

**THE PREVALENCE OF SUICIDAL IDEATION AND ITS
PSYCHOLOGICAL DETERMINANTS AMONG PEOPLE LIVING WITH
HIV AND AIDS ATTENDING ART CLINIC AT ADULT CENTRE OF
EXCELLENCE UNIVERSITY TEACHING HOSPITAL LUSAKA**

BY

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**A dissertation submitted to the University of Zambia in partial fulfilment of the
requirements of the degree of Master of Science in Clinical Neuropsychology**

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CERTIFICATE OF APPROVAL

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ABSTRACT

Suicidal ideation has long been associated with HIV infected populations worldwide. It has been found that HIV does not only attack the immune system of an individual but also the nervous system leading to psychological dysfunction of an individual. The objectives of the study were: to establish the occurrence of suicidal ideation among people living with HIV and AIDS; and to identify the major determinants of suicidal ideation among people living with HIV and AIDS. A cross sectional quantitative design was adopted. Systematic random sampling method was used to select the sample size. The total sample comprised of 280 participants. A social demographic questionnaire, Beck Depression Inventory (BDI) and Suicidal Risk Screening Scale (SRSS) were used to collect data. The study findings from the SRSS test revealed that (n=193, 69%) of the participants had lower suicide risk while (n=87, 31%) fell into the higher suicide risk category. One of the major determinants revealed from the study was depression from the BDI instrument.

The findings from the BDI test showed that (n=25, 9%) of the participants were normal (n=137, 49%) fell into the ups and down category which is considered normal (n=48, 17%) fell into the mild mood disturbance, borderline clinical depression (n=20, 7%), moderate depression (n=34, 12%), severe depression (n=14, 5%) and extreme depression (n=3, 1%). Cumulatively, the BDI scores of 17 and above indicates that such participants may need clinical treatment and further psychological management. The study also showed that participants that fell into moderate, severe depression and extreme depression amounted to a total of (n=51, 18.2%). When the borderline category was included, the figure came to (n=71, 25.4%). The correlation coefficient between the BDI results and the SRSS results were 0.714, indicating a strong positive relationship between the BDI results and the SRSS results. The education level showed a very weak negative correlation between SRSS at -0.196 and with BDI at -0.163. Gender showed a very weak positive correlation with BDI at 0.213 all were significant at 0.01 confidence level. The rest of the determinants such as age at -0.104, employment -0.106, marital status -0.106, income -0.059, length of status -0.063 were not significant.

The study showed that psychological tests should be used routinely to screen for depression and suicidal ideation when dealing with HIV positive patients by health professionals at baseline level to avoid unnecessary loss of lives.

Key words: suicidal ideation, depression and Human Immunodeficiency Virus and psychological dysfunction.

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ABBREVIATIONS

HIV	Human Immunodeficiency Virus
AIDS	Acquired immunodeficiency syndrome
CDCP	Centre for Disease Control Prevention
UNAIDS	United Nations Programmes for AIDS
WHO	World Health Organisations
PLWHA	People Living with HIV/AIDS
CBT	Cognitive Behavioural Therapy
ART	Antiretroviral Therapy
CTC	Counselling Testing and Care

CHAPTER ONE

INTRODUCTION

1.1. Background

Human Immunodeficiency Virus (HIV) was first reported in 1981 and has since become a major worldwide epidemic. HIV attacks the immune system of the body and causes the Acquired Immune Deficiency Syndrome (AIDS) (Chiboola, 2003). When an individual has HIV the body becomes susceptible to diseases since the immune system has been reduced and can neither fight infections nor protect the person from diseases. This condition tends to trigger different psychological challenges among the people who are infected.

Sub-Saharan Africa has one of the highest global prevalence rates of HIV and AIDS. There are an estimated 24.7 million (23.5–26.1 million) People Living With HIV and AIDS (PLWHA) in sub-Saharan Africa, (UNAIDS, 2014). The infection is more prevalent in Africa among developing countries and South Africa is considered to be one of the world's worst affected by HIV and AIDS and about 5.7 million people are affected and one in three pregnant women are living with HIV and AIDS (Schlebush and Vawda, 2010).

Zambia being a developing country has not been spared from prevalence of HIV. As such, adult HIV prevalence was 14.3% in 2007 (Zambia Demographic Health Survey, 2009) and is still high at 12.5% (UNAIDS, 2014). Furthermore, the knowledge of HIV status has major implications for individuals who are positive with the infection. These include the need to change sexual behaviour, accessing treatment and social support. It also involves dealing with certain negative and unexpected outcomes after acquiring HIV infection, such as social stigma. It also comes with more life time affective disorders, such as depression, anxiety, bereavement reactions, and substance abuse and as the severity of symptoms increase it can stimulate psychiatric disorders (Schlebush, 2005).

Suicidal ideation is an important issue in the domain of public health worldwide. It is a complex clinical issue associated with life threatening conditions such as HIV infection. The category of suicidal thoughts or ideation can range from passive

thoughts of death to active suicidal ideation with a plan and intent to take personal life (Kaplan et al., 2009). Hence, an individual may experience psychological stressors so much that it can impair normal functioning of the brain. The World Health Organisation (WHO) reported that in 2000, more than 800,000 individuals died of suicide around the world (WHO, 2002). The consideration of existence of suicidal ideation in HIV and AIDS individuals is important not only because it would help us to understand as well as predict future behaviours of afflicted individuals as regards suicidal ideation but that it has also been associated with poor quality of life, poor adherence with antiretroviral therapy (ART) and non-disclosure of HIV status to partners as well as friends (Lonnqvist, 2001 and Sher et al., 2008).

Sher, (2004) stated that Since 1990, 271 or nearly 2% of approximately 14,000 people living with HIV who had died in the United Kingdom had taken their own lives, and the proportion of deaths due to suicide has increased in the period since effective HIV treatment became available. It is generally believed that non-adherence to treatment is an expression of suicidal thoughts. The evidence from literature reveals that those who make suicidal attempts have seriously thought doing so earlier.

A study conducted in South Africa among PLWHA revealed that 24% who were tested had suicidal ideation (Govender and Schlebusch, 2013). In South Africa, many suicides and attempted suicides go unreported, but available statistics are alarming, with prevalence rate of between 17–25 per 100,000 of the population and an attempted suicide ratio of about 1:20 (Schlebusch and Burrows, 2009). Suicide accounts for about 9.5% of non-natural deaths in young people and 11% in adults in the country, with the average age of suicide being 35 years and for suicide attempts 20–29 years followed by the 10–19-year age group. Consequently suicidal ideation, attempts, and completions remain alarmingly common among people living with HIV and AIDS (PLWHA), despite a recorded decline in suicide rates since the advent of Highly Active Antiretroviral Therapy (HAART) in the 1990s to levels comparable with those of other chronic disease afflicted populations (Shirey, 2013).

Zambia has not been spared from the HIV pandemic. Moreover, the neighbouring country South Africa with HIV pandemic has revealed in previous studies that there

is a prevalence of suicidal ideation in that country. However, in the case of Zambia the researcher was not able to come across any published data to show the prevalence of either suicidal ideation or attempted suicide among PLWHA. Additionally, predicting which patient with suicidal thoughts will go on to attempt suicide cannot be achieved with a high degree of certainty or specificity (Hyman, 1994). Nevertheless, the fact that primary care clinicians see a large portion of the patients who subsequently commit suicide suggests that an approach to case finding is required. This can be based on risk factors, sensitivity to high-risk situations in depressed patients, and assessment of suicidal thoughts in patients attending or receiving Antiretroviral Therapy (ART). These are interventions that can be appropriate in the primary care setting, and may go a long way in uncovering occasional patients who have suicidal thoughts and can be considered for early intervention (Sher, 2004).

1.2. Statement of the problem

Suicidal ideation is one of the public concerns among people living with HIV and AIDS. Suicidal thinking may occur among people living with HIV and AIDS, triggering harmful impacts on the quality of life, treatment adherence, disease progression (Sherr et al., 2011). The HIV and AIDS infection attacks the immune and nervous systems leading to psychological dysfunction. Prolonged conditions of HIV and AIDS subject people to suicidal ideation and attempted suicide and in some cases lives have been lost (Sherr et al., 2011) and (Shirey, 2013). Suicidal ideations are significantly common among persons living with HIV and AIDS compared to non-infected controls and have been reported in most cases to be associated with psychiatric disorder (Kelly et al. 1998). Yet the psychosocial factors contributing to these psychiatric disorders remain unreported, particularly in the developing country context and mostly, in sub-Saharan African countries (Amiya et al., 2014).

In Zambia, there has been no evidence of research publication on the prevalence of suicidal ideation and its psychological determinants among people living with HIV and AIDS. Therefore, this research sought to investigate the prevalence of suicidal ideation and its psychosocial determinants among adult people living with HIV and AIDS.

1.3. Aim

The aim of this study was to investigate the prevalence of suicidal ideation and its psychological determinants among people living with HIV and AIDS, attending ART clinic at Adult Centre of Excellence at UTH in Lusaka.

1.4. Specific Objectives

- i. To find out the prevalence of suicidal ideation among adult people living with HIV and AIDS and attending clinics at HIV Adult Centre of Excellence at UTH in Lusaka.
- ii. To identify the psychosocial determinants of suicidal ideation among adult people living with HIV and AIDS and attending clinics at Adult Centre of Excellence, UTH.

1.5. Research Question

What is the prevalence of suicidal ideation and its psychosocial determinants among adult people living with HIV and AIDS and attending Art Clinic at Adult Centre of Excellence, UTH in Lusaka?

1.6. Limitations

The researcher would have included more health centres in the study, however, finances were a limiting factor and as such the researcher was confined to the selected area, the ART clinic at Adult Centre of Excellence, University Teaching Hospital (UTH). UTH being the main referral centre, thus it captures people from over the city.

Some respondents were not willing to take part in the study as they perceived it as a bother or intrusion in their private life; hence the researcher had to establish a rapport with the participant to help them talk about sensitive issues. In addition, the researcher respected the rights and decisions of the individuals because participation in the study was voluntary based and the researcher only included participants according to the inclusion criteria. The researcher did not recruit participants who were not able to read and understand English, which was ascertained by years of education so as to avoid misunderstandings that could have brought negative effects on the outcome of the study.

CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction

High rates of suicide and accidental or violent death have also been described in HIV infected populations including in those receiving effective ART (Rice et al., 2010). The extent to which HIV infection is also associated with increased risk of suicidal ideation is not well documented. Hence, most HIV-related studies focus on suicide as an endpoint (Catalan et al., 2011). As such this has resulted in less studies focussing on the aspect of prevalence suicidal ideation. According to (Bech and Awata, 2009; Bantjies and Ommen, 2008), Suicidal thought involves a range of suicidal behaviours, which sometimes may be fatal or non-fatal.

However, there are important differences between determinants of suicidal ideation and suicide. For example, in a study of British private households, some researchers found differences in the risk pattern of suicidal thoughts compared to completed suicide (Gunnell et al., 2004). In that study the incidence of suicidal thoughts was seen to be over 200 times greater than the incidence of suicide. Therefore, from the literature given, people living with HIV and AIDS tend to be more subjected to negative thoughts which lead to poor quality of life with suicidal thoughts.

2.1.1. Neurological changes

The researchers William and Hickey, (2002), stated that the nervous system is the worst impaired system in HIV condition after the immune systems. This dysfunction has an effect on the psychological aspect of PLWHA which makes them vulnerable to self-harming. Several studies have reported that, HIV infection has an effect on neuropsychological functioning ranging from mild to severe (Heaton et al., 2004). Hence, neurological changes are some of the causes of suicidal ideation as these substrates also affect the ability to initiate action or thought and regulate mood, and they promote persistent perseveration dysfunctions (Koutsilier et al., 2002) and (Vance, 2004). These neurological changes may bring about negative thoughts towards physical appearances and psychological dysfunctions.

In addition, the prevalence of self-harm or suicidal ideation will tend to persist in the condition of repeated suicidal thinking among individuals living with HIV and AIDS. Therefore, Emotional difficulties along with the tendency for perseveration

may influence the ability to think about problems while impairing the ability to think logically. In fact, according to (Fairweather et al., 2007) adults who have a ruminative personality style are more likely to contemplate suicide. These adults are likely to become stressed up on negative issues as they go into deeper thoughts with anxiety. Consequently, more severe side effects of ART, detectable HIV viral load, and a critically low T-helper CD4 cell counts may also be related to suicidal ideation. As individuals have low CD4 cell counts, they are subjected to poor health conditions in which contracting of multiple infections cannot be prevented and suicidal ideation is likely to persist on their psychological well-being.

2.2. Suicidal Ideation and its Prevalence

Suicidal thinking may occur among individuals with HIV and AIDS, triggering profound harmful impacts on the quality of life, treatment adherence, disease progression, and mortality (Sherr et al., 2008). Hence, suicidal ideation has been commonly found in some studies as psychiatric disorders. The prevalence of suicidal ideation in another study revealed that such disorders may arise as a direct result of HIV neuro-invasion or psychosocial stressors, or due to complications of ART (Spudich and Gonzalex-Scarano, 2012 Minage et al., 2008). As such HIV has increased frequency and severity of both suicidal ideation and thoughts of death among adults. The risk of suicide is especially high for patients who are at serious points in the course of HIV infection. Suicidal ideation has been proved to be found in a study of adults living with HIV and AIDS, in which (Carrico et al., 2007) reported that those who self-rated their medication side effects and HIV related symptoms as being severe were more likely to report suicidal ideation. The prevalence of such high rates of suicidal ideation indicates that the stressors associated with HIV are severe enough to have an impact on the quality of life in this population even though a person is on ART. These high rates during all stages of HIV suggest that other factors are involved.

2.3 Prevalence of Suicidal Ideation among people living with HIV and AIDS

In a study by Lawrence et al., (2010) and Shittu et al., (2014) it was found that that the presence of suicidal ideation increases the risk of suicidal attempt and completed suicide among PLWHA. Studies also suggest that patients' risk for suicide may be greater soon after testing positive for HIV than later on, as after some time has

passed they begin to adjust to living with the infection (Dannenberg et al., 1996). However, thoughts of suicide may reduce as people adjust to their HIV positive status; though there may be resurgence in suicide risk as HIV-related disease advances, particularly with the development of AIDS-related symptoms and illnesses.

In addition, in Switzerland a study by the Swiss HIV Cohort Study demonstrated where rates of suicide decreased substantially in the ART era compared to the pre ART era but still remain well above that observed in the general population (Keisero et al., 2010). Therefore, the rates of suicide risks in HIV infected patients may be higher than in population with other chronic medical illnesses like cancer.

A study in Australia, revealed that People who experience suicidal ideation and those who make suicide plans are at increased risk of suicidal attempts, and people who experience all forms of suicidal thoughts and behaviours are at greater risk of completed suicide (Slade et al., 2009). Adult people living with HIV tend to look down on themselves and their minds contemplate death as a solution to their predicament. Furthermore, results have shown an estimated 13.3% of community dwelling adults in Australia experience suicidal ideation during their lifetime with 3.2% attempting suicide highlighting an important public health problem (John et al., 2009).

In other studies, done in India, it has been shown that Suicidal ideation is a recurrent theme seen in the HIV literature and often associated with major depression and hopelessness (Chandra et al., 2005); and (Santosh, 2004). This pinpoints the prevalence of suicidal thoughts due to psychological dysfunctions among PLWHA.

The few African studies on suicidal thoughts in HIV and AIDS have reported the following prevalence rates: 12.4 % for suicidal ideation among patients attending a specialized HIV and AIDS clinic in pre-ART Uganda; 17.1 % among adolescents living with HIV in pre-ART Uganda; 13 % for current suicidal ideation among patients attending a specialised HIV and AIDS clinic in post-ART Uganda (Kinyanda, 1998). From the evidence given in Uganda, it is obvious that

suicidal thoughts do not exclude adolescents who are in the transition to adulthood and experiencing health impairments in their life time.

In Nigeria, researchers while presenting the prevalence of suicide attempts in individuals living with HIV and AIDS, (Gali et al., 2004) revealed the prevalence of attempted self harm but did not report on the determinants of suicidal thoughts. Moreover, studies in South Africa showed that suicidal ideation was at 12% amongst adolescents and 9.1% amongst adults in the general population (Mashego and Madu, 2000). Hence, suicidal thought is found even among adolescents more especially during the transition into adulthood as they go through a lot of physiological changes and face psychological problems, the prevalence has been seen to be higher in adolescents than adults as per the previous studies in South Africa.

A study in Zimbabwe was conducted with the objective of examining the prevalence of HIV and AIDS infection in neuropsychiatric disorders, psychiatric symptoms or signs. The study demonstrated that among patients living with HIV and AIDS who were depressed, showed significant symptoms or signs such as lassitude and pessimistic suicidal thoughts (Chandiwana and Latif, 2002). Most of psychosocial dysfunctions are manifested with their clinical symptoms and behaviour which are clear determinants of suicidal ideation. Psychiatric symptoms among persons living with HIV and AIDS have been studied in Zimbabwe and have revealed the prevalence of suicidal thoughts but not among the HIV seronegative individuals.

2.4. Psychological determinants of Suicidal Ideation among people living with HIV and AIDS

As ART has introduced hope back into the community of PLWHA and despite such assurance, HIV remains a serious disease characterized by factors of stigma, personal regrets, financial worries, medical complications, disfigurement caused by ART-related loss of fat, and concerns about sexual intimacy (Vance and Robinson, 2004). The complexity of these issues places considerable strain on individuals with HIV and AIDS, often overwhelming their coping mechanisms and resources, thereby making them vulnerable to suicidal ideation. Determinants that are related to suicidal ideation and associated with aging and HIV may mean that the muscle

effects of aging with HIV affliction could place many adults at undue risk for these conditions to be at play. These psychosocial, determinants may assist in identifying PLWHA who are at greater risk of suicidal ideation and are identified in the following:

2.5. Loneliness and Suicidal Ideation among people living with HIV and AIDS

Loneliness and poor social support linked with adulthood and HIV may contribute to suicidal ideation. According to a previous study by (Shippy and Karpiak, 2005) in a sample of 160 New Yorkers with HIV who were over 50 years old, it was reported that 71% were living alone and only 47% reported being in a committed relationship. Unfortunately, the sample's major source of support came from friends who were also infected with HIV. However, the dependence on others with HIV would seem to bond people together through shared interests and experiences, 57% in the same study indicated that their emotional needs remained unfulfilled. As regards loneliness, individuals who are not married in adulthood are likely to experience personality disorder. Therefore, unsatisfied emotional needs and feelings are likely lead to suicidal ideation. Additionally, studies have shown that adults living with HIV and AIDS without romantic relationship and family members are likely to have suicidal ideation because loneliness tends to increase with age (Hawkey and Cacioppo, 2007). Hence, PLWHA tend to have suicidal thoughts when less support is given to them from family members and feel neglected.

2.6. Hopelessness and Suicidal Ideation among people living with HIV and AIDS

Hopelessness is one of the determinants that trigger suicidal ideation in an individual living with HIV (Kendall, 1992). Hence, Hopelessness is the polar opposite of hope and includes sub-processes of helplessly giving up on everything including hope and living in emptiness in the face of an assumed non-existing future, collapsing mentally, and becoming paralysed without reason to live (Kylma, 2005). Thus, PLWHA will not make new resolutions in life when hopelessness comes in their life situations. Studies also suggest that patients' risk for suicidal ideation may be greater because individuals living with HIV and AIDS are aware of, (Schneider et al., 1991).

Fear of the HIV infection in its worst health condition brings about suicidal thoughts in PLWHA. In another study, it has been revealed that seropositive individuals,

whether symptomatic or not had higher levels of hopelessness with suicidal thoughts (Catalan et al., 1992). Therefore, hopelessness affects individuals such that they often experience problems in the adjustment to negative thinking which hinders coping up with HIV and AIDS conditions.

2.7. Stigmatisation and Suicidal Ideation among people living with HIV and AIDS

Stigma is associated with HIV and AIDS and is a social phenomenon that places many at a social and psychological disadvantage. Stigma is defined as an attribute that is deeply discrediting and links a person to undesirable characteristics, thus reducing that individual's status in the eyes of society (Brown et al., 2003). Individuals living with HIV and AIDS tend to view themselves as being morally unfit, a diseased person, and unwanted by society which is a consequence of an individual's low self-esteem (Vance and Robinson, 2004). Vance and Robinson contend that aging combined with HIV places many at risk of acute social stigma. This social stigma triggers the mind of an afflicted person to have suicidal thoughts as they feel neglected and left out. In another study, it was revealed that women reporting HIV discrimination had higher mean score of suicidal ideation, lower mean score of self-esteem and quality of life (Wingood et al., 2007). Likewise, many older adults who disclosed their HIV status reported feeling that social service and health professionals treated them with unfairness, as if the patient should have known better than to contract HIV. Therefore, such adults are likely to shun seeking health services and tend to have psychological challenges like suicidal thoughts. Thus, (Nichols et al., 2002) remarked that such real and perceived stigma could lead to suicidal ideation. However, Individuals have a psychological need to be cared for by others, which is the need to belong and that when this need is overlooked and unsatisfied, thoughts of suicide will creep on the minds of PLWHA.

2.8. Depression and Suicidal Ideation among people living with HIV and AIDS

With the prolonged life expectancy made possible through introduction of HAART, mental health issues have come to the fore as a critical problem in people living with HIV and AIDS. The most common components among the several psychiatric disorders with HIV and AIDS are depression and suicidal ideation (Sherr et al., 2011) and (Shirey, 2013). Hence, there are biological factors unique to individuals

living with HIV and AIDS that may also play a role in increased suicidal ideation. For example, the chronic immune activation that is typical of HIV infection promotes the degradation of tryptophan, an important precursor to serotonin (Carrico, 2010). The serotonin is a neuro transmitter which inhibits the activation of excitatory emotions and the degradation is very much linked to symptoms of depression. Moreover, certain symptoms of depression, including hopelessness, have been related to increased emotional distress leading to suicidal ideation among those with HIV infection. Negative thoughts, are mostly generated by dysfunctional beliefs as individuals tend to hold on to loose unprogressive thoughts which eventually trigger suicidal ideation.

In another study by the American Psychiatric association (2013) it was found that depression is a common major disorder that affects feelings, thoughts, and behaviour. It can cause feelings of sadness or loss of interests in activities of which a person once enjoyed. It can lead to a variety of emotional, physiological problems and decrease a person's ability to function at home nor at work. Apparently, major depression in adults living with HIV and AIDS has been very affective when individuals are unable to socialize by joining support groups, as such persistent worry on the HIV positive status is unavoidable. The situation is worse when an individual is unable to adhere to ART treatment as he or she becomes depressed and remains in denial to accept the HIV condition, thus seek to end problems in life situations by longing for death. Research has revealed that HIV in older adults is five times more likely to experience depression than similarly aged adults in negative status (Applebaum and Brennan, 2009). Therefore, older adults are likely to be susceptible to different psychosocial dysfunctions and suicidal thoughts and these eventually grip in one's cognitive functioning.

In Bangladesh research found 14% suicide ideation among pregnant women who had screened positive for probable depression on the Edinburgh Postnatal Depression Scale, (Thom, 2012). Depression increased in pregnant women as they became aware of their HIV positive status, and uncertain of good health, such that depression tends to trigger suicidal thoughts.

2.9 Unemployment and suicidal ideation among people living with HIV and AIDS

Furthermore, although depression and suicidal ideation are commonly experienced in response to the diagnosis of HIV and the onset of AIDS, the lifetime and current incidence of suicidal ideation remains high. In a study, it had equally been observed that depression may combine with the effects of other psychosocial factors to produce a set of interrelated health problems experienced by a single individual. (Steffens, 2007) suggested that the loss of productivity in older adults could contribute to depression and suicidal ideation. Therefore, loss of productivity such as unemployment coupled with long sickness among adults living with HIV although being on ART therapy will cause depression which will trigger thoughts of suicide.

In a study by Fairweather et al., (2007) it was reported that older adults who were seeking employment were nearly seven times more likely to have contemplated suicide within the previous year. Although they did not have the data to examine this, the researchers hypothesized that this effect might have due to financial distress from difficulties in competing for jobs with younger job seekers (Stack, 2000). Financial pressures may be more extreme in older PLWHA than younger ones. In another study (Nichols et al.,2002) added that in a study, 63% of the sample of older adults with HIV indicated that having enough money to live on was ranked as the number one greatest difficulty of living with HIV. As such lack of adequate finances subjects adults living with HIV and AIDS to live below their standard of life, as they are unable to meet medical fees, family responsibilities and other needs as such major depression will trigger suicidal ideation.

2.10 Age and Suicidal Ideation among people living with HIV and AIDS

The AIDS mental health literature to date has largely overlooked suicidal ideation in older adults living with HIV and AIDS. The rates of suicidal ideation increase with age. (Schouten, 2012) states that a study in Benin City revealed that disorders increase with age and duration of ART use. Therefore, HIV infections tend to reduce the immunity system as an individual gets older. Furthermore, the increase rate of suicidal ideation with age corresponds to the increased rate of depression in adolescents relative to childhood (Sadock et al., 2009). A study done in USA to review population suicidal thoughts and behaviour among adults aged 18 years in the

12 months indicated that 2.1%-10% of respondents reported having suicidal thoughts and 0.2% -2% reported making suicide attempts (Nock et al., 2008), as such these findings show that population surveys can provide researchers with a different perspective on the prevalence of suicidal thoughts and behaviours than those provided by death certificates or medical records. In another study it has been revealed that patients living with HIV infection and older than 35 years are more likely to suffer from depression, anxiety, confusion, and fatigue. Insomnia, pain and emotional control correlated with depression (Hoffman, 1997). Such psychological dysfunctions which are found among adults will actually, make them vulnerable to chronic suicidal thoughts.

Furthermore, in another study, it was revealed that the rates of suicidal ideation and suicide intention were among men and women of age 45 and older with HIV and AIDS, experiencing psychological dysfunctions whilst on ART therapy (Perry et al., 1990). As adults are compared to their younger counterparts, adults living with HIV infection have significantly lower CD4 cell counts, higher plasma viral loads at the time of their HIV sero status identification and a lower likelihood of survival after an AIDS diagnosis (CDC, 2011 and Martin et al., 2008). Thus, the life spans of adults are reduced as CD4 cell count decreases and are subjected to suicidal thoughts. In light of the many psychosocial challenges that adults experience in living with HIV infection, it is very troubling as they are less likely to seek treatment for psychological disorders (Zanjani et al., 2007). These adults in most cases are not able to disclose their status to other people at times even to their family members.

In addition, studies done in South Africa have shown results of suicidal ideation even among children with a range of 4% in young primary school children to 24% or higher in high school students and adolescents to 9.1% or higher in adults (Schlebush, 2005; Schlebush, 2012; and Mashego and Madu, 2009). As such reasons for suicidal ideation are mostly associated with low parental care and bullying among HIV adolescents in the society.

2.11. Gender factor in prevalence of Suicidal Ideation among people living with HIV and AIDS

Traditionally, non-stigmatized groups for example, heterosexual men with HIV actually perceive greater HIV stigma than sexual minorities with HIV (Gonzalez et al., 2011). Perhaps due to the association of HIV with already stigmatized groups like men who have sex with men, being HIV positive is predictive of being subjected to antigay discrimination which in turn, is associated with increased suicidal ideation (Huebner et al., 2004).

Some studies have shown that women who are living with HIV have higher rates of suicidal ideation than men (Cooperman and Simon, 2005). Hence, depression and psychosocial stressors play a major role in pregnant women promoting suicidal ideation as compared to men. According to a study which was undertaken in United States and Europe, prevalence was between 13% and 33% during pregnancy (Gentile, 2011). This range gives a rise to a number of women affected with suicidal ideation than men.

Thus, Africa has not been spared from psychological disorders which are associated with the indicators of suicidal thoughts. In many Southern African settings the burden of antenatal depression is between 30% - 47% (Manikkam and Burns, 2012) and (Rochat, 2011). They state that risks are compounded in that 43% of pregnant women that test positive to HIV and AIDS have unplanned pregnancies.

Table 1. VARIABLES

INDEPENDENT VARIABLE	DEFINITION	MEASUREMENT
Depression	Feeling of worthlessness, loneliness, loss of appetite, hopelessness, loss of interest	Beck Depression Inventory
Gender	Male or female	Social demographic questionnaire
Age	18-60 years old	Social demographic questionnaire
DEPENDENT VARIABLE		
Suicidal ideation	A negative thought with intent or plan to take owns' life	Suicide Risk Screening Scale

CHAPTER THREE.

RESEARCH METHODOLOGY

3.1. Introduction

The chapter outlined the methods that were used to determine the occurrence of suicidal ideation with its psychosocial determinants among adults living with HIV and AIDS attending ART clinic at Centre of Excellence, UTH Lusaka

3.2. Study Design

The study used a cross sectional quantitative study. A scale to identify individuals with suicidal ideation was used. In the study, the determinants of suicidal ideation were assessed using the Beck Depression Inventory (BDI) and social demographic questionnaire.

3.3. Study Population

The study population were individuals living with HIV and AIDS attending ART clinic at Adult Centre of Excellence, UTH in Lusaka.

3.4. Study Sample

The study targeted individuals living with HIV and AIDS aged between 18 to 60 years. The study sample consisted of 280 participants with 115 (41.1%) men and 165 (58.9%) women. This was arrived at using a prevalence rate of 24% which was obtained from a previous study on suicidal ideation in South Africa (Govender and Schlebusch, 2013). The prevalence rate for South Africa was used to calculate the sample size because there were no studies published on the prevalence for suicidal ideation and its psychological determinants among adult people living with HIV and in Zambia. The required sample size was arrived at using the formula below:

$$n = \frac{z^2 \times p(1-p)}{d}$$

Where n =sample size

z=z value (1.96 at 95% confidence interval)

d= error of margin (in proportion to one; if 5%, d= 0.05

$$n = \frac{(1.96)^2 \times 0.24(1-0.24)}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.24 \times 0.76}{(0.05)^2}$$

$$n = \frac{0.70070784}{0.0025}$$

$$n = 280$$

3.5. Sampling Procedure

A systematic random sampling technique using intervals was used in the study to give equal chances of being selected into the sample for every element from the targeted population. In the procedure, the researcher picked every third person from the last one. On average, 70 to 80 patients attended the clinic per day. The researcher was only able to interview between 6 and (10) participants per day and only those who gave consent. The researcher had to pre train the records clerk medical personnel on how to recruit the participants as they came for reviews at the clinic and it was based on the inclusion as well as exclusion criteria. Participants were provided with information on the study by the medical personnel before being referred to the researcher and the researcher who also obtained informed consent from the participants.

3.6. Research Instruments

3.6.1. Social Demographic Questionnaire

The research used a questionnaire to gather demographic information that included items such as age, level of education, employment status, income level, gender, marital status, duration of living with HIV status.

3.6.2. Beck Depression Inventory

The other research instrument which was used was the Beck Depression Inventory (BDI) that examines pre-morbid and current general cognitive functioning, assesses the level and score of depression. The BDI further reflects affective, behavioural, and somatic symptoms of depression from normal to severity. The BDI has 21 items from 0 to 3 likerts self rated scale, used to assess the levels of depression. The interpretation of the scoring was from 1-10 that represented ups and downs considered normal, 11-16 was mean mild mood disturbance, 17-20 was borderline clinical depression, 21-30 was moderate depression, 31-40 was severe depression

and over 40 was considered extreme. The overall total of BDI was 63. A persistent score of 17 or above indicated that the participant would need clinical treatment, psychotherapy or cognitive behavioural therapy.

3.6.3. Suicidal Risk Screening Scale

The Suicidal Risk Screening Scale (SRSS) was used to identify those with specific and sensitivity to suicidal ideation, the scoring was 0= True, then 1 =False, total score 14. The SRSS indicated, Lower suicide risk: 3 and possible higher risk:4 or greater for suicidal ideation.

3.7 Inclusion Criteria

- i. Adults living with HIV status were confirmed by medical records
- ii. Ages between 18 to 60 years old were determined by social demographic questionnaire.
- iii. Ability to read and understand English was determined by social demographic questionnaire.
- vi. Ability to understand the nature of the research.
- v. Ability to give informed consent.

3.8. Exclusion Criteria

- i. Physically unwell (evidence from general condition and medical records).
- ii. Any serious psychiatric disorder (of abnormal mental illness) such as manic or involving psychosis that might have interfered with cognitive functioning was based on medical records.
- iii. Individuals who had mental impairments based on medical records.
- iv. Individuals who were not able to read and understand English language and were determined by years of education from social demographic questionnaire.

3.9. Data Collection

Data was collected using social demographic questionnaire, Beck Depression Inventory and Suicidal Risk Screening Scale. In the process of collecting the data, arrangements were made with the participants who were found with major signs of depression and were referred to clinic 6 of UTH psychiatric department for appropriate care and management.

3.10. Data Analysis

- i. The study collected quantitative data presented it, analysed, using descriptive statistics and interpreted using Stata version 14.
- ii. Descriptive statistics were used to obtain means and standard deviation for the independent and dependent variables. The descriptive statistics were used to determine the amount of variability and association between the independent and dependent variables in relation to prevalence of sensitivity to suicidal ideation.
- iii. A correlation analysis was used to determine the associations between independent variables and the dependent variable. The independent variables were depression, gender, age, duration of HIV positive, and employment status and the dependent variable was suicidal ideation.
- iv. A logistic regression was used to determine the odds of higher suicide risk ideation controlling for various factors. These factors include the participants' demographics and BDI status.

3.11. Ethical Considerations

The research was submitted to the University of Zambia Biomedical Research Ethics Committee for approval. Furthermore, permission was sought from the University Teaching Hospital Management for the selected adult ART clinic centre and an informed consent from participants taking part in the study was sought in person and based on voluntary aspect. The researcher respected the decisions of those who were not willing to take part in the study. Objectives of the study were reviewed to the participants for clear understanding as to achieve a better research study.

Arrangements were made with trained and experienced nurses to provide services of counselling as to maintain a healthy psychological state to participants became emotional because it was a private and sensitive issue. The study was beneficial to participants as they acquired an insight that enhanced self-reporting to health professionals for quick intervention on issues of suicidal ideation.

The participants could not benefit in material or financial aspects, but data which was collected would assist in terms of early intervention strategies by health care professionals. The research also included details of the sequence which was followed

in answering the questionnaire, scale and assessment tools. The participants were assured of confidentiality on the information given, the names and codes were used for follow up purposes which were kept separate from the data to avoid linkage of participants. Information provided was kept in a safe place by locking the cabinet and the researcher had to keep the key from being passed on to other people. A conducive environment which was free from distractions had been secured for participation in the study. Participation in the study was voluntary as individuals were not coerced. The researcher further informed the participants of their right to withdrawal from the study at any time they chose to terminate their participation in the study. Withdrawing or refusing to participate in the study had no effect on any of the medical services that individuals received from the centre or UTH. An informed consent was signed as proof of an agreement to participate in the research study by the participant and countersigned by the researcher.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.1 Introduction.

The chapter presents the findings of the study.

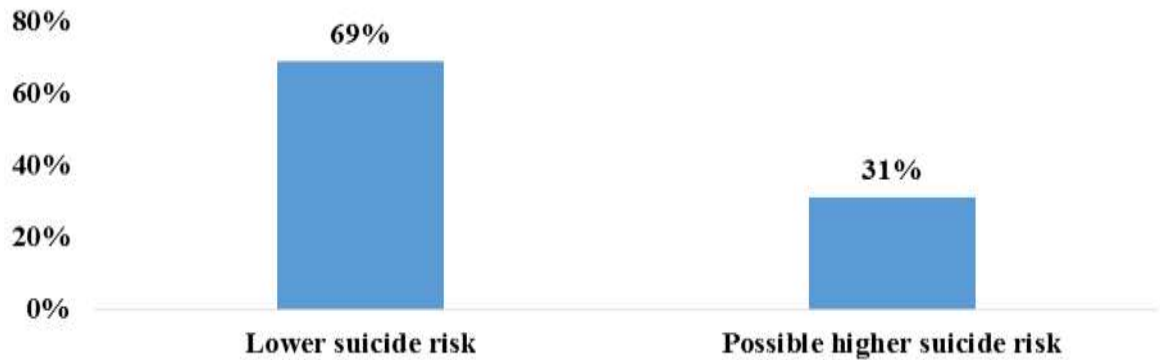


Figure 1. Prevalence of suicidal ideation from Suicidal Risk Screening scale (SRSS)

Figure 1 shows results for the prevalence of suicidal ideation. Results show that (n=87, 31%) of the respondents fell into the category of possible higher suicidal ideation risk category while (n=193, 69%) fell into the lower suicidal ideation risk category.

(BDI)

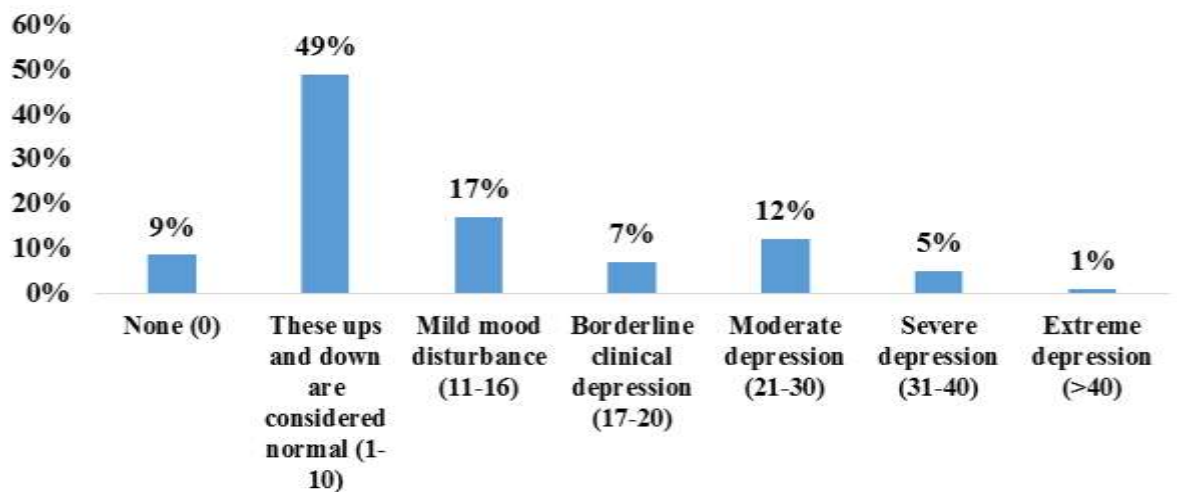


Figure 2: Assessment of depression levels using Beck Depression Inventory

Figure 2 shows that (n=25, 9%) of respondents fell into the category of no depression, (n=137, 49%) fell in the category of ups and downs that are considered normal, (n=48,17%) fell in the category of mild mood disturbance, giving a total of (n=210,75%) respondents that fell into the category of no depression or lower depression. On the other hand (n=20, 7%) fell into the borderline clinical depression, (n=34, 12%) into moderate depression, (n=14, 5%) into severe depression and (n=3, 1%) into extreme depression, giving a total of (n=70, 25%) representing participants who fell into the categories between borderline clinical depression to extreme depression.

Table 2. Social Demographic Characteristics of the Sample
Frequency table showing characteristics of sample (N=280)

		Count	Percent	95% CI
Gender	Male	115	41.1%	35.4-47.0
	Female	165	58.9%	53.0-64.6
Age	18-24	76	27.1%	22.2-32.7
	25-30	17	6.1%	3.8-9.6
	31-36	43	15.4%	11.6-20.1
	37-42	49	17.5%	13.5-22.4
	43-48	38	13.6%	10.0-18.1
	49-54	37	13.2%	9.7-17.7
	55-60	20	7.1%	4.6-10.8
Marital status	Single	119	42.5%	36.8-48.4
	Married	122	43.6%	37.8-49.5
	Widowed	22	7.9%	5.2-11.7
	Divorced	17	6.1%	3.8-9.6
Education	Grade 7	15	5.4%	3.2-8.7
	Grade 9	61	21.8%	17.3-27.0
	Grade 12	101	36.1%	30.6-41.9
	Diploma	47	16.8%	12.8-21.7
	Degree	27	9.6%	6.7-13.7
	Other	29	10.4%	7.3-14.5
Employment	Unemployed	96	34.3%	28.9-40.1
	Self employed	83	29.6	24.6-35.3
	Unemployed	90	32.1	26.9-37.9
	Retired	11	3.9	2.2-7.0
Income	Below K10, 000	168	60.0%	54.1-65.6
	K10, 000 - K20, 000	44	15.7%	11.9-20.5
	K20, 000 - K30, 000	24	8.6%	5.8-12.5
	K30, 000 and above	44	15.7%	11.9-20.5
Duration of HIV status	Less than 6 months	25	8.9%	6.1-12.9
	6 - 12 months	22	7.9%	5.2-11.7
	1-3 years	52	18.6%	14.4-3.6
	More than 3 years	181	64.6%	58.8-70.1

Table 3. Distribution of other Psychological Determinants for possible risks to suicidal ideation from social demographic questionnaire.

Variables	Lower suicide risk		Possible higher suicide risk	
	Count	%	Count	%
Education				
Grade 7	11	5.7%	4	4.6%
Grade 9	26	13.5%	35	40.2%
Grade 12	70	36.3%	31	35.6%
Diploma	44	22.8%	3	3.4%
Degree	21	10.9%	6	6.9%
Other	21	10.9%	8	9.2%
Gender				
Male	86	44.6%	29	33.3%
Female	107	55.4%	58	66.7%
Marital Status				
Single	72	37.3%	47	54.0%
Married	94	48.7%	28	32.2%
Widowed	14	7.3%	8	9.2%
Divorced	13	6.7%	4	4.6%
Employment				
Employed	67	34.7%	29	33.3%
Self-employed	62	32.1%	21	24.1%
Unemployed	55	28.5%	35	40.2%
Retired	9	4.7%	2	2.3%
Income level				
Below K10, 000	114	59.1%	54	62.1%
K10, 000 to K20, 000	29	15.0%	15	17.2%
K20, 000 to K30, 000	16	8.3%	8	9.2%
K30, 000 and above	34	17.6%	10	11.5%
Duration of HIV status				
Less than 6 months	14	7.3%	11	12.6%
6 to 12 months	17	8.8%	5	5.7%
1to 3 years	34	17.6%	18	20.7%
More than 3 years	128	66.3%	53	60.9%

Table 3. Distribution of other Psychological Determinants for possible risks to suicidal ideation from social demographic questionnaire.

<u>Age</u>				
18-24	44	22.8%	32	36.8%
25-30	15	7.8%	2	2.3%
31-36	27	14.0%	16	18.4%
37-42	39	20.2%	10	11.5%
43-48	25	13.0%	13	14.9%
49-54	30	15.5%	7	8.0%
55-60	13	6.7%	7	8.0%

Table 3 above shows the distribution of respondents on the variables from the demographic questionnaire between the category of Lower suicide risk and that of possible higher suicide risk categories.

4.2 Possible higher risk category

On the variable of education, it showed that the highest category was grade 9 with (n=113, 40.2%) of those falling in possible higher risk category belonging to this category, followed by grade 12 with (n=98, 35%) and the lowest was diploma with (n=10, 3.6%). On the variable of gender females were highest comprising of (n=187, 66.7%) of the participants that fell into the possible higher risk category, while males were (n=93, 33.3%).

The variable of marital status showed that 54% of the participants that fell in the higher risk category were single, while the lowest was divorced at 4.6%. On the employment variable, unemployed was the highest at 40.2%, while the lowest was variable retired at 2.3%. The income variable showed that the category of below K10, 000 was the highest with 62.1%, while the lowest was the K20, 000 to K30, 000 categories with 9.2%.

On the variable of Duration of HIV status, the highest frequency was the category with people who knew their HIV status for more than 3 years with 60.9% respondents, while the lowest was 6 to 12 months duration. The variable of age

showed that the category of 18 to 24 years as the highest and therefore, denoting that this category was more susceptible to suicidal ideation.

Table 4. Correlation between dependent and independent variables

	BDI	SRSS	Age	Education	Gender	Status	Employment	Income	Length of status
Age	-0.098	-0.104	1	-0.054	-0.178**	0.590**	-0.198**	.389**	0.102
Education	-.163**	-.196**	-0.054	1	-0.109	-0.112	-0.037	0.105	0.07
Gender	.213**	0.106	-0.178**	-0.109	1	0.036	0.245**	-.251**	-0.024
Marital status	-.121*	-0.106	0.590**	-0.112	0.036	1	-0.111	.187**	.149*
Employment	0.057	0.043	-0.198**	-0.037	0.245**	-0.111	1	-.300**	0.097
Income	-0.066	-0.059	0.389**	0.105	0-.251**	0.187**	0-.300**	1	-0.004
Length of status	-0.03	-0.063	0.102	0.07	-0.024	0.149*	0.097	-0.004	1
BDI	1	.714**	-0.098	-0.163**	0.213**	0-.121*	0.057	-0.066	-0.03
SRSS	.714**	1	-0.104	-0.196**	0.106	-0.106	0.043	-0.059	-0.063

** . Correlation is significant at the 0.01 level.

* . Correlation is significant at the 0.05 level

4.3. Correlation of variables

Table 4 presents the correlation matrix between dependent and independent variables. The correlation between the SRSS and the BDI was very strong at 0.714. The results show that the age was -0.098, education level -0.163, marital status income level and duration of status have a negative correlation with BDI. It was also true for the correlation with SRSS. However, among these variables, only the education level has a significant negative correlation with the BDI. This implies the higher the education level, the lower the BDI score.

Table 5. Psychosocial determinants of higher prevalence suicide risk using logistic regression

Variable	Odds Ratio	Robust Error	Standard P value	[95%Conf. Interval]
Gender				
Male	1(ref)	n/a	n/a	n/a
Female	0.48	0.242	0.146	0.179-1.291
Age group				
18-24	1(ref)	n/a	n/a	n/a
25-30	0.351	0.386	0.341	0.041-3.03
31-36	0.453	0.422	0.396	0.073-2.819
37-42	0.284	0.287	0.212	0.039-2.048
43-48	1.122	1.128	0.909	0.156-8.053
49-54	0.143	0.174	0.11	0.013-1.557
55-60	0.348	0.508	0.47	0.02-6.083
Marital Status				
Single	1(ref)	n/a	n/a	n/a
Married	0.944	0.687	0.937	0.227-3.934
Widowed	1.294	1.574	0.832	0.119-14.041
Divorced	1.86	2.021	0.568	0.221-15.641
Education level				
Grade 7	1(ref)	n/a	n/a	n/a
Grade 9	2.844	2.801	0.289	0.413-19.596
Grade 12	0.917	0.9	0.93	0.134-6.283
Diploma	0.089	0.116	0.063	0.007-1.139
Degree	0.647	0.788	0.721	0.0597-7.039
Other	0.851	0.923	0.882	0.102-7.124
Employment status				
Employed	1(ref)	n/a	n/a	n/a
Self-employed	0.879	0.543	0.835	0.262-2.953
Unemployed	0.738	0.486	0.644	0.203-2.681
Retired	1.615	2.037	0.704	0.136-19.149
Income level				
Below K10,000	1(ref)	n/a	n/a	n/a
K10, 000 – K20, 000	2.163	1.353	0.218	0.634-7.374
K20, 000 – K30, 000	0.57	0.541	0.554	0.089-3.666
K30, 000 and above	1.102	0.836	0.898	0.249-4.873
Duration of status				
Less than 6 months	1(ref)	n/a	n/a	n/a
6 – 12 months	1.188	1.277	0.873	0.144-9.77

Table 5. Psychosocial determinants of higher prevalence suicide risk using logistic regression

1-3 years	0.913	0.796	0.917	0.165-5.043
More than 3 years	0.462	0.354	0.313	0.103-2.069
BDI category				
None	1(ref)	n/a	n/a	n/a
These ups and downs are considered normal	2.171	2.463	0.494	0.235-20.062
Mild mood disturbance	6.618	7.888	0.113	0.64-68.424
Borderline clinical depression	101.593	129.188	0.000	8.403-1228.21
Moderate depression	430.599	577.259	0.000	31.114-5959.22

4.4 Logistic Regression of Psychological Determinants

Table 5 shows a logistic regression which was used to determine the odds of higher suicide risk ideation controlling for various factors. These factors include the participants' psychosocial demographics and their BDI status. The table presents the results of this analysis. Among the variables found to have a statistically significant effect of the probability of higher suicide risk ideation include: the education level and the BDI status. Specifically, the results show that those that have at least attained a diploma level of education are less likely to have high suicide risk in comparison to those whose highest level of education is grade 7. This is evident given the odds ratio of 0.089 which is less than 1. Even so, this result is only statistically significant at 10%. Moreover, those with borderline clinical depression are more likely to have a higher suicide risk ideation compared to those that have no depression at all. The odds are about 101 times and statistically significant at 1% and 5% level of significance. The odds of higher suicide risk ideation are even greater for those with moderate depression. These are likely to have higher suicide risk ideation by about 431 times compared to those with no depression at all, at 1% and 5% level of significance.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.1 Introduction

This chapter discusses the findings on the investigation of the prevalence of suicidal ideation and its psychosocial determinants among people living with HIV and AIDS attending Art Clinic at Adult Centre of Excellence at the University Teaching Hospital in Lusaka.

The findings of the study showed the importance of the psychological tests that usually remain routinely unused at baseline level by medical professionals in health institutions especially in developing countries like Zambia. The tests can go a long way in bringing to the fore the vulnerability of HIV patients to the risk of suicidal ideation or risk of committing suicides.

5.2. Prevalence of Suicidal Ideation among people living with HIV and AIDS attending Adult Clinic Centre of Excellence.

The findings from the Suicidal Screening Risk Scale (SRSS) showed that 31% of the respondents fell in the higher suicidal ideation risk category. The study further showed that there was a very strong correlation between the SRSS index and the BDI index with the correlation coefficient standing at 0.714. The correlation of other psychological determinants to suicidal ideation such as education, unemployment age, marital status and son to suicidal ideation were rather weak as most of them were below the level 0.250. The findings therefore, revealed that depression as measured by the BDI is a very strong predictor of suicidal ideation among some PLWHA. This is in line with the study by (Carrico et al., 2007) found that individuals who self-rated their medication side effects and HIV related symptoms as being severe were more likely to be susceptible to suicidal ideation. The findings were also in line with the findings of (Govender and Schlebush, 2013) whose study found that 25.4% of respondents had suicidal thoughts, while 15.6% had plans to commit suicide.

Another study that is in line with the findings of this study is that by (Manikkam and Burns 2012) who found that depression among women attending antenatal clinic was between 30% to 47%. It is generally surprising that most countries especially in developing world such as in Africa and Zambia in particular do not bother to carry

out routine screening among PLWHA for suicidal ideation. Furthermore, (Govender and Schlebusch, 2013) pointed out that even in South Africa screening for suicidal ideation is not routinely carried out. Moreover, in conformity with findings on the prevalence rate of suicidal ideation in South Africa, (Mashego and Madu, 2009), found that 12% of respondents with suicidal ideation were among adolescents and 9.1% among adults (Stein et. al., 2008) in the general population. In addition, the above results are in line with the findings on the prevalence of suicidal ideation in Uganda. According to (Rukundo et al., 2016) 10% of the respondents on suicidality in HIV and AIDS individuals in Entebbe Uganda had met the criteria of suicidal ideation. In addition, (Kinyanda, 1998) in Uganda also found that there were similarities in his findings as he found, 12.4% suicidal ideation among patients attending a specialised HIV and AIDS Pre-Art clinic, 17.1% among adolescents at the same clinic, and 13% of patients attending a Post Art Clinic.

In addition, other studies done elsewhere, confirmed the prevalence of suicidal ideation among PLWHA as (Sherr et al., 2008) in a study in the United Kingdom found that 31% of the sample had suicidal ideation in a United Kingdom HIV clinic. The findings of the current study using the Suicidal Screening Risk Scale are in line with the United Kingdom study with the results that showed that 31% were in the possible higher risk category. Therefore evidence from the studies presented so far show that suicidal ideation is common among individuals living with HIV and AIDS as the degeneration in the immune system is accompanied several body dysfunctions and thereby disturbs coherent thinking processes. There have been reports of people exhibiting poor adherence to taking anti-retroviral drugs. Others just refuse to take anti-retroviral drugs and opt to die instead. HIV and brings with it profound changes and impacts on the quality of life of afflicted individuals such that treatment adherence, disease progression, and mortality are generally adversely affected. Therefore, patients with cognitive problems such as suicidal ideation require additional treatment, support, and baseline assessment for suicidal ideation which would allow tracking overtime to ensure that any suicidal thoughts are detected at an early stage. The absence of screening for depression and suicidal ideation in most developing countries means that most afflicted individuals do not receive any support from health professionals in terms of counselling in cases where there is the incidence of suicidal thoughts.

Hence, the current study was also in agreement with the findings of (Lawrence et al., 2010 and Shittu et al., 2014) that suicidal ideation could be prevalent among depressed PLWHA since there was a strong positive correlation between the BDI and the SRSS. Moreover, depression both in logistic regression and correlation was found as a major psychosocial determinant to suicidal ideation.

5.3. Psychological Determinants of Suicidal Ideation among adults living with HIV AND AIDS.

The current study found that 18.2% showed symptoms of depression using the BDI in need of medical treatment and psychological interventions. The study also revealed that there was a strong positive relationship between the BDI and the SRSS, with a correlation coefficient of 0.714. Hence, the findings of the study revealed that depression was the major psychological determinant to suicidal ideation. The findings of this study are in line with, (Sherr et al., 2011 and Shirey, 2013) who found that depression and suicidal ideation are among the common psychiatric disorders in PLWHA. In addition, logistic regression shows that depression had higher probability contributing to suicidal ideation with an odds ratio of 101.5 for borderline and 430.5 for moderate depression.

In marital status category, the findings of the study in table 3 showed that singles were the highest among those in the higher risk category at 54%, hence were more susceptible to suicidal ideation. The findings of the study were in line with (Hawkley and Cacioppo, 2007) who confirmed that adults living with HIV without romantic relationships or family support were more likely to experience suicidal ideation. It is believed that afflicted individuals tend to experience rejection and stigmatisation. In addition, this social stigma triggers the mind of the afflicted persons to suicidal thoughts as they feel neglected and left out. In support of this view (Wingood et al., 2007) revealed that women reporting HIV discrimination had higher mean score of suicidal ideation, lower mean score of self-esteem and quality of life. Furthermore, hopelessness tends to worsen the desire of living a positive life as the afflicted individuals' health seems to deteriorate. In line with this (Kendall, 1992) postulates that hopelessness tends to trigger suicidal ideation among persons living with HIV infection.

The findings of the study further revealed that the majority of the participants interviewed were female 59% while a good number of the participants in the study were between the ages of 18 to 24 years at 27%. The least group were the age range 55 to 60 years that represented 6%. In terms of marital status, 44% were married, followed by single that represented 43%. The divorced were the least category at 6%. The above findings should not be surprising on gender, considering the fact that females are always disadvantaged in relationships in the African setting. In the African setting women are supposed to be submissive to their husbands hence they are not supposed resist advances from their spouses and cannot request for use of condoms during sexual relations. In the study by (Manikkam and Burns, 2012) it was pointed out that as regards antenatal depression females are more at risk of HIV infections than their male counterparts such that 43% of pregnant women who test for HIV and tested positive had unplanned pregnancies and consequently, females are more susceptible to suicidal ideation.

In terms of educational achievements, most of the respondents had grade 12 level of education at 36%, seconded by grade 9 at 29%. The least was degree level at 10%. According to these findings, grade 12s tops the list in living with HIV condition. This could be attributed to the fact that grade 12s are likely to have more resources, hence tend to be more sexually active than say grade 7s. This again matches with expectations as the employed have more financial muscle and can afford to be indulgent. Financial pressures may be more extreme in older PLWHA with than younger ones. This is in line with the findings by (Nichols et al., 2002) where it was found that 63% of the sample of older adults living with HIV indicated not having enough money to live on. The unemployed were also vulnerable as lack of enough means of survival in order to their demands. As such findings of the current study under unemployment were 36.8% being the highest among the categories. Hence, the findings in were in line with (Fairweather et al., 2007), who pointed out that older adults who were seeking employment were nearly seven times more likely to have contemplated suicide within the previous year. Although they did not have the data to examine this, hence, the researchers hypothesized that this effect might have been because of financial distress from not being able to compete with younger job seekers (Stack, 2000).

In terms of income the more vulnerable to suicidal ideation were those in the bottom income bracket of K10, 000 and below at 62.1%. It seems like in terms of income, the susceptible ones to suicidal ideation are low income brackets. This was not surprising as poverty leads people to become vulnerable as it affects nutrition levels for the individuals concerned. The study also found that adolescents between 18 to 24 years at 36.8% were also vulnerable to suicidal ideation and is in line with the findings from a study by (Nichols et al., 2002). On the issue of how the respondents had lived with the condition, 65% had lived with the condition for more than 3 years. This meant that the participants had somehow got used to living with the condition. This could have had a dampening effect on the suicidal ideation findings. The longer people live with the HIV condition, the more used they get and the less anxious they become (Dannenberg et al., 1996).

In terms of which variables had a higher risk of suicidal ideation, the following variables stood out on the logistic regression analysis; the findings showed that age is a factor being in vulnerable to suicide ideation. The age group 18 to 24 seem to be more susceptible to suicide ideation than other categories. The young respondents of 18 to 24 years are also susceptible to suicidal ideation in that they have a whole life in front of them and they see it crumbling right in front of them as a result of the HIV condition. Therefore, they are more susceptible to go into depression and hopelessness compared to older adults above 50s. The findings also further matched with other studies in the literature such as (Schlebush, 2005 and Schlebush, 2012); (Mashego and Madu, 2009) pointed out that suicidal ideation was higher among an average age of 20 to 24 years due to inadequate of parental care and bullying from fellow adolescents.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction.

The chapter presents conclusions and recommendations of the research study.

6.2 Conclusion.

In conclusion, the study has shown that the SRSS and the BDI can be valuable tools for screening suicidal ideation in people living with HIV and AIDS. In this study the SRSS assessment or the suicidal ideation assessment revealed that 31% of the respondents showed suicidal ideation while 69% fell in the lower risk category. In the BDI test, 18.2% fell between the category of moderate extreme and severe depression. When the borderline category is included the figure jumps to 25.4% and these are eligible for quick intervention by health personnel.

The correlation between the SRSS and the BDI was 0.714, which shows a strong positive relationship between the SRSS test results and the BDI test results. That is to say an individual who tests high on BDI is likely to test high on SRSS as well. The findings also further showed that there was a positive correlation between gender and BDI of 0.213 and a negative correlation between the level of education and suicidal ideation which was -0.196 and depression 0.163. The study also showed that other determinants of susceptibility to suicidal ideation were age. The young ones tend to be more susceptible as well as the unemployed, those below K10,000 income level, as with gender, females tend to be more vulnerable to suicidal ideation than the male counterparts.

The study also revealed that there were no tests for suicidal ideation that are carried out at the Adult Centre of Excellence at University Teaching Hospital in Lusaka, and this seems to be the scenario in Zambia. In the final analysis, the findings on the prevalence of suicidal ideation in Zambia compare favourably with studies that have been conducted elsewhere such as South Africa and Uganda.

6.3 Recommendation

The government should introduce a deliberate policy to screen for suicidal ideation at baseline levels clinics in the country, so that the condition could be detected at an early stage and corrective measures taken in order to save lives. This is a very serious issue which requires urgent attention by Health Authorities in the country.

There is need to train frontline health personnel in the art of screening patients for the presence of suicidal ideation. The researcher or other Clinical Psychologists can undertake the task of training the front line health personnel in using the assessment tools for depression and suicidal ideation screening.

Another option would be the placement of clinical Neuropsychologists at all clinics in the country that handle people living with HIV and AIDS, especially the major centres to ensure that the presence of suicidal ideation can be detected at an early stage for quicker intervention and management.

Whenever suicidal ideation is detected in patients living with HIV and AIDS, such patients should be referred to psychologists and psychiatrist for psychological support and pharmacological intervention or Clinic 6 at the University Teaching Hospital Lusaka.

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APPENDIX: 1 INFORMATION SHEET

Information Sheet

University of Zambia

School of Medicine

Department of Psychiatry

PLEASE READ THIS DOCUMENT CAREFULLY. SIGN YOUR NAME BELOW ONLY IF YOU AGREE TO PARTICIPATE AND YOU FULLY UNDERSTAND YOUR RIGHTS. YOUR SIGNATURE IS REQUIRED FOR PARTICIPATION. FOR THIS RESEARCH, YOU MUST BE BETWEEN 18 AND 60 YEARS OF AGE TO PARTICIPATE. IF YOU DESIRE A COPY OF THIS CONSENT FORM, YOU MAY REQUEST ONE AND IT WILL BE PROVIDED.

Introduction:

This study is entitled **the Prevalence of Suicidal thoughts or wishes and its factors living with HIV/AIDS attending ART clinic Adult Infectious Disease Centre University Teaching Hospital in Lusaka**. This research is directed by Monica Mpundu Mwenya a Masters' Student in Clinical Neuropsychology at the University of Zambia. This document defines the terms and conditions for consenting to participate in this study. A total number of 280 participants will be recruited for the study.

Description of the Study:

You are invited to take part in the study of the prevalence of suicidal wishes and its factors among HIV/AIDS positive adults. This study will further identify the factors of psychological issues that affect these individuals with suicidal thoughts. The purpose is to establish whether there are major factors that lead into suicidal ideation. It will also determine the current practices to prevent suicidal thoughts among individuals living with HIV and AIDS because the growing up into adulthood has a lot of challenges for some individuals who grow with HIV infection. It has been

identified from literature that there are no studies on this topic that have studied the occurrence of suicidal thoughts and its factors among adults living with HIV and AIDS in Zambia. Therefore, it is important to identify the occurrence of suicidal thoughts. You will be required to complete a suicidal checklist to identify those with suicidal thoughts, a social demographic questionnaire to collect personal details and an assessment for the factors of depression by using the Beck Depression Inventory to show the level of depression which may lead to suicidal thoughts and attempts.

Confidentiality

All the information you will give shall be confidential and shall be kept under key and lock. The findings in the research will be presented with no identifying information to ensure confidentiality.

Risks and Benefits:

- You may experience some emotional disturbances during the assessments, to reduce on this, counselling service from trained nurses will be offered. Participants who may experience major signs of depression will be referred to psychiatric department in UTH clinic 6 where arrangements for further assessments and management have been made with clinical psychiatrics, neuropsychologists and doctors.
- You may become tired because of the length of time required for the assessment process. To reduce on this you are free to ask for a short break whenever you are in need of it.
- Your participation in this study will be done while you are waiting to see the doctor. Your participation will enable you to have an opportunity of contributing to neuropsychological assessments which will assist people in general.

Time Involvement

The whole process will take approximately 0:25 minutes to 0:30 minutes to complete.

Participation Rights:

- Participation in this study is purely voluntary so that if you decide to withdraw at any point, there will be neither penalty nor loss of benefits.

- All personal identifying information will be kept confidential and the data sheets will be kept in secured lockers in accordance with the standards of the University of Zambia Biomedical Ethics Committee. If the results of the study are required for publication as is hoped, your identity will still be kept private.

Contacts

If you have any further questions about this research, please contact:

The Project Coordinator

The Principal Investigator

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APPENDIX. 2:

CONSENT FORM

I.....(Name) have read and understood the terms and conditions of this study and I hereby agree to participate in the above-described research study. I understand that my participation is voluntary and that I may withdraw at any time without penalty. As the participant in this project, my signature under here testifies that I understand the consent process and management of confidentiality as indicated above. I also understand that I can withdraw at any time.

Signature of Research Participant:

..... Date.....

Thumbprint of Participant

.....

Name and Signature of Researcher:

...../.....Date.....

APPENDIX. 3

**THE UNIVERSITY OF ZAMBIA
SCHOOL OF MEDICINE
DEPARTMENT OF PSYCHIATRY**

SOCIAL DEMOGRAPHIC QUESTIONNAIRE

INSTRUCTIONS

A. Please give/tick \surd to the appropriate answer to the question.

B. All the information you will provide will be used for -the purpose of this study only, therefore, provide genuine information and ensure that all Questions (Q) are carefully answered.

AGE -----

Q1. What is your age?

- | | | |
|------|-------|--------------------------|
| 1.1. | 18-24 | <input type="checkbox"/> |
| 1.2. | 25-30 | <input type="checkbox"/> |
| 1.3. | 31-36 | <input type="checkbox"/> |
| 1.4. | 37-42 | <input type="checkbox"/> |
| 1.5 | 43-48 | <input type="checkbox"/> |
| 1.6 | 49-54 | <input type="checkbox"/> |
| 1.7 | 55-60 | <input type="checkbox"/> |

EDUCATION

Q.2. What is your level of education?

- 2.1 Grade 7
- 2.2 Grade 12
- 2.3 Diploma
- 2.4 Degree

GENDER

Q.3. What is your gender?

2.1. Male

2.2. Female

STATUS

Q.4 What is your status?

3.1. Single

3.2. Married

3.3. Widowed

3.4. Divorced

EMPLOYMENT AND INCOME

Q5. What are you currently doing?

4.1. Employed

4.2. Self-employed

4.3. Unemployed

4.4. Retired

Q6. What is your approximate income per year?

5.1. Below K10, 000

5.2. K10, 000 – K20, 000

5.3. K20, 000 – K30, 000

5.4. K30, 000 and above

LENGTH OF HIV POSITIVE STATUS

Q7. How long have you been aware of your HIV positive status?

6.1 Less than 6 months

6.2 6 – 12 months

6.3 1- 3 years

6.4 More than 3

APPENDIX 4:

SUICIDAL RISK SCREENING SCALE

This questionnaire consists of 14 statements (sentences). Please read the statements carefully one by one and answer them. If the statement describes your attitude for the past week, including now, tick ‘‘T’’ in the block provided. If the statement is false for you, tick ‘‘F’’ in the block provided.

ITEM STATEMENT

1. I might well give up because there’s nothing I can do about making things better for my self.
(a) True
(b) False
2. I cannot imagine what my life would be like in 10 years
(a) True
(b) False
3. My future seems dark to me
(a) True
(b) False
4. I just do not get the relief and there is no reason to believe that I will in future.
(a) True
(b) False
5. All I can see ahead of me is unpleasantness rather than pleasantness
(a) True
(b) False
6. I do not expect to get what I really want
(a) True
(b) False
7. Things just will not work out the way I want them to
(a) True

- (b) False
8. I never get what I want, so it is foolish to want anything
- (a) True
- (b) False
9. It is very unlikely that I will get any real satisfaction in future.
- (a) True
- (b) False
10. The future seems vague and uncertain to me
- (a) True
- (b) False
11. There is no use in really trying to get something I want because I probably will not get it.
- (a) True
- (b) False
12. I have thoughts of killing myself, but I would not carry it out
- (a) True
- (b) False
13. I would like to kill myself
- (a) True
- (b) False
14. I would like to kill myself if I had a chance
- (a) True
- (b) False

Total

Scoring:

True= 1

False= 0

Maximum score 14

Lower suicide risk: 3

APPENDIX. 5:

BECK DEPRESSION INVENTORY

Study No:

Visit No:

Date:

Staff ID:

On this questionnaire there are groups of statements. Please read each group of statements carefully, then pick out the **one** statement in each group which **best describes the way you have been feeling in the PAST WEEK, INCLUDING TODAY.** Circle, the number beside the statement you picked. If several statements in the group seem to apply equally well, circle the highest number for that group. Be sure to read each statement in the group before making your choice.

There are no right or wrong answers. Do not spend too much time thinking about each item.

PLEASE RESPOND TO ALL ITEMS.

Sadness

- 1. 0 I do not feel sad.
- 1 I feel sad.
- 2 I am sad all the time.
- 3 I am so sad or unhappy that I cannot stand it.

Pessimism

- 2. 0 I am not particularly discouraged about the future.
 - 1 I feel discouraged about the future.
 - 2 I feel I have nothing to look forward to.
 - 3 I feel that the future is hopeless and that things cannot improve.
-
- 3. 0 I do not feel like a failure.
 - 1 I feel I have failed more than the average person.

- 2 As I look back on my life I can see a lot of failures.
3 I feel I am a complete failure as a person.
4. 0 I get as much satisfaction out of things as I used to.
1 I do not enjoy things the way I used to.
2 I do not get real satisfaction out of anything anymore.
3 I am dissatisfied or bored with everything.
5. 0 I do not feel particularly guilty.
1 I feel guilty a good part of the time.
2 I feel quite guilty most of the time.
3 I feel guilty all of the time.
6. 0 I do not feel I am being punished.
1 I feel I may be punished.
2 I expect to be punished.
3 I feel I am being punished.
7. 0 I do not feel disappointed in myself.
1 I am disappointed in myself.
2 I am disgusted with myself.
3 I hate myself.
8. 0 I do not feel I am any worse than anybody else.
1 I am critical of myself for my weakness and mistakes.
2 I blame myself all the time for my faults.
3 I blame myself for everything bad that happens.
9. **Suicidal thoughts or wishes**
- 0 I don't have any thoughts of killing myself.

- 1 I have thoughts of killing myself, but I would not carry them out.
- 2 I would not kill myself.
- 3 I would kill myself if I had the chance.

10. **Crying**

- 0 I don't cry any than usual.
- 1 I cry more than I used to.
- 2 I cry all the time now.
- 3 I used to be able to cry, but now I can't cry even though I want to.

- 11.
- 0 I am no more irritated by things than I ever was.
 - 1 I am slightly more irritated now than usual.
 - 2 I am quite annoyed or irritated a good deal of the time.
 - 3 I feel irritated all the time.

- 12.
- 0 I have not lost interest in other people.
 - 1 I am less interested in other people than I used to be.
 - 2 I have lost most of my interest in other people.
 - 3 I have lost all of my interest in other people.

- 13.
- 0 I make decisions about as well as I used to.
 - 1 I put off making decisions more than I used to.
 - 2 I have greater difficulty in making decisions more than I used to.
 - 3 I can't make decisions at all anymore

- 14.
- 0 I don't feel that I look any worse than I used to.
 - 1 I am worried that I am looking old and unattractive.
 - 2 I feel there are permanent changes in my appearance that makes me
look unattractive.
 - 3 I believe that I look ugly.

- 15.
- 0 I can work about as well as before.
 - 1 It takes an extra effort to get started at doing something.
 - 2 I have to push myself very hard to do anything.

- 3 I can't do any work at all.
16. 0 I can sleep as well as usual.
1 I don't sleep as well as I used to.
2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep.
3 I wake up several hours earlier than I used to and cannot get back to sleep.
17. 0 I don't get more tired than usual.
1 get tired more easily than I used to.
2 I get tired from doing almost anything.
3 I am too tired to do anything.
18. 0 My appetite is no worse than usual
1 My appetite is not as good as it used to be.
2 My appetite is much worse now.
3 I have no appetite at all anymore
19. 0 I haven't lost much weight, if any, lately.
1 I have lost more than five pounds.
2 I have lost more than ten pounds.
3 I have lost more than fifteen pounds.
20. 0 I am no more worried about my health than usual.
1 I am worried about physical problems like aches, pains, upset stomach or constipation.

- 2 I am very worried about physical problems and it's hard to think of much else.
 - 3 I am so worried about my physical problems that I cannot think of anything else.
- 21.
- 0 I have not noticed any recent change in my interest in sex.
 - 1 I am less interested in sex than I used to be.
 - 2 I have almost no interest in sex.
 - 3 I have lost interest in sex completely.

INTERPRETING THE BECK DEPRESSION INVENTORY

Now that you have completed the questionnaire, add up the score for each of the twenty-one questions by counting the number to the right of each question you marked. The highest possible total for the whole test would be sixty-three. This would mean you circled number three on all twenty-one questions. Since the lowest possible score for the test would be zero. This would mean you circled zero on each question. You can evaluate your depression according to the table below.

Total Score _____	Levels of depression
1-10 _____	These ups and down are considered normal
11-16 _____	Mild mood disturbance
17-20 _____	Borderline clinical depression
21-30 _____	Moderate depression
31-40 _____	Severe depression
Over 40 _____	Extreme depression

A PERSISTENT SCORE OF 17 OR ABOVE INDICATES THAT YOU MAY NEED MEDICAL TREATMENT AND THERAPY.

