and depression.

Gender differences in access to healthcare services further compound the disparities in mental health outcomes among people living with HIV. Women in Nigeria often have better access to healthcare due to maternal and child health services[134]. However, gender disparities persist in accessing HIV treatment and mental health support, with men facing barriers related to masculinity norms that discourage help-seeking behavior[135].

The intersection of HIV and gender-based violence is a critical issue. Women who experience intimate partner violence may be at increased risk of HIV infection and face compounded mental health challenges. The fear of violence, coupled with HIV-related stigma, can lead to severe psychological distress for women in abusive relationships. Pregnancy and motherhood present unique challenges for women living with HIV in Nigeria. Concerns about vertical transmission of the virus, coupled with societal expectations of motherhood, can contribute to stress and anxiety[136]. This underscores the importance of providing comprehensive mental health and reproductive health services for women.

Recognizing these gender differences, there is a growing need for gender-responsive interventions in Nigeria. Programs that address not only the medical aspects of HIV but also the social determinants, including gender dynamics, can lead to better mental health outcomes. Empowerment initiatives, support groups, and counseling services tailored to the specific needs of men and women can be effective in improving mental health.

In conclusion, the literature on HIV and mental health in Nigeria underscores the gender disparities that exist in the experiences and outcomes of people living with HIV. Understanding these differences is essential for developing targeted interventions that address the unique challenges faced by men and women. Gender-sensitive approaches can contribute to better mental health outcomes and more equitable access to care for all individuals affected by HIV in Nigeria. As new research emerges, ongoing efforts to address these disparities remain a priority in the fight against HIV and its associated mental health challenges.

2.8 Stigma Against Women living with HIV/AIDS in Nigeria

The Igbos call HIV/AIDS obiri n"aja ocha, a disease that ends in the grave. This assumption makes people fear PLWHA instead of giving them the care that they need. A study assessed the perceptions of HIV/AIDS among the Igbo of Anambra State and determined that perceptions of HIV/AIDS significantly shaped the prevalence rate of HIV/AIDS among the population[137].

According to the researchers, perceptions can affect the discriminatory behaviors and attitudes of people against PLWHA and can aggravate the problems that these individuals are experiencing. The study assessed the perceptions and knowledge of the people of Anambra and how they affected or led to effective intervention programs designed to reduce the stigma and discrimination linked to the pandemic. The researchers focused on people living in the Idenmili

North and Oyi local government areas of Anambra State. They used qualitative and quantitative methods to gather information from a sample of adult males and females 18 years of age and older. The data collection instruments were a questionnaire and an in-depth interview protocol. The questionnaire was administered to 1,000 respondents; 13 people were interviewed[138]. Results showed that the majority of the respondents believed that HIV/AIDS is a disease that immoral people deserve as a punishment from God. A limited number of participants believed that HIV/AIDS can affect anyone, even those that are moral. Many of the respondents were aware that HIV/AIDS is widespread, but they did not have enough knowledge of the disease. It found significant relationships between educational level, sex, occupation, income influence, and perceptions and people's reactions and knowledge of HIV/AIDS to HIV-positive status of a relative but no significant relationships between these variables) and knowledge of HIV/AIDS. The researchers concluded that because of people's lack of knowledge about HIV/AIDS and their cultural belief systems, they had negative perceptions of the disease and of PLWHA.

The study also found that study participants who had negative perceptions of PLWHA had common SES characteristics. The results revealed that HIV/AIDS awareness programs were not effective. The researchers claimed that effective intervention programs would be able to change the behaviors of people and improve their knowledge of HIV/AIDS, ultimately reducing the stigma and discrimination toward PLWHA and the spread of HIV/AIDS itself. Even though Nigerians in general have heard of and understand the symptoms of STDs such as gonorrhea, syphilis, and even HIVs, they have a lot of misconceptions about these STDs. The majority of Nigerians in their study recognized STDs as nsi-nwanyi, which means woman's poison. Some participants believed that PLWHA are loathsome. The vast majority still believed that AIDS is the result of poisoning or witchcraft and can even be spread by mosquito bites,

handshakes, and the sharing of sleeping spaces or towels, among other misconceptions. It is therefore critical for this study review previous research to investigate the cultural context of stigma, health seeking behavior and the role both perceived and community stigma play in HIV/AIDS –related stigma and discrimination reduction programs. A research study argued that a significant research and full understanding of many ethnic and cultural settings that constitute Nigeria, are important tool to identify and describe in full detail the complex interacting hidden factors that are impediments to effective prevention and HIV/AIDS related stigma and discrimination reduction programs geared towards WLWHA[139].

2.9 Cultural and Contextual Considerations

Cultural and contextual considerations regarding social support and its impact on mental health outcomes for people living with HIV in Nigeria highlights the significance of cultural beliefs, social norms, and contextual factors in shaping the dynamics of social support and mental health for this population.

2.9.1 Cultural Perceptions of HIV

Cultural beliefs and perceptions surrounding HIV in Nigeria often influence how social support is sought and provided. HIV is frequently associated with stigma, misconceptions, and moral judgments. Some cultural beliefs may view HIV as a result of moral failings or divine punishment, which can lead to discrimination and social isolation[140]. Understanding these cultural perceptions is essential when examining the role of social support in mental health outcomes.

2.9.2 Family as the Primary Support System

In the Nigerian context, family plays a central role in social support networks. Extended families are common, and familial ties are typically strong. Family members often provide emotional, instrumental, and financial support to individuals living with HIV[141]. However, the extent and nature of support can vary widely depending on cultural norms, family dynamics, and the level of acceptance of the individual's HIV status[142].

2.9.3 Gender Dynamics and Social Support

Cultural gender roles and dynamics have a profound impact on social support for people living with HIV in Nigeria. Women may face different expectations and experiences compared to men. Gender inequalities, such as limited decision-making power for women, can influence access to support, disclosure, and the ability to navigate the healthcare system[143].

2.9.4 Religion and Spiritual Support

Religion holds immense importance in Nigeria, and many people draw on their religious beliefs for coping with HIV. Spiritual support, such as prayer and participation in religious communities, can be a crucial aspect of the social support system[144]. It often provides individuals with a sense of hope, resilience, and emotional comfort, which can positively affect mental health outcomes.

2.9.5 Community and Peer Support

Contextual factors, including community and peer support, are integral to the Nigerian social fabric. Support groups and community organizations have emerged to provide psychosocial support, education, and advocacy. These groups offer culturally sensitive spaces for individuals to share experiences and receive support from peers who understand their context.

2.9.6 Cultural Competence in Healthcare

Cultural competence in healthcare is crucial in Nigeria. Healthcare providers need to be aware of cultural beliefs, practices, and norms to provide effective care that respects individual cultural backgrounds. Culturally sensitive counseling and healthcare services can facilitate better mental health outcomes[145].

2.9.7 Policy and Advocacy

Advocacy efforts in Nigeria have sought to address the cultural and contextual factors that impact social support and mental health for people living with HIV[146]. These efforts include promoting culturally sensitive HIV education, challenging discriminatory cultural practices, and advocating for policies that protect the rights and well-being of individuals living with HIV[147].

In conclusion, cultural and contextual considerations play a significant role in shaping the dynamics of social support and its impact on mental health outcomes for people living with HIV in Nigeria. Understanding cultural beliefs, family dynamics, gender roles, and the influence of religion is vital when designing interventions and policies that promote mental well-being. Culturally sensitive approaches that recognize and respect the unique context of Nigeria can contribute to improved mental health outcomes and a more supportive environment for individuals affected by HIV.

2.10 Social Support and its Dimensions

Emotional Support

Emotional support encompasses the provision of empathy, understanding, and compassion to individuals living with HIV in Nigeria. Studies have highlighted the significance of emotional

support from family members, friends, and healthcare providers in reducing feelings of isolation and promoting psychological well-being. Emotional support can buffer the impact of HIV-related stigma and discrimination on mental health[148 149].

Instrumental Support

Instrumental support refers to the practical assistance and resources provided to people living with HIV. In Nigeria, this often includes help with transportation to healthcare facilities, financial aid, and assistance with daily tasks. Several studies have emphasized the importance of instrumental support in improving the quality of life for individuals living with HIV, especially those facing economic challenges[150].

Informational Support

Informational support involves providing guidance, advice, and access to relevant information about HIV treatment and care. In Nigeria, access to accurate and up-to-date information about antiretroviral therapy (ART), HIV prevention, and available support services is critical. Community-based organizations and healthcare providers play a crucial role in delivering informational support to empower individuals to make informed decisions about their health[151].

In conclusion, the literature on social support dimensions for people living with HIV in Nigeria underscores the multifaceted nature of support and its critical role in mitigating the impact of HIV on mental and emotional well-being. Understanding the dimensions of social support and addressing barriers to its provision are essential steps toward improving the quality of life and mental health outcomes for individuals affected by HIV in Nigeria. Further research and targeted interventions are needed to strengthen and expand social support networks for this population.

2.11 Effect of Social Support on Mental Illnesses

Social factors have long been known to contribute to mental illnesses with social factors being an important component of the biopsychosocial etiological model of depression. Social support is one of the social factors known to affect depression in a wide variety of people and also predicts negative outcomes for depression[152]. Low social support from friends and family has been found to be the most significant risk factor for non-remission of depressive illness in palliative care. as they become palliative care patients at the later stages of their illness[153].

Social support has also been shown to play an important role in the mental health of people with severe physical illnesses in that social support has been previously positively related to physical and mental health; pain, coping, and adjustment; and life satisfaction in people with spinal cord injuries. It was also found that assertiveness was related to higher rates of depression in rehabilitation settings[154].

Relationships between the quality of social support people receive and depression were also examined in some studies. The relationship between social support and depression and identified that greater network size, broader networks, frequent contacts, living with family, receiving emotional, instrumental, and financial support, and satisfaction with support being given were negatively correlated with depressive symptoms[155]. Not just social support matters, but the quality of the social support and peoples' perception of the social support they were receiving also had effect on depressive symptoms[156].

The risk of depression is significantly higher in people with baseline social strain, who lack social support, and with poor overall relationship quality[157].

Social support, QOL, and mental health have also been shown to be interrelated and the need for them to be considered together when dealing with people with severe illness such as HIV/AIDS have been highlighted in some studies that depression, social support, and self-esteem had significant joint influence on QOL among people with sickle cell disease which is a chronic illness with similar complications as HIV/AIDS[158].

2.12 Social Support and Mental Health Outcomes

Social support and its impact on mental health outcomes for people living with HIV in Nigeria sheds light on the complex relationship between these variables.

2.11.1 Social Support as a Protective Factor

Numerous studies conducted in Nigeria have consistently demonstrated that social support plays a pivotal role in buffering the adverse mental health effects associated with living with HIV. Social support serves as a protective factor, helping individuals cope with the psychosocial challenges and emotional distress that often accompany an HIV diagnosis[159].

2.11.2 Emotional Support and Mental Well-being

One of the key dimensions of social support, emotional support, has been found to have a significant positive impact on the mental well-being of individuals living with HIV in Nigeria[160]. Emotional support, typically provided by family members, friends, and healthcare providers, offers a crucial source of comfort, empathy, and understanding. It helps individuals process the emotional burden of HIV, reduce feelings of isolation, and enhance their overall mental health[161].

2.11.3 Instrumental Support and Quality of Life

Instrumental support, encompassing practical assistance such as transportation to healthcare facilities, financial aid, and help with daily tasks, is another critical dimension of social support.

Research indicates that individuals receiving instrumental support in Nigeria experience an improved quality of life. This assistance not only alleviates the burdens of managing HIV but also contributes to reduced stress and anxiety, positively affecting mental health outcomes[162].

2.11.4 Informational Support and Empowerment

Informational support, including guidance, advice, and access to HIV-related information, has a significant impact on mental health. Accurate and timely information about HIV treatment, care options, and available support services empowers individuals living with HIV in Nigeria. This knowledge promotes self-efficacy and confidence in managing their health, leading to reduced anxiety and depression[163].

2.11.5 Appraisal Support and Self-esteem

Appraisal support, which involves feedback, affirmation, and validation of an individual's experiences and feelings, has been associated with improved self-esteem and self-efficacy among people living with HIV in Nigeria. This form of support helps individuals reevaluate their coping strategies, fostering a more positive self-perception and reduced psychological distress.

Challenges and Future Directions

Despite the positive impact of social support, several challenges exist. HIV-related stigma and discrimination continue to hinder individuals from seeking and receiving support. Additionally, variations in the quality and availability of social support networks across different regions of Nigeria may affect mental health outcomes.

Future research should explore the nuances of social support and its impact on specific populations within Nigeria, such as women, adolescents, and key populations. Moreover,

interventions aimed at strengthening social support networks and reducing stigma can further enhance mental health outcomes for people living with HIV in the country.

2.13 Effect of Social Support on Mental Health Outcomes among PLWH

Social support has been shown to have a significant impact on the mental health of PLWH and some researchers have further described some specific clinical features of depression that are improved by social support in PLWH.

PLWH who suffer depression have been reported to have self-care behaviors for dealing with depressive symptoms which fall into the following six categories: complementary therapies, talking to others which is a form of social support, distraction techniques, physical activity, medications, and denial/avoidant coping[164].

The direct and indirect effects of perceived social support on the physical and mental Health Related Quality of Life (HRQOL) had significant direct and indirect effects on physical and mental health, including depression. Thus, social support had the potential of contributing to better HRQOL by decreasing detrimental effects of depression on HRQOL[165 166].

Psychological and social support in a South African population were found to be negatively associated with depressive symptoms. Family and social relationships have also been shown to be associated with alleviation of depressive symptoms in PLWH, with better family functioning specifically having a positive effect on quality of life, medication adherence, and decrease in depressive symptoms; and better social support being specifically associated with better quality of life and decreased depressive symptoms. The association between age, gender, social support, and psychological wellbeing of PLWH and found out that social support was negatively

associated with depression, stress, and anxiety which can be a component of a depressive illness or an illness of its own[167].

The effect of social support on depression in PLWH is not only restricted to adults but also seen in children living with HIV/AIDS[168]. The relationships among several risk and protective factors for depressive symptoms in children living with HIV/AIDS and found out that experience of traumatic events and HIV-related stigma directly contributed to depression in their study participants and that trusting relationships along with future orientation and perceived social support mediated the effects of traumatic events and HIV-related stigma on depression. There is a dynamic interplay between social support, depressive symptoms, and HIV-related stigma not only in adults but also in children[169]. PLWH can experience cognitive impairment as part of an HIV/AIDS symptom complex and can also experience this as a result of depression as cognitive impairment in the form of poor concentration or memory difficulties as a feature of depression.

Depression in PLWH has been shown to affect different aspects of their lives including their sexual life. A retrospective cross-sectional study was conducted amongst men living with HIV/AIDS across Europe with the aim of determining risk factors for decreased sexual satisfaction and found out that decrease sexual satisfaction was associated with depression, anxiety, stress, low partner support, and HIV-related stigma.

The need for the sexual relationship of PLWH to be integrated into regular HIV care as addressing some of the risk factors for decreased sexual satisfaction can improve the quality of life of PLWH. Poor social support has also been shown to be a barrier to access to treatment for HIV/AIDS in PLWH who suffer with depression[170].

Endnote

Chapter Three

Methodology

3.1 Research Design

This study is a systematic review that includes observational studies that evaluate the impact of social support on the mental health of individuals living with HIV/AIDS in Nigeria. The study was conducted in July 2023. The search range was from January 2000 to December 2022.

3.2 Keywords

HIV, AIDS, Social support, Mental health, Depression, Anxiety, Quality of life, Interventions, and Nigeria.

3.3 Study Population

The study population comprise studies carried out on individuals living with HIV in Nigeria.

3.3.1 Inclusion Criteria

Included studies met the following criteria:

1. The study population consists of individuals living with HIV/AIDS in Nigeria.
2. The study assesses the impact of social support on mental health outcomes.
3. The study uses a quantitative research design.
4. The study is published in English.
5. The study is published in a peer-reviewed journal.

3.3.2 Exclusion Criteria

1. Studies that did not report outcomes related to the impact of social support on the mental health of individuals living with HIV in Nigeria.

2. Studies that were not published in the English language.
3. Studies that were duplicates or reported on the same population or data.

3.4 Literature Search

A systematic search was conducted in several databases (PubMed, Cochrane Library, Google Scholar, CINAHL, Scopus and Web of Science) to identify relevant studies. The search was conducted using relevant keywords. We also conducted hand searches on reference lists of relevant articles.

3.5 Search Terms

1. **Impact**
2. **Social support**
3. Online Social Supports
4. Social Supports, Online
5. Support, Online Social
6. Online Social Support
7. Social Support, Online
8. Social Supports, Perceived
9. Perceived Social Supports
10. Support, Perceived Social
11. Social Support, Perceived
12. Perceived Social Support
13. Supports, Perceived Social
14. Support, Social
15. Social Care

16. Care, Social

17. Mental health

18. Hygiene, Mental

19. Health, Mental

20. Mental Hygiene

21. Depression

22. Emotional Depression

23. Symptom, Depressive

24. Depressive Symptom

25. Depressive Symptoms

26. Depression, Emotional

27. HIV

28. Virus, Lymphadenopathy-Associated

29. Immunodeficiency Virus, Human

30. Human T-Cell Lymphotropic Virus Type III

31. AIDS Virus

32. Human T-Lymphotropic Virus Type III

33. Human T-Cell Leukemia Virus Type III

34. Viruses, AIDS

35. Human Immunodeficiency Viruses

36. Human Immunodeficiency Virus

37. Human T Cell Lymphotropic Virus Type III

38. Lymphadenopathy Associated Virus

39. Virus, Human Immunodeficiency

40. Immunodeficiency Viruses, Human

41. Lymphadenopathy-Associated Virus

42. Human T Cell Leukemia Virus Type III

43. Acquired Immunodeficiency Syndrome Virus

44. Viruses, Lymphadenopathy-Associated

45. Viruses, Human Immunodeficiency

46. LAV-HTLV-III

47. HTLV-III

48. Lymphadenopathy-Associated Viruses

49. Virus, AIDS

50. AIDS Viruses

51. Acquired Immune Deficiency Syndrome Virus

52. Human T Lymphotropic Virus Type III

53. Nigeria (MeSH)

54. Federal Republic of Nigeria

3.6 Search Strategy

Literature searches were conducted in PubMed, Google Scholar, and Hand searches for studies published from January 2000 to December 2022. The search terms selected were used with a combination of Medical Subject Headings (MeSH) terms and simple keyword search terms. Search terms were created in PubMed and modified according to the database.

The full original search terms are:

("social support"[Title/Abstract] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms] OR "social support"[MeSH Terms]) AND ("mental health"[Title/Abstract] OR "mental health"[MeSH Terms] OR "mental health"[MeSH Terms] OR "mental health"[MeSH Terms]) AND ("depressive disorder"[MeSH Terms] OR "depression"[MeSH Terms] OR "depression"[MeSH Terms] OR "depression"[MeSH Terms] OR "depression"[MeSH Terms] OR "depression"[MeSH Terms] OR "depression"[MeSH Terms]) AND ("hiv"[MeSH Terms] OR "hiv"[MeSH Terms] OR "hiv"[MeSH Terms] OR "hiv"[MeSH Terms] OR ("hiv 1"[MeSH Terms] OR "hiv"[MeSH Terms]) OR "hiv"[MeSH Terms] OR "hiv"[MeSH

Terms] OR "hiv"[MeSH Terms]) AND ("nigeria"[MeSH Terms] OR "nigeria"[All Fields] OR "nigeria s"[All Fields] OR "nigeria"[MeSH Terms])

Translations

Online Social Supports[MeSH Terms]: "social support"[MeSH Terms]

Social Supports, Online[MeSH Terms]: "social support"[MeSH Terms]

Support, Online Social[MeSH Terms]: "social support"[MeSH Terms]

Online Social Support[MeSH Terms]: "social support"[MeSH Terms]

Social Support, Online[MeSH Terms]: "social support"[MeSH Terms]

Social Supports, Perceived[MeSH Terms]: "social support"[MeSH Terms]

Perceived Social Supports[MeSH Terms]: "social support"[MeSH Terms]

Support, Perceived Social[MeSH Terms]: "social support"[MeSH Terms]

Social Support, Perceived[MeSH Terms]: "social support"[MeSH Terms]

Perceived Social Support[MeSH Terms]: "social support"[MeSH Terms]

Supports, Perceived Social[MeSH Terms]: "social support"[MeSH Terms]

Support, Social[MeSH Terms]: "social support"[MeSH Terms]

Social Care[MeSH Terms]: "social support"[MeSH Terms]

Care, Social[MeSH Terms]: "social support"[MeSH Terms]

Hygiene, Mental[MeSH Terms]: "mental health"[MeSH Terms]

Health, Mental[MeSH Terms]: "mental health"[MeSH Terms]

Mental Hygiene[MeSH Terms]: "mental health"[MeSH Terms]

depression[MeSH Terms]: "depressive disorder"[MeSH Terms] OR "depression"[MeSH Terms]

Emotional Depression[MeSH Terms]: "depression"[MeSH Terms]

Symptom, Depressive[MeSH Terms]: "depression"[MeSH Terms]

Depressive Symptom[MeSH Terms]: "depression"[MeSH Terms]

depressive symptoms[MeSH Terms]: "depression"[MeSH Terms]

Depression, Emotional[MeSH Terms]: "depression"[MeSH Terms]

HIV[MeSH Terms]: "hiv"[MeSH Terms]

Virus, Lymphadenopathy-Associated[MeSH Terms]: "hiv"[MeSH Terms]

Immunodeficiency Virus, Human[MeSH Terms]: "hiv"[MeSH Terms]

Human T-Cell Lymphotropic Virus Type III[MeSH Terms]: "hiv"[MeSH Terms]

AIDS Virus[MeSH Terms]: "hiv-1"[MeSH Terms] OR "hiv"[MeSH Terms]

Human T-Lymphotropic Virus Type III[MeSH Terms]: "hiv"[MeSH Terms]

Human T-Cell Leukemia Virus Type III[MeSH Terms]: "hiv"[MeSH Terms]

Viruses, AIDS[MeSH Terms]: "hiv"[MeSH Terms]

Human Immunodeficiency Viruses[MeSH Terms]: "hiv"[MeSH Terms]

Human Immunodeficiency Virus[MeSH Terms]: "hiv"[MeSH Terms]

Human T Cell Lymphotropic Virus Type III[MeSH Terms]: "hiv"[MeSH Terms]

Lymphadenopathy Associated Virus[MeSH Terms]: "hiv"[MeSH Terms]

Virus, Human Immunodeficiency[MeSH Terms]: "hiv"[MeSH Terms]

Immunodeficiency Viruses, Human[MeSH Terms]: "hiv"[MeSH Terms]

Lymphadenopathy-Associated Virus[MeSH Terms]: "hiv"[MeSH Terms]

Human T Cell Leukemia Virus Type III[MeSH Terms]: "hiv"[MeSH Terms]

Acquired Immunodeficiency Syndrome Virus[MeSH Terms]: "hiv"[MeSH Terms]

Viruses, Lymphadenopathy-Associated[MeSH Terms]: "hiv"[MeSH Terms]

Viruses, Human Immunodeficiency[MeSH Terms]: "hiv"[MeSH Terms]

LAV-HTLV-III[MeSH Terms]: "hiv"[MeSH Terms]

HTLV-III[MeSH Terms]: "hiv"[MeSH Terms]

Lymphadenopathy-Associated Viruses[MeSH Terms]: "hiv"[MeSH Terms]

Virus, AIDS[MeSH Terms]: "hiv"[MeSH Terms]

AIDS Viruses[MeSH Terms]: "hiv"[MeSH Terms]

Acquired Immune Deficiency Syndrome Virus[MeSH Terms]: "hiv"[MeSH Terms]

Human T Lymphotropic Virus Type III[MeSH Terms]: "hiv"[MeSH Terms]

Nigeria: "nigeria"[MeSH Terms] OR "nigeria"[All Fields] OR "nigeria's"[All Fields]

Federal Republic of Nigeria[MeSH Terms]: "nigeria"[MeSH Terms]

3.7 Study Selection Process

All search records were uploaded unto RAYYAN and checked for duplication. After removing duplicates, the remaining records were screened for titles and abstract using a set of inclusion criteria developed using the PICOTS framework –PICOTS framework (Population, Intervention, Comparators, Outcomes, Time, Studies)[1].

Firstly, title and abstract screening was carried out using the inclusion criteria, followed by a review of the remaining full-text publications using both the inclusion and exclusion criteria. Two independent reviewers screened the titles, abstracts, and full texts of articles identified by the search strategy.

All of the full-text articles were filtered and screened based on pre-defined inclusion and exclusion criteria in RAYYAN. Eligible studies were those that evaluated the impact of social support among people living with HIV in Nigeria.

Excluded articles were labelled with the reason for exclusion, while included articles were labelled by relevant categories according to the purpose and domain of the study. Following the completion of the full-text screening, articles with identical authors were reviewed to ensure that all studies present unique data without duplication.

3.8 Data Extraction

A narrative synthesis was conducted to summarize the findings of eligible studies. The following data was extracted: study design, age range, mean age, gender distribution, sample size,

demographic characteristics of the study population, type of social support assessed, mental health outcomes assessed, and results.

Population	People living with HIV/AIDS in Nigeria
Intervention	Social support interventions
Comparators	Usual care, no intervention, or different type of social support intervention
Outcomes	Mental health outcomes
Time	January 2000 to December 2022
Studies	Observational, Cohort, Cross-Sectional

Table 1.1: Eligibility Criteria using PICOTS (Population, Intervention, Comparisons, Outcomes, Time, Studies)

3.9 Research Outcomes

The primary outcome of the study is the impact of social support on the mental health of individuals living with HIV/AIDS. This was assessed through various measures of mental health outcomes, including depression, anxiety, quality of life, and other relevant measures.

The secondary outcomes of the study include:

1. The identification of different types of social support (e.g., emotional, informational, tangible) that are most strongly associated with positive mental health outcomes in individuals living with HIV/AIDS.

2. The evaluation of the effectiveness of different strategies for providing social support to individuals living with HIV/AIDS to improve mental health outcomes.
3. The investigation of the role of demographic and cultural factors (e.g., age, gender, ethnicity, sexual orientation) in moderating the relationship between social support and mental health outcomes in individuals living with HIV/AIDS.
4. The examination of the impact of HIV-related stigma and discrimination on the availability and effectiveness of social support for individuals living with HIV/AIDS, and the identification of potential interventions to address these barriers.

Endnotes

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Chapter Four

Results and Discussions of Findings

4.0 Description of Studies

The full search summary is presented in the Transparent Reporting of Systematic Reviews and Meta-analyses (PRISMA) flow diagram shown in Figure 4.1. A total of 953 records were retrieved through the electronic searches, of which 948 were from electronic published databases, 5 from grey literature, hand searches and conference proceedings. After removal of duplicates, 928 records remained for eligibility screening based on title and abstract.

After removing 25 duplicate records, 928 remained from which 893 were excluded based on title and abstract. The full-text records of 3 studies couldn't be retrieved, and the remaining 32 studies were obtained for detailed evaluation by full-text screening. Finally, 4 studies met with our inclusion criteria. Only studies which showed clear methodology were included. Figure 1 shows the PRISMA flow diagram for the search results.

4.1 Description of Included Studies

After applying the screening criteria, 4 studies were eligible for inclusion in this review (Fig 4.1). The impact of social support on mental health of individuals living HIV category had 4 studies, the category reporting studies that included depression as a mental health outcome had 4 studies included while studies reporting psychosocial illnesses, stigmatization and anxiety were 1, 1 and 2 respectively.

Study designs were all cross-sectional.

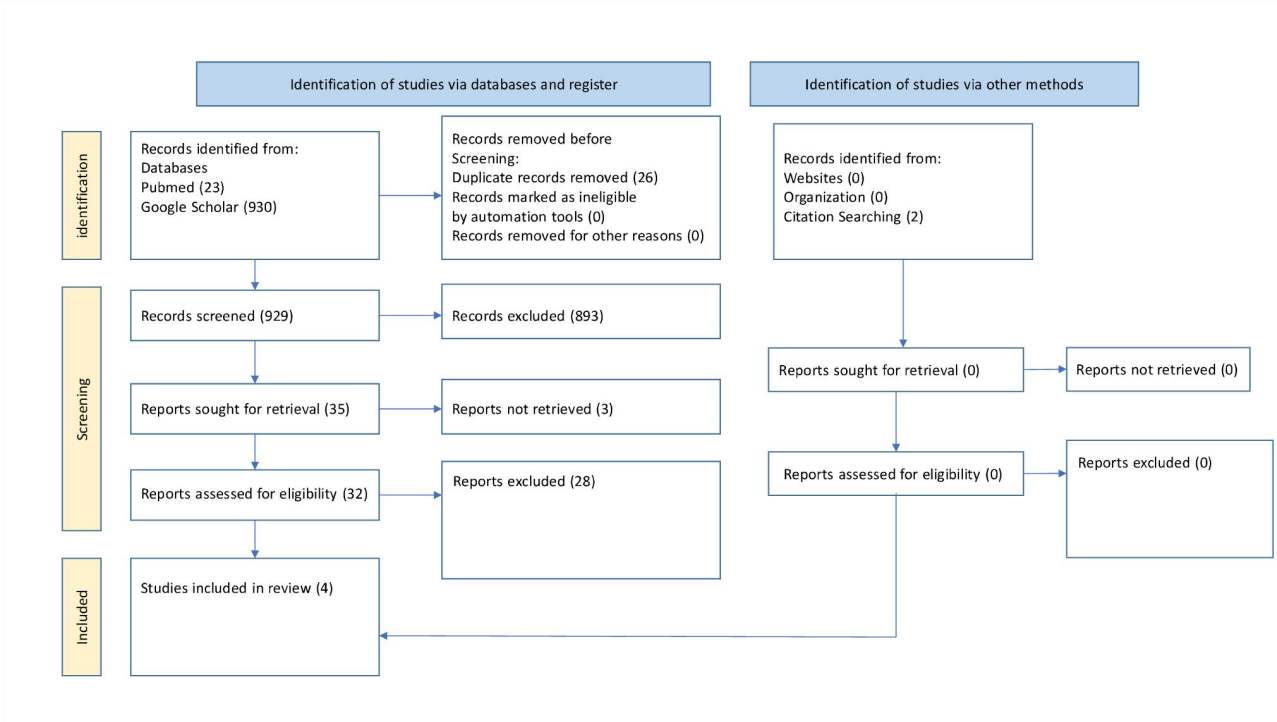

Figure 4.1: The PRISMA flow diagram for the search results.
Source: *Field Survey 2023*

S/N	Reference	Year	Title	Sample Size	Study Location	Study Design
1	Ndu et al., 2011	2011	Prevalence of depression and role of support groups in its management: A study of adult HIV/AIDS patients attending HIV/AIDS Clinic in a tertiary health facility in South-eastern Nigeria	122	Nigeria	Cross sectional study
2	Amos Abimbola Oladunni, et al., 2020	2020	Psychosocial factors of stigma and relationship to healthcare services among adolescents living with HIV/AIDS in Kano state, Nigeria	108	Nigeria	Cross-sectional survey
3	Adeoti et al., 2018	2018	Prevalence of Depression and Anxiety Disorders in People Living with HIV/AIDS in a Tertiary Hospital in South Western Nigeria	424	Nigeria	Cross-sectional survey
4	Sale and Gadanya.,	2009	Prevalence and factors associated	162	Nigeria	Cross sectional study

2009		with depression in HIV/AIDS patients aged 15–25 years at Aminu Kano Teaching Hospital, Nigeria

Table 4.1: Summary of Studies

Source: *Field Survey, 2023*

4.3 Characteristics of Included Studies

The included studies took place in Nigeria. All studies consented to participants and had ethics approval from governing bodies.

A total of 816 individuals participated in the included studies altogether. Based on the classification of geographic zones of the included studies, there were 292 (35.8%) male participants and 524 (64.2%) female participants included in this review. The age range of the included study participants ranged from 18-60. The 4 studies included in this scoping review were disseminated between 2009 and 2020.

Techniques

From the eligible articles, the specific dimension of social support accessed were depression, stigmatization, psychosocial illnesses, and anxiety. The study instruments used were semi-structured interviewer-administered questionnaire, Estimation of depression among the participants was done using the Hospital Anxiety and Depression Scale (HADS).

All four studies underscore the high prevalence of depression among individuals living with HIV/AIDS in Nigeria, emphasizing the urgent need for mental health support.

The role of social support, particularly through support groups, is recognized as a potential mitigating factor for depression, though results in Study 1 were inconclusive. Stigma consistently emerges as a significant psychosocial factor negatively affecting mental health outcomes, highlighting the importance of reducing stigma to improve mental well-being.

Integration of mental health care into HIV/AIDS programs is recommended in all studies to provide comprehensive care that addresses both physical and psychological needs.

The four reviewed studies conducted in various regions of Nigeria collectively shed light on the significant role of social support in influencing the mental health outcomes of individuals living with HIV/AIDS in the country.

Here are the key findings related to this crucial theme:

1. Prevalence of Depression and Role of Support Groups:

In the study conducted in South-eastern Nigeria, it was found that social support played a vital role in managing depression among adult HIV/AIDS patients. Individuals who were part of support groups exhibited better mental health outcomes.

This underscores the importance of peer support and group therapy as integral components of HIV/AIDS care in Nigeria, providing emotional and psychological support to mitigate depression.

2. Psychosocial Factors of Stigma and Relationship to Healthcare Services:

Stigma emerged as a significant psychosocial factor affecting adolescents living with HIV/AIDS in Kano state. Adolescents faced various forms of stigma, including discrimination and social isolation.

Stigmatization acted as a significant barrier to accessing healthcare services, including mental health support. This highlights the detrimental effect of social stigma on mental well-being and the importance of supportive environments.

3. Prevalence of Depression and Anxiety Disorders in South Western Nigeria:

This study conducted in South Western Nigeria identified a substantial prevalence of depression and anxiety disorders among people living with HIV/AIDS.

While the study did not directly assess the impact of social support, the high prevalence of mental health disorders emphasizes the urgency of interventions that address mental health, which may include social support initiatives.

4. Prevalence and Factors Associated with Depression in Young Patients:

In the study focused on young HIV/AIDS patients at Aminu Kano Teaching Hospital, several factors associated with depression were identified. Among them, poor social support was a notable factor.

Lack of disclosure, social isolation, and inadequate social support were linked to increased depressive symptoms among young individuals living with HIV/AIDS.

4.4 Common Threads and Implications

Across these studies, the importance of social support as a protective factor for mental health is evident. Frequency kinds of social support explored in the included studies are support groups and peer networks can provide emotional, informational, and instrumental assistance, reducing psychological distress and enhancing well-being.

Stigma consistently emerges as a major barrier to both accessing healthcare services and maintaining mental health among individuals living with HIV/AIDS. Reducing stigma is imperative to create an environment conducive to seeking support.

Integrated mental health services within HIV/AIDS care settings are crucial to address the co-occurring mental health challenges. Combining medical and psychological care can lead to better overall outcomes for patients.

The collective findings from these studies in Nigeria underscore the essential role of social support in influencing the mental health of individuals living with HIV/AIDS. Supportive networks and interventions, alongside efforts to reduce stigma and discrimination, are critical components of holistic care for this vulnerable population. Addressing the mental health needs of individuals living with HIV/AIDS in Nigeria requires a multi-pronged approach that considers social, psychological, and medical aspects of care to enhance their overall quality of life.

4.5 Discussion

A total of 4 articles were included in this review after screening systematically. This represented 0.5% of the studies generated from the search strategy.

The significance of social support in shaping mental health outcomes is well-documented across the diverse populations included in this review. However, for individuals living with HIV/AIDS (PLWHA), the impact of social support assumes a multifaceted dimension and this is in tandem with previous research[1]. Existing research has consistently highlighted the critical role of robust social support structures in ameliorating mental health challenges, underscoring its potential as a protective factor against depression and anxiety in this vulnerable group.

HIV-related stigma serves as a powerful mediator between social support and mental health outcomes for PLWHA. Previous studies have evidenced that stigma associated with HIV/AIDS intensifies feelings of social isolation and discrimination, significantly exacerbating mental health issues[2]. This study further corroborates these findings, emphasizing the imperative to address stigma as a barrier to effective social support, thereby bolstering mental health resilience among PLWHA.

The convergence of vulnerabilities—mental illness, HIV/AIDS status, and socio-economic factors—exacerbates the mental health burden faced by PLWHA. Depression prevalence among PLWHA is influenced by factors such as diminished energy levels, discrimination, and inadequate access to care[3]. This heightened vulnerability often perpetuates neglect, exploitation, and a restricted access to healthcare services, leading to a cycle of deteriorating health outcomes for this population. The compounding vulnerabilities faced by individuals living with HIV/AIDS often create a cycle of adverse health outcomes. Heightened vulnerability contributes to neglect, exploitation, and limited access to essential healthcare services, which in turn exacerbates their health challenges. The experience of stigma, discrimination, and social isolation further hampers their ability to seek and receive adequate medical care. This cycle of adversity perpetuates a deterioration of health outcomes, creating a substantial barrier to achieving improved well-being among this population[4].

Understanding the intricate interplay between social support, HIV/AIDS, and mental health has profound implications for public health interventions. Tailored strategies encompassing structural interventions and community-based support systems are imperative. Integrating mental health services within HIV/AIDS care, while simultaneously dismantling stigmatizing attitudes,

emerges as a crucial avenue to mitigate mental health disparities in PLWHA and enhance their overall well-being.

Endnotes

Chapter Five

Conclusion

5.1 Summary of Findings

The study unraveled the intricate relationship between social support, HIV/AIDS, and mental health among individuals living with the virus. It highlighted the pivotal role of robust social support structures in mitigating mental health challenges, indicating its potential as a protective factor against depression and anxiety in this vulnerable group. Moreover, the study emphasized the mediating influence of HIV-related stigma, demonstrating its significant impact on exacerbating mental health issues by intensifying feelings of social isolation and discrimination. The convergence of vulnerabilities—mental illness, HIV/AIDS status, and socio-economic factors—was shown to compound the mental health burden faced by this population, amplifying the prevalence of depression and other mental health challenges. Ultimately, these findings underscored the urgent need for tailored interventions that encompass structural changes and community-based support systems. Integrating mental health services within HIV/AIDS care, alongside destigmatization efforts, emerged as crucial strategies to alleviate mental health disparities and enhance the overall well-being of individuals living with HIV/AIDS.

5.2 Conclusion

In conclusion, the systematic review provides a comprehensive understanding of the complex interplay between social support, HIV/AIDS, and mental health. The findings consistently emphasize the pivotal role of robust social support structures in mitigating mental health challenges among individuals living with HIV/AIDS. Additionally, the review underscores the mediating influence of HIV-related stigma, which significantly exacerbates mental health issues by intensifying social isolation and discrimination.

The convergence of vulnerabilities—mental illness, HIV/AIDS status, and socio-economic factors—amplifies the mental health burden faced by this population, heightening the prevalence of depression and other mental health challenges. This highlights the urgency for tailored interventions that encompass structural changes and community-based support systems.

The integration of mental health services within HIV/AIDS care, coupled with de-stigmatization efforts, emerges as a critical avenue to alleviate mental health disparities and enhance the overall well-being of individuals living with HIV/AIDS. The review emphasizes the pressing need for comprehensive strategies that address the multifaceted vulnerabilities faced by this population, ultimately aiming to improve mental health resilience and health outcomes.

5.3 Recommendations

The study underscores several key recommendations to address the complex interplay between social support, HIV/AIDS, and mental health.

1. **Strengthen and Expand Social Support Networks:**

Develop tailored interventions focused on fostering supportive environments, such as peer support groups and community-based initiatives, to mitigate social isolation and enhance mental health resilience among individuals living with HIV/AIDS.

2. **Address HIV-Related Stigma**

Prioritize de-stigmatization campaigns and educational programs aimed at altering societal attitudes and perceptions surrounding HIV/AIDS. Promote inclusivity and reduce discrimination to create an environment conducive to seeking support and improving mental health outcomes among PLWHA.

3. **Integrate Mental Health Services into HIV/AIDS Care**

Implement comprehensive healthcare interventions that integrate mental health screening, counseling, and support within existing HIV/AIDS programs. Early intervention and holistic care provision are crucial for addressing mental health challenges and preventing exacerbation among PLWHA.

4. **Address Structural Determinants**

Advocate for policies that ensure equitable access to healthcare services, address socio-economic disparities, and promote social inclusion among individuals living with HIV/AIDS. Addressing broader structural determinants can alleviate vulnerabilities and improve overall health outcomes in this population.

5.4 Contribution to Knowledge

This study significantly contributes to the understanding of the intricate relationship between social support, HIV/AIDS, and mental health. It enhances existing knowledge by elucidating the multifaceted impact of social support on mental health outcomes among individuals living with HIV/AIDS. The study underscores the mediating role of HIV-related stigma, shedding light on how stigma intensifies mental health challenges by exacerbating social isolation and discrimination.

Furthermore, the study emphasizes the intersectionality of vulnerabilities—mental illness, HIV/AIDS status, and socio-economic factors—highlighting the compounded mental health burden faced by this population. This comprehensive understanding of intersecting vulnerabilities expands the depth of knowledge and underscores the urgency of tailored interventions to address these complexities.

Additionally, the study's recommendations offer actionable strategies for healthcare practitioners, policymakers, and researchers. These recommendations provide a roadmap for developing targeted interventions, integrating mental health services within HIV/AIDS care, addressing stigma, and advocating for structural changes to improve the overall well-being of individuals living with HIV/AIDS.

Ultimately, the study's contribution lies in its holistic approach to understanding the multifaceted challenges faced by PLWHA, emphasizing the need for comprehensive and inclusive strategies to promote mental health resilience and enhance overall quality of life in this population.

5.5 Suggestions for Further Research

It is suggested that further studies in the field can be done:

1. More longitudinal studies can be carried out to track the long-term impact of social support interventions on mental health outcomes among individuals living with HIV/AIDS. This could provide insights into the sustained effects of support networks and the trajectories of mental health over time.

2. To explore the cultural nuances and variations in the impact of social support on mental health outcomes among diverse populations affected by HIV/AIDS. Investigate how cultural factors influence the effectiveness of support structures in different communities.

3. To evaluate the efficacy of specific social support interventions using randomized controlled trials, such as peer support groups or community-based programs, in improving mental health outcomes among PLWHA. This could provide evidence-based strategies for effective interventions.

4. Utilize qualitative research methods to delve deeper into the lived experiences of PLWHA concerning social support, stigma, and mental health. Qualitative studies can offer rich insights into individual perspectives, perceptions, and the complexities of their support-seeking behaviors.

5. Investigate the impact of broader structural interventions, such as policy changes aimed at reducing socio-economic disparities and promoting inclusivity, on mental health outcomes among PLWHA. Understanding the effects of structural changes is vital in addressing root causes of vulnerabilities.

6. Explore the efficacy of technology-based interventions, such as telemedicine or mobile health applications, in providing social support and improving mental health outcomes for individuals living with HIV/AIDS, especially in remote or underserved areas.

7. Further research on how the intersectionality of vulnerabilities—mental health, HIV/AIDS status, gender, sexual orientation, and socio-economic factors—affects mental health outcomes. Understanding these intersections can help tailor interventions to specific needs.

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Systematic review

A list of fields that can be edited in an update can be found here

1. * Review title.

Give the title of the review in English

Impact of Social Support on the Mental Health of Individuals Living with HIV/AIDS: A systematic review and

Meta-Analysis

2. Original language title.

For reviews in languages other than English, give the title in the original language. This will be displayed with the English language title.

English Language

3. * Anticipated or actual start date.

Give the date the systematic review started or is expected to start.

01/06/2023

4. * Anticipated completion date.

Give the date by which the review is expected to be completed.

01/09/2023

5. * Stage of review at time of this submission.

This field uses answers to initial screening questions. It cannot be edited until after registration.

Tick the boxes to show which review tasks have been started and which have been completed.

Update this field each time any amendments are made to a published record.

The review has not yet started: Yes

Review stage	Started	Completed
Preliminary searches	No	No
Piloting of the study selection process	No	No
Formal screening of search results against eligibility criteria	No	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Provide any other relevant information about the stage of the review here.

6. * Named contact.

The named contact is the guarantor for the accuracy of the information in the register record. This may be any member of the review team.

Ifeoluwa Adewole

Email salutation (e.g. "Dr Smith" or "Joanne") for correspondence:

Miss Adewole

7. * Named contact email.

Give the electronic email address of the named contact.

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Give the full institutional/organisational postal address for the named contact.

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9. Named contact phone number.

Give the telephone number for the named contact, including international dialling code.

+2349092414921

10. * Organisational affiliation of the review.

Full title of the organisational affiliations for this review and website address if available. This field may be

completed as 'None' if the review is not affiliated to any organisation.

Lead City University

Organisation web address:

11. * Review team members and their organisational affiliations.

Give the personal details and the organisational affiliations of each member of the review team. Affiliation refers to groups or organisations to which review team members belong. **NOTE: email and country now MUST be entered for each person, unless you are amending a published record.**

Miss Ifeoluwa Adewole. Lead City University

Mr Kolawole Tunmise. Lead City University, Ibadan, Nigeria
Miss Olunike Abodunrin. Lead City University, Ibadan, Nigeria
Folahanmi Akinsolu. Lead City University, Ibadan, Nigeria

Professor Oliver Ezechi. National Institute of Medical Research, Lagos, Nigeria

12. * Funding sources/sponsors.

Details of the individuals, organizations, groups, companies or other legal entities who have funded or sponsored the review.

Self-funded

Grant number(s)

State the funder, grant or award number and the date of award

13. * Conflicts of interest.

List actual or perceived conflicts of interest (financial or academic).

None

14. Collaborators.

Give the name and affiliation of any individuals or organisations who are working on the review but who are not listed as review team members. **NOTE: email and country must be completed for each person, unless you are amending a published record.**

15. * Review question.

State the review question(s) clearly and precisely. It may be appropriate to break very broad questions down into a series of related more specific questions. Questions may be framed or refined using PI(E)COS or similar where relevant.

1. What is the relationship between social support and mental health outcomes in individuals living with HIV/AIDS?

2. How do different types of social support (e.g., emotional, informational, tangible) impact mental health outcomes in individuals living with HIV/AIDS?

3. What are the most effective strategies for providing social support to individuals living with HIV/AIDS to improve mental health outcomes?

4. Are there any demographic or cultural factors that influence the relationship between social support and mental health outcomes in individuals living with HIV/AIDS?

5. How do HIV-related stigma and discrimination affect the availability and effectiveness of social support for individuals living with HIV/AIDS?

16. * Searches.

State the sources that will be searched (e.g. Medline). Give the search dates, and any restrictions (e.g. language or publication date). Do NOT enter the full search strategy (it may be provided as a link or attachment below.)

Bibliographic databases (MEDLINE, EMBASE, Other database sources include The Cochrane Library, Web of Science, Scopus database, and Google Scholar, PubMed reference lists of eligible studies and review articles, conference proceedings, reports on websites of governmental agencies and international organizations, and contact with study investigators and experts, unpublished studies will be sought

Search dates: 1990 to 2022

Restrictions on the search: Publications in English.

17. URL to search strategy.

Upload a file with your search strategy, or an example of a search strategy for a specific database, (including

the keywords) in pdf or word format. In doing so you are consenting to the file being made publicly accessible. Or provide a URL or link to the strategy. Do NOT provide links to your search **results**.

Alternatively, upload your search strategy to CRD in pdf format. Please note that by doing so you are consenting to the file being made publicly accessible.

Do not make this file publicly available until the review is complete

18. * Condition or domain being studied.

Give a short description of the disease, condition or healthcare domain being studied in your systematic review.

Despite significant progress in the prevention and treatment of HIV/AIDS, the disease continues to be a major global health challenge, particularly in low- and middle-income countries. Individuals living with HIV/AIDS often face significant challenges related to stigma and discrimination, which can negatively impact their mental health and well-being.

Research has shown that social support can have a positive impact on mental health outcomes, including in individuals living with HIV/AIDS. However, the specific types of social support that are most effective, as well as the cultural and demographic factors that may influence the effectiveness of social support interventions are not well understood.

By identifying the most effective types of social support interventions, as well as the factors that may

influence their effectiveness, the study can contribute to the development of more effective and targeted interventions.

19. * Participants/population.

Specify the participants or populations being studied in the review. The preferred format includes details of both inclusion and exclusion criteria.

Inclusion criteria: Full articles on studies carried out on women living with HIV/AIDS in Nigeria.

Exclusion criteria: Studies will be excluded if the participants are men of any age. Protocols, reviews, editorial letters, commentaries, and other studies without primary data will also be excluded.

20. * Intervention(s), exposure(s).

Give full and clear descriptions or definitions of the interventions or the exposures to be reviewed. The preferred format includes details of both inclusion and exclusion criteria.

Social support interventions

21. * Comparator(s)/control.

Where relevant, give details of the alternatives against which the intervention/exposure will be compared (e.g. another intervention or a non-exposed control group). The preferred format includes details of both inclusion and exclusion criteria.

Comparison group (e.g., usual care, no intervention, or different type of social support intervention

22. * Types of study to be included.

Give details of the study designs (e.g. RCT) that are eligible for inclusion in the review. The preferred format includes both inclusion and exclusion criteria. If there are no restrictions on the types of study, this should be stated.

Inclusion criteria: All types of observational studies that assess the impact of social support on mental health outcomes of women living with HIV in Nigeria and are published in English.

Exclusion criteria: Studies that do not report the impact of social support on mental health outcomes of women living with HIV in Nigeria or provide data to help in this calculation will be excluded. Duplicate reports based on the same sample will also be excluded as well as observational, case-control studies and clinical trials. Studies based on clinic-based studies will be excluded. Review articles, letters to the editor and short communication will also be excluded as well as studies published before 1990 and those not in English.

23. Context.

Give summary details of the setting or other relevant characteristics, which help define the inclusion or exclusion criteria.

Observational studies estimating the impact of social support on the mental health of women living with HIV in Nigeria.

24. * Main outcome(s).

Give the pre-specified main (most important) outcomes of the review, including details of how the outcome is defined and measured and when these measurement are made, if these are part of the review inclusion criteria.

The impact of social support on the mental health of individuals living with HIV/AIDS.

This may be assessed through various measures of mental health outcomes, including depression, anxiety, quality of life, and other relevant measures.

Measures of effect

Please specify the effect measure(s) for you main outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

2. Anxiety

3. Quality of life

25. * Additional outcome(s).

List the pre-specified additional outcomes of the review, with a similar level of detail to that required for main outcomes. Where there are no additional outcomes please state 'None' or 'Not applicable' as appropriate to the review

1. The identification of different types of social support (e.g., emotional, informational, tangible) that are most strongly associated with positive mental health outcomes in individuals living with HIV/AIDS.

2. The evaluation of the effectiveness of different strategies for providing social support to individuals living with HIV/AIDS to improve mental health outcomes.

3. The investigation of the role of demographic and cultural factors (e.g., age, gender, ethnicity, sexual orientation) in moderating the relationship between social support and mental health outcomes in individuals living with HIV/AIDS.

4. The examination of the impact of HIV-related stigma and discrimination on the availability and effectiveness of social support for individuals living with HIV/AIDS, and the identification of potential interventions to address these barriers.

Measures of effect

Please specify the effect measure(s) for you additional outcome(s) e.g. relative risks, odds ratios, risk difference, and/or 'number needed to treat.

26. * Data extraction (selection and coding).

Describe how studies will be selected for inclusion. State what data will be extracted or obtained. State how this will be done and recorded.

The available articles and documents will be imported into Endnote v7 and checked="checked" value="1" for duplicates. Duplicates will be removed.

Records will be independently assessed by two independent investigators and their titles and abstracts will be screened by two investigators to assess their eligibility. Full texts of articles deemed potentially eligible will be acquired. The full text of each study will then be assessed independently for eligibility by two investigators. Studies will be consensually retained to be included by two investigators. Disagreement will be solved by a third investigator.

The data extraction form will be prepared in a Microsoft Excel sheet. Using a pretested data extraction form, two review authors will independently extract relevant information, including first author, year of publication and period of participants' recruitment, region of recruitment, area, study design, sample size, demographic characteristics of the study population, type of social support assessed, mental health outcomes assessed, and results

27. * Risk of bias (quality) assessment.

State which characteristics of the studies will be assessed and/or any formal risk of bias/quality assessment tools that will be used.

The quality of eligible studies will be assessed using the Cochrane Risk of Bias tool for randomized controlled trials and the ROBINS-I tool for non-randomized studies. Any disagreements or ambiguities will be

resolved through discussion.

28. * Strategy for data synthesis.

Describe the methods you plan to use to synthesise data. This **must not be generic text** but should be **specific to your review** and describe how the proposed approach will be applied to your data. If meta-analysis is planned, describe the models to be used, methods to explore statistical heterogeneity, and software package to be used.

A narrative synthesis will be conducted to summarize the findings of eligible studies. If feasible, a meta-analysis will be conducted to quantify the relationship between social support and mental health outcomes.

29. * Analysis of subgroups or subsets.

State any planned investigation of 'subgroups'. Be clear and specific about which type of study or participant will be included in each group or covariate investigated. State the planned analytic approach.

Subgroup analyses will be conducted to investigate the impact of demographic and cultural factors on the relationship between social support and mental health outcomes.

30. * Type and method of review.

Select the type of review, review method and health area from the lists below.

Type of review

Cost effectiveness

No

Diagnostic

No

Epidemiologic

No

Individual patient data (IPD) meta-analysis

No

Intervention

No

Living systematic review

No

Meta-analysis

Yes

Methodology

No

Narrative synthesis

No

Network meta-analysis

No

Pre-clinical

No

Prevention

No

Prognostic

No

Prospective meta-analysis (PMA)

No

Review of reviews
No

Service delivery
No

Synthesis of qualitative studies
No

Systematic review
Yes

Other
No

Health area of the review

Alcohol/substance misuse/abuse
No

Blood and immune system
No

Cancer
No

Cardiovascular
No

Care of the elderly
No

Child health
No

Complementary therapies
No

COVID-19
No

Crime and justice
No

Dental
No

Digestive system
No

Ear, nose and throat

No

Education
No

Endocrine and metabolic disorders
No

Eye disorders
No

General interest
No

Genetics
No

Health inequalities/health equity
No

Infections and infestations
No

International development
No

Mental health and behavioural conditions
Yes

Musculoskeletal
No

Neurological
No

Nursing
No

Obstetrics and gynaecology
No

Oral health

No

Palliative care

No

Perioperative care

No

Physiotherapy

No

Pregnancy and childbirth

No

Public health (including social determinants of health)
Yes

Rehabilitation
No

Respiratory disorders
No

Service delivery
No

Skin disorders
No

Social care
Yes

Surgery
No

Tropical Medicine
No

Urological
No

Wounds, injuries and accidents
No

Violence and abuse
No

31. Language.

Select each language individually to add it to the list below, use the bin icon to remove any added in error.
English

There is not an English language summary

32. * Country.

Select the country in which the review is being carried out. For multi-national collaborations select all the countries involved.

Nigeria

33. Other registration details.

Name any other organisation where the systematic review title or protocol is registered (e.g. Campbell, or The Joanna Briggs Institute) together with any unique identification number assigned by them. If extracted

data will be stored and made available through a repository such as the Systematic Review Data Repository (SRDR), details and a link should be included here. If none, leave blank.

34. Reference and/or URL for published protocol.

If the protocol for this review is published provide details (authors, title and journal details, preferably in Vancouver format)

Add web link to the published protocol.

Or, upload your published protocol here in pdf format. Note that the upload will be publicly accessible.

No I do not make this file publicly available until the review is complete

Please note that the information required in the PROSPERO registration form must be completed in full even if access to a protocol is given.

35. Dissemination plans.

Do you intend to publish the review on completion?

Yes

Give brief details of plans for communicating review findings.?

36. Keywords.

Give words or phrases that best describe the review. Separate keywords with a semicolon or new line. Keywords help PROSPERO users find your review (keywords do not appear in the public record but are included in searches). Be as specific and precise as possible. Avoid acronyms and abbreviations unless these are in wide use.

HIV/AIDS, Social Support, mental health, anxiety, quality of life, depression, interventions, people, Nigeria

37. Details of any existing review of the same topic by the same authors.

If you are registering an update of an existing review give details of the earlier versions and include a full bibliographic reference, if available.

38. * Current review status.

Update review status when the review is completed and when it is published.New registrations must be ongoing so this field is not editable for initial submission.

Please provide anticipated publication date

Review_Ongoing

39. Any additional information.

Provide any other information relevant to the registration of this review.

40. Details of final report/publication(s) or preprints if available.

Leave empty until publication details are available OR you have a link to a preprint (NOTE: this field is not editable for initial submission). List authors, title and journal details preferably in Vancouver format.

Give the link to the published review or preprint.

Biodata

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Primary Health Care Tutors Course, University College Hospital, Ibadan. Diploma in Education

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C. Work Experience with Dates

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2019 till date

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Accounting System in Primary Health Care

Professional Ethics

Geography

Non-Communicable diseases

2. Community Health Officers'Training Programme, UCH Ibadan. 2021

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   Courses handled; Non-Communicable diseases

   Medical Sociology

   Human Nutrition, Clinical Skills

3. State Primary Health Care Board/ Egbeda Local Government Health Authority

Alakia /Olode ward model PHC (2017-till date)

Oremeji Primary Healthcare Center (2013-2017)

Services Provided

Antenatal and Postnatal care services

Immunization/ Infant Welfare Clinic and Family Planning services

Diagnosis and Treatment/ Management of health care cases

Psychotherapy/ Psychosocial support for clients/ Guidance and Counseling

2-Way referral system initiation and maintenance for clients/ patients that requires further or specialized health care services.

4. Ibadan South East Local Government Health Authority (2005-2013)

Molete Primary Healthcare Center

Felele PHC

Odinjo PHC

Boluwaji Comprehensive Primary Healthcare Centre.

Services Rendered;

Officer in charge of the Outpatient Department

Antenatal and Postnatal care

Surgery Assistant to the Medical officer of health (MOH)

Immunization and Outreach Services

Guidance and Counseling Services

HIV/AIDS Pre Test and Post Test Counseling and Testing/ Appropriate Referral for initiation of management.

Extra-Curricular Activities:

Acting , Traveling, Reading

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_____ _____

Signature Date

The University Compliance Certification

This is to certify that this thesis by Tunmise Daramola, KOLAWOLE with Matric No. LCU/PG/002818 in the Department of Public Health, Faculty of Basic Medical and Health Sciences, Lead City University, Ibadan is in full compliance with the approved University format.

_____ _____

Signature Date

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