

CHAPTER ONE

1. INTRODUCTION

The global Acquired Immune Deficiency Syndrome pandemic has come to be realized worldwide as a massive public health problem. According to the UNAIDS (2005), of the 42 million people worldwide estimated to be infected with Human Immuno-Deficiency Virus from the beginning of the epidemic until December 2003, sub-Saharan Africa accounted for 70% of all cases. The ravages of the AIDS epidemic have made the disease the highest priority of the world's public health. In 2000, the total number of people around the world living with HIV was estimated at 3.4 million. By the end of 2003 the figure was 40 million, with 5 million new cases and 3 million deaths in 2003 alone. At the end of 2005, an estimated 39 million people globally were living with HIV. At the end of 2006 the number rose to 39.5 million (UNAIDS, 2006). In addition, UNAIDS (2007) indicated that the number of people living with HIV in 2007 was 33.2 million and those who died of the virus were 2.1 million. There are also new cases identified to a total number of 2.5 million.

According to Kanabus and Fredriksson-Bass (2007), sub-Saharan Africa is more heavily affected by HIV and AIDS than any other region of the world. An estimated 24.7 million people were living with HIV at the end of 2006 and approximately 2.8 million additional people were infected with HIV during that year. In 2007, 22.5 million people were living with HIV in this region (UNAIDS, 2007). In just the past year, Africa's AIDS epidemic has claimed the lives of an estimated 2.1 million people in this region. It is said that 1.6 million people died of HIV in 2007 (UNAIDS, 2007). Sub-Saharan Africa accounted for 1.7 million new infections alone by 2007.

The hardest hit regions of Africa are Namibia, Lesotho, Swaziland, and South Africa. In these southern African countries (SADC), between 20% and 40% of the adult population are believed to be HIV positive. Southern Africa remains the region worst affected by HIV/AIDS epidemic. In four southern African countries, the national adult HIV prevalence rate has risen higher than it was thought possible and now exceeds 20%. These countries are Botswana (24.1%), Lesotho (23.2%), Swaziland (33.4%) and Zimbabwe (20.1%) (Kanabus & Fredriksson-Bass, 2007). With some 5.5 million people living with HIV, South Africa is the country with the largest number of infections in the world (UNAIDS, 2007). United Nations estimates at least two of every five girls and boys who are 15 years old today and living in southern Africa will die of AIDS, and it is spreading rapidly (UNAIDS, 2006).

AIDS is the leading cause of death in South Africa, with 250 000 people dying of AIDS each year and 1600 people becoming HIV infected each year (Kalichman & Simbayi, 2003). South Africa is currently experiencing the most HIV epidemic in the world. By the end of 2005, there were five and half million people living with HIV in South Africa, and almost 1000 AIDS death occurring every day (Prenbrey, 2006). An estimated 1500 people are infected daily and 250 000 die each year from the disease. In ten years time AIDS is expected to claim 635 000 people every year in South Africa.

The UNAIDS Global Report of 2006 estimated that 320 000 people died of AIDS-related deaths in South Africa during 2005. AIDS Foundation South Africa (2005) regards South Africa as having the most severe HIV epidemic in the world with new infections increasing, and with no signs of reaching a natural limit. This annual survey uses a statistical model to estimate the prevalence of HIV in the population based on the prevalence among women

tested at state antenatal clinics. The national average of HIV positive women attending antenatal clinics in 2005 were 30.2% (UNAIDS, 2006).

The province of Kwa-Zulu Natal continues to have the highest prevalence at 39.1%, followed by Mpumalanga at 34.8% (AIDS Foundation South Africa, 2005). The pandemic proportions of AIDS and the devastation it is wreaking in sub-Saharan Africa are widely acknowledged. What is not as often acknowledged is its impact on sufferers. AIDS not only constitutes a health crisis, but a crisis that threatens to dismantle the social fabric, as the next generation of workers, parents, and leaders is lost (Kalichman & Simbayi, 2003).

2. STATEMENT OF THE PROBLEM

South Africa as a nation is now facing HIV/AIDS pandemic like any other nations. Every year mortality statistics rise drastically due to HIV/AIDS or HIV/AIDS-related illnesses. Awareness's and talks have been held as part of the prevention strategy. Although Love Life centres have been opened and condoms freely distributed, yet still mortality statistics increase or new infected people are identified every day.

After the prevention strategies seemed to be failing, the government introduced a treatment strategy. Antiretrovirals (ARVs) are made freely available to those who have done voluntary counseling and testing. Other AIDS-related illnesses are treated freely in government hospitals and clinics. When government introduced the treatment strategy it did not rule out the prevention strategy, but still nothing seems to be changing when looking at today's mortality statistics.

Often people who require more intensive services are struggling with other psychosocial stressors e.g. mental illness, substance abuse, depression, homelessness and economic stressors that affect their risk behaviours. The presence of psychosocial stressors/challenges may adversely affect HIV/AIDS persons, decreasing their ability to obtain and adhere to proper medical care. Unfortunately, these challenges are unknown and more so, have not been investigated.

People living with HIV/AIDS experience common concerns and face a multitude of obstacles which can severely damage their coping capacities. HIV/AIDS is a chronic medical condition which, when people are infected with, needs to be treated with care and love from the community, friends and family members. People with HIV/AIDS have different unmet needs. This makes them to live with additional challenges in their daily lives. Unfortunately, these areas have not been fully investigated, as a result creating knowledge gap in HIV/AIDS studies. The present study, therefore, intends to assess the unmet needs and well-being of people living with HIV/AIDS.

3. AIM OF THE STUDY

The study aims at exploring the unmet needs and well-being of people living with HIV/AIDS in Polokwane/Mankweng Hospital Complex.

4. OBJECTIVES OF THE STUDY

- a. To understand the nature of medical challenges faced by people living with HIV/AIDS and how these affect their psychological well-being.
- b. To understand the social challenges faced by people living with HIV/AIDS and how these affect their psychological well-being.
- c. To understand how age of participants affect psychological well-being.
- d. To understand how males and females living with HIV/AIDS report psychological well-being.

5. RESEARCH QUESTIONS

- a. What are the medical challenges faced by males and females living with HIV/AIDS and how do these challenges affect psychological well-being?
- b. What are the social challenges faced by males and females living with HIV/AIDS and how do these challenges affect psychological well-being?
- c. Are there age differences in the psychological well-being of people living with HIV/AIDS?
- d. Are there gender differences in the psychological well-being of people living with HIV AIDS?

6. SIGNIFICANCE OF THE STUDY

This study has both practical and theoretical significance:

PRACTICAL SIGNIFICANCE

- a. The study will benefit other institutions in terms of which areas of research to focus on.
- b. The study will benefit the government in terms of policy making and formulation of strategies to combat the pandemic.
- c. Psychological personnel will know which kinds of services they need to render to people living with HIV/AIDS.
- d. The study will help health care practitioners in understanding the needs of people living with HIV/AIDS.
- e. Medical practitioners will know the kinds of services they need to render to people living with HIV/AIDS.
- f. The study will help the society in understanding the needs of people living with HIV/AIDS.

THEORETICAL SIGNIFICANCE

Several theories discussed briefly below will be applied and adapted to some variables of this study.

- a. Wilson and Clearly's (1995) Multidimensional model of health-related quality of life model is a model that includes physiological and biological factors, symptom status,

functional status, and general health perception. This description aids in understanding the needs of PLWHA and how they affect quality of life thereof.

- b. Devin's (1994) hypothesized relations among illness intrusiveness, its determinants and quality of life model depicts the treatment, disease, psychological, and social factors that influence quality of life. This model helps in understanding the role played by a particular illness and how it determines the quality of life.
- c. Cella and Tulsky (1993) conceptualization of quality of life is arranged in four domains which include: functional well-being, social well-being, physical well-being, and lastly the emotional well-being. All these domains are important in explaining the individual's functioning and how this functioning can be altered, negatively affecting quality of life.
- d. Conceptual framework-model of the relationship between health-related quality of life and unmet needs by Foot and Sanson-Fisher (1995) indicated that there is a great significance between unmet needs and quality of life. This model will help with the understanding of how these two affect each other in the lives of PLWHA.

CHAPTER TWO

OPERATIONAL DEFINITIONS AND THEORETICAL FRAMEWORK

2.1. INTRODUCTION

There is substantial research that has been conducted on HIV/AIDS. Various researchers understand this phenomenon from different points of view. Unmet needs and well-being will be discussed as applicable to this study. The concepts will be operationally defined and appropriate theories fitting the study will be explained and applied.

2.2. OPERATIONAL DEFINITIONS

AIDS- Acquired Immune Deficiency Syndrome- It is a set of symptoms and infections resulting from the damage to the human immune system caused by the human immunodeficiency virus (HIV). This condition progressively reduces the effectiveness of the immune system and leaves individuals susceptible to opportunistic infections and tumors (Wikipedia, 2009).

HIV- Acronym for the Human Immunodeficiency Virus, the cause of AIDS (acquired immunodeficiency syndrome). HIV has also been called the human lymphotropic virus type III, the lymphadenopathy-associated virus and the lymphadenopathy virus (MedicineNet, 2009).

ARV- medication given to people living with HIV/AIDS. Virology referring to an agent or effect that counters a retrovirus. A drug that counters or acts against a retrovirus, usually understood to be HIV FDA-approved antiretroviral include reverse transcriptase inhibitors,

nucleoside analogues and protease inhibitors (McGraw-Hill Concise Dictionary of Modern Medicine, 2002).

ASSESSMENT- a process whereby a researcher gathers data from participants and analyzes them to come to certain empirical conclusions.

NEEDS- requirements for people living with HIV/AIDS. Something useful, required, or desired that is lacking, defined in terms of medical, psychological and social needs.

WELL-BEING- individual's state of mental and psychological functioning measured with the General Health Questionnaire (GHQ 28), defined on the scores obtained on the GHQ subscales of well-being: depression, somatic complaints, anxiety and social dysfunction.

2. 3. THEORETICAL PERSPECTIVE

2.3.1. WILSON AND CLEARLY'S MULTIDIMENSIONAL MODEL OF HEALTH-RELATED QUALITY OF LIFE

Wilson and Clearly's (1995) multidimensional model of health-related quality of life identified variables that can relate to an individual's quality of life. The model's variables include physiological and biological factors, which comprise of medical diagnoses, physical examination data, and laboratory measures; symptom status, which refers to the individual's perception of an abnormal physical, emotional, or cognitive state; functional status, which includes the individual's ability to perform physical tasks, and health perception are the individual's self-perception of health status. Physiological and biological variables comprise of medical diagnosis, physical examination data, and laboratory measures. Symptom status

refers to the individual's perception of abnormal physical, emotional, or cognitive state. Functional status includes the individual's ability to perform physical tasks, and general health perceptions are the individual's self-perception of health status. This model was used by Henderson (2007) in the study of testing a model of health related quality of life in persons with HIV and liver disease as it has the potential to biomedical and social science paradigms and likely to bridge the gap between physiological indicators and patients' perceptions of their overall quality of life (Wilson & Clearly, 1995).

2.3.2. DEVIN'S HYPOTHESIZED RELATIONS AMONG ILLNESS INTRUSIVENESS, ITS DETERMINANTS AND QUALITY OF LIFE

Devins' (1994) developed a model depicting psychosocial impact of a chronic life-threatening illness. The model depicts the treatment, disease, psychological, and social factors that influence quality of life. However, there is an important factor, illness intrusiveness, which plays a major role between psychosocial factors and quality of life. The disease factor includes variables such as pain, fatigue and disability. Treatment factors, such as the type of treatment and the treatment schedule are also included. These may result in change of quality of life. Psychological and social factors such as social support, illness relatedness concern, intellectual and coping resources may also affect illness intrusiveness which, overall, affects the overall quality of life.

2.3.3. CELLA'S CONCEPTUALIZATION OF QUALITY OF LIFE

Cella and Tulsky (1993) developed a conceptualization of quality of life which is arranged into four domains, namely functional well-being, social well-being, physical well-being and emotional well-being. Each domain contributes to overall quality of life. The domain of functional well-being was defined by Cella as the subjective perspective regarding one's ability to perform daily tasks or activities of daily living. This domain can be related to roles at work or with family or friends. The domain of social well-being encompasses social support, close relations with family or friends, and intimacy. The domain of physical well-being sensitizes the individual's perceptions of their own bodily functions, including disease symptomatology, side effects of medication or general physical well-being. The last domain of emotional well-being is defined as being bipolar, with both positive and negative affect relations. The overall quality of life was defined as one's self-perceived overall well-being.

2.4. THEORETICAL FRAMEWORK

The perspectives discussed above are discussed within the theoretical framework for unmet needs and well-being among people living with HIV/AIDS.

CONCEPTUAL FRAMEWORK-MODEL OF THE RELATIONSHIP BETWEEN HEALTH RELATED QUALITY OF LIFE AND UNMET NEEDS

Foot and Sanson-Fisher (1995) developed a framework of five domains of needs. They are: physical and daily living, patient care and support, psychological, health information, and interpersonal communication needs. The domains of need are explained as follows: physical

and daily living means loss of independence and side effects; patient care and support deals with clinic and hospital staff sensitivity to physical, emotional and privacy choice of specialists; psychological encompasses emotional and psychological aspects, anxiety, anger, and depression; health information gives information about the disease treatment and prognosis; and lastly interpersonal communication forms part of interacting and communicating with others. The framework also has dimensions of health-related quality of life, closely related to Cella's model. They include physical, functional, emotional and social functioning which in large measure affects quality of life. This model was also used by Davies (2000) in the study of determining the unmet needs of outpatients with lung cancer and the relationship between unmet needs and quality of life.

Three quality of life models have been discussed above; these have different variables and domains. The first is the Wilson and Clearly (1995) model, which consists of biological and physiological factors, symptom status, functional status, general health perceptions and overall quality of life. The second is the Devin's (1994) model which consists of treatment factors, disease factors, psychological and social factors, illness intrusiveness and its determinant to overall quality of life. The last model is that of Cella and Tulsky (1993), which has four domains: emotional, physical, social, and functional and the overall quality of life.

The present study will adopt the Foot and Sanson-Fisher's model (1995), as it explains the domains of needs and quality of life and how they affect each other. Variables in this model will help explain variables in the current study. These are the needs of people living with HIV/AIDS. When these needs are not met, the quality of life is affected, and in this study the

quality of life is understood as well-being which is an integral part of need. Psychological and social factors have been associated with health-related quality of life among medically ill people in Patterson, Shawn, Semple, Moscona, Harris, Kaplan, Grant and Jeste (1997). Hwang, Chang, Cogwell, Alejandro, Osenenko, Morales, Srinivas and Kasimisi (2004) reported that patients with higher psychological and physical symptom distress and depression, lower functional status were likely to report more unmet needs and the total number of unmet needs was predictive of quality of life. From this model it is observed that individuals with unmet needs are more likely to have a negative quality of life. As adopted in this study, it implies that unmet needs do affect the psychological well-being in the lives of people living with HIV/AIDS.

The theories discussed above indicated how psychological functioning can be determined by various aspects. Factors such as physical domain, emotional domain, social domain and functional domain all play a role in determining the overall functioning of a human being.

CHAPTER THREE

LITERATURE REVIEW AND HYPOTHESES

3.1. INTRODUCTION

This chapter will focus on the literature that was gathered by the researcher. This is to show what other researchers have done on HIV/AIDS. It is meant to give the researcher guide and direction to hypothesis testing.

3.2. MEDICAL CHALLENGES

3.2.1. MEDICATION

As one of the measures to effectively deal with the HIV/AIDS pandemic, government has come up with a treatment strategy. The treatment requires extremely high levels of adherence for long periods to be fully effective. Adherence to Highly Active Antiretroviral Therapy (HAART) may be especially difficult to achieve due to complexity and combination of treatment regimens and due to short and long-term adverse effects (Perreti-Watel, Spire, Schiltz, Bounhnik, Heard, & Lert, 2006). Infected patients face a lifetime of taking multiple medication and some patients drop out of HAART due to severe side effects (Barlow & Durand, 2005). The physical and medical impacts of HIV/AIDS that are brought by the opportunistic infections create more challenges. These challenges can be so devastating enough to cause psychological distress (Olapegba, 2005).

According to Stansbury and Sierra (2004), parents may shoulder treatment and health care expenses as well as daily living expenses of the ill son or daughter. When there is an HIV/AIDS sick person in a household, incomes are directed for care of HIV/AIDS infected persons. Some families are unable to care for their loved ones due to financial difficulties. In some instances the infected person is the bread winner and when that individual falls, ill there is no form of financial support for the household. Although the South African government's 2003 plan aimed to have 381,177 people on Government funded ARVs by 2005-2006, only 85,000 people in the public sector were receiving treatment by September 2005. Even where drugs are theoretically available – for example, a total of 93 versions of ARVs have been registered in Zambia – these ARVs are still not easily accessible to those who need medication (PANOS, 2006).

According to Ogunbodede (2004), although the introduction of Highly Active Antiretroviral Therapy has increased, only about 300, 000 people in developing countries receive antiretroviral drugs. In sub-Saharan Africa only 50, 000 people had access to antiretroviral treatment at the end of 2002. The study that was conducted in the deep rural areas of KwaZulu Natal indicated that hospital workers expressed reservations about the ability of residents of such poor and remote communities to access and adhere to drug treatment once these are available (Campell, Nair, Maimane, & Sibiya, 2008).

A diagnosis of AIDS brings considerable physical suffering, especially with limited treatment that includes no access to antiretroviral medication (Duffy, 2005). If treatment is available, adherence to HAART remains a challenge for PLWHA (Albus, Schmeisser, Salzberger, & Fatkenheuer, 2005). This adherence can be associated with problems with life stress,

depression and the difficulties in adjusting to the HIV diagnosis (Konkle-Parker, Erlen, & Dubbert, 2008). In 5-10 years after people have become infected with HIV/AIDS they usually get sick and die and it is difficult for them to get the ARVs which are believed to prolong good health (Johansson, 2007). This therefore adds to the number of challenges that PLWHA are already faced with. Other PLWHA reported constitutional, neurological, digestive, pulmonary, cognitive, musculoskeletal, genitourinary, and gynaecological symptoms involving most major organ systems (Makoae, Seboni, Molosiwa, Moleko, Human, Sukati, & Holzemer, 2005).

The other concern is that in other countries the criteria of accessing treatment is unjust. In West Africa, these criteria are based on social characteristics, level of income, profession, social status, and number of dependants (Furber, Hodgson, Desclaux, & Mukasa, 2004). Even though some patients are subsidised for their hospital payments, they still need to supplement the medication with proper nutrition. This is difficult for a number of PLWHA due to unemployment. Throughout the disease, PLWHA require active treatment and palliative care (Gray & Berger, 2007). O'Brien, Bayoumi, Strike, Young and Davis (2008) indicated that health related quality of life in PLWHA is determined by a number of factors. They used the term disability to relate to the health challenges faced by PLWHA. This was characterised by ups and downs i.e. from when the individual is feeling better and is able to perform daily activities to when an individual is feeling sick to such an extent that hospitalization is needed. The major factors influencing ART adherence were the medication line, stigma, the route (which is regular administration times and access to medications), administrative choice, relationship with health care providers, policies, education and counseling about the disease and medical privacy (Roberson, White, & Fogel, 2009).

A study that was conducted in Botswana by Nam, Fielding, Avalos, Dickinson, Gaolathe and Geissler (2008) indicated that acceptance of HIV status is key in ARV adherence by PLWHA. HIV+ subjects who are on HAART in Rwanda with body fat changes experienced greater psychological and social impairment of quality of life than those without body changes (Mutimura, Stewart, & Crowther, 2007). Pain management may be effective in improving physical quality of life (Vosvick, Koopman, Gore-Felton, Thoresen, Krumboltz, & Spiegel, 2003). On the other hand, PLWHA who are receiving medication default and the presence of HAART failure was significantly associated with increased self-reports of physical health complaints (Parsons, Braaten, Hall, & Robertson, 2006). Distress may precede the decline in immune function seen in HIV infection (Golub, Astemborski, Hoover, Anthony, Vlahov, & Strathdee, 2003).

3.2.2. HEALTH CARE SERVICES AND HEALTH CARE WORKERS

Primary care physicians can play an important role in helping patients adjust to the news of a positive test result (Remien & Rabkin, 2001). Health workers have been overwhelmed by the impact of HIV/AIDS on the public health services, with the majority of resources in many facilities going to treat people presenting with opportunistic infections or dying from AIDS-related illnesses. This has resulted in overcrowding of under resourced hospitals, with health care professionals working under difficult conditions in places where there is also shortage of staff. Staff morale is often very low as a result of these poor conditions and also because of the distress of being unable to treat people effectively. The working conditions are made worse still by inadequate training of staff (Aids Foundation South Africa, 2005). In sub-

Saharan Africa there is a lack of potential to provide basic health care services, let alone the burden of providing ART to the PLWHA. There is also a great shortage of medical doctors in this region. This means that the more the number of people who need ART, the more the number of doctors needed so that they are able to monitor the patients on treatment (Van Damme, Kober, & Laga, 2006).

As it has been pointed out earlier, the number of PLWHA is increasing daily but health care workers are not. Instead, the majority of health care providers choose to work in private practice which makes it difficult for the PLWHA who come from disadvantaged family backgrounds to access such services. Benatar (2004) reported that there is a shortage of medical officers in South Africa despite the government's effort of training new medical officers.

Despite lack of medical assistance the majority of patients live far away from hospitals which make collection of medication difficult. Some of these patients have to travel more than 30 km to their nearest hospitals. Some of them complain about the hours they have to spend on the queue to see a medical practitioner. In KwaZulu Natal the Department of Health offered a mobile clinic services which made monthly visits to the area, but this proved to be insufficient as people complained that they needed frequent visits. Some patients cannot afford transport costs and if they do afford those costs, chronically ill patients are often treated and turned back home due to shortage of hospital beds (Campell, Nair, Maimane, & Sibiya, 2008). As the rate of HIV persons increases and as they experience opportunistic infections, the demand of health care services also rises up (Ehlers, 2006). With the unavailability of resources, PLWHA are also faced with HIV-related illnesses. About 63% of

Pulmonary Tuberculosis deaths are related to HIV in Agincourt-South Africa (Zwang, Garenne, Kahn, Collinson, & Tollmanet, 2007). There was evidence that some population groups (e.g., immigrants, the young) were differentially likely to lose Medicaid and losing Medicaid had negative effects on health service utilization. Loss of Medicaid among the young, currently healthy adults with HIV/AIDS appears to result in reduced access to primary health care services, which in turn would be expected to result in compromised health (Kelaheer & Jessop, 2006). This means that access to health care services is minimized. Anderson, Elam, Gerver, Solarin, Fenton and Easterbrook (2008) indicated that HIV/AIDS-related stigma and discrimination can have an impact on the care and treatment of PLWHA. In South Africa, access to many medications to treat symptoms associated with HIV infection is limited to the hospital and inpatient setting (Shawn, Campbell, Mnguni, Defilippi, & Williams, 2005).

3.3. SOCIAL CHALLENGES

3.3.1. EXTRINSIC SOCIAL CHALLENGES (ENACTED-STIGMA)

AIDS-related stigma is not a new thing to be discussed. Parker and Aggleton (2003) reported that AIDS-related stigma has been voiced since the mid-1980s. AIDS-related stigma can be related to anger and other negative feelings that might lead to the belief that they deserve their illness, hence reluctance in disclosure (Parker & Aggleton, 2003). It is said that HIV/AIDS-related stigma can be manifested in three main ways. The first way is when an HIV-positive person experiences judgemental stigmatizing attitudes, the second way is when the patient feels discredited and discounted upon disclosure of the disease (i.e., being

stigmatized) (Aranda-Naranjo, 2004). Though AIDS-related stigma and discrimination has been discussed before, PLWHA are still experiencing this problem today. This HIV/AIDS-related stigma and discrimination does not affect the people infected with HIV/AIDS only. It also tends to affect the families and friends of PLWHA. HIV/AIDS is the most stigmatized medical condition in the world and the reason behind this is related to the manner in which people get infected (Simbayi, Kalichman, Strebel, Cloete, Henda, & Mqeketo, 2007). The myth and beliefs associated with the HIV infection is that when one is infected it means he/she had multiple sexual partners or was engaged in drug taking involving the use of injection.

Stansbury and Sierra (2004) argue that stigma has been identified as a major obstacle mounting an effectiveness response to the epidemic, lying at the heart of discrimination against individuals with the disease and characterizing more fundamental socio-cultural vulnerability in communities. According to the research conducted in Kazakhstan; UN Office for the coordination of Humanitarian Affairs (2002) the results were that people living with HIV/AIDS often experience severe discrimination in accessing health care, housing and employment. In Swaziland it remains a taboo for one to declare publicly that one is HIV positive (UN Office for the coordination of Humanitarian Affairs, 2002). Whether infected by a husband or through blood transfusions, people living with HIV/AIDS suffer the stigma as those who contracted the virus through sexual encounter with an unknown individual (Carr & Gramling, 2004). Whether it was from promiscuous acts or through engaging in sexual intercourse with one partner, the stigma remains the same. This stigma which further creates emotional trauma intensifies the suffering (Duffy, 2005). Ulasi, Preko, Baidoo, Bayard, Ehiri, Jolly and Jolly (2009) indicated that the disclosure of HIV seropositive status leads to

discrimination and as a result PLWHA are likely to keep their status a secret and are reluctant to go for HIV voluntary counseling and testing (VCT).

HIV/AIDS-related stigma have been reported in the form of denial of insurance, housing, employment and other private or public benefit (Goston, 1990). Reactions to a friend with HIV/AIDS infection or disease vary greatly between people and have been like this for a long time. For example, many patients have confided in their employers about being HIV positive and having AIDS, only to be immediately suspended, dismissed or prematurely fired from work (Miller, 1987). HIV/AIDS-related stigma is not experienced by adults living with HIV/AIDS only, also children whose parents are diagnosed with HIV or have died because of HIV and HIV-related illness experience stigma and discrimination when playing with other children or are even forbidden from playing (Thampanichawat, 2008).

Household faith-based organizations have long borne the brunt of human tragedy of HIV/AIDS. It is at community level that people living with HIV/AIDS find comfort and support, or suffer discrimination and rejection (Aids Foundation South Africa, 2005). The quality of communication and environmental support from within the family and immediate social environment can have a major effect on the degree of physical and psychological distress. Lewis, Sperry and Carlson (1993) argue that people may be denied social support at the time in their lives they need it most. Persons living with HIV/AIDS may find themselves rejected by their families and friends, cast out of their homes, and unable to find or keep employment. The overwhelming psychological trauma and sense of threat experienced by people living with HIV/AIDS are undoubtedly intensified by the frightening, irrational fears and negative discriminatory responses of family members and friends (Arunkumar, 2005).

Although at times family members may be supportive, the neighborhood still conveys a danger of rejection (Furber, Hodgson, Desclaux, & Mukasa, 2004).

According to Kalichman and Simbayi (2003), AIDS does not occur in isolation of other serious social problems. Social factors generally, and social support in particular, have been identified as having a very important influence on the individuals to cope with a chronic illness such as HIV/AIDS. From the outset of the epidemic, infected individuals have been both feared and condemned by others. They have been subjected to social ostracism (Siegel & Lekas, 2002). A need of social support was indicated by PLWHA in the study that was conducted by Albus, SchmeiBer, Salzberger and Fatkenheuer (2005) which noted that there are various factors contributing to stigma in the lives of PLWHA. These factors can include aspects such as the manner in which the person acquired the HIV; the manner in which family members treat the infected person; the disclosure of HIV status to significant others; the health status of the infected person, and the length of time since the HIV diagnosis. As a result, these factors affect the way the infected person interacts with other people (Li, Wang, Williams, & He, 2009).

HIV-related stigma directly hurts people who lose community support due to their real or supposed HIV infection. Individuals may be isolated within their family, hidden away from visitors, or made to eat alone (Rankin, Brennen, Schell, Laviwa, & Rankin, 2005). In addition to the severe stress of living with such a devastating prognosis, people diagnosed HIV positive also often face severe social rejection and isolation. Stigma and discrimination associated with HIV and AIDS are the greatest barriers to preventing further infections, providing adequate care, support and treatment and alleviating the impact. HIV/AIDS-related

stigma and discrimination are universal, occurring in every country and region of the world (UNICEF, 2003). Community stigma does not only occur in countries such as South Africa alone or African regions. Feist-Price and Wright (2003) indicated that African-American women experience stigma in their communities. Men and women are experiencing stigma differently. Women are more likely to lose support from significant others when infected with HIV/AIDS due to the assumptions society has about them concerning heterosexual relationships. In certain countries it is a norm to see a man having more than one sexual partner but a taboo for a woman to practice such a behavior. On the other hand, men are stigmatized as it is thought that they affiliate with gay communities (Lichtenstein, Laska, & Claire, 2002). Stigma has an influence and does contribute to difficulties in psychological adjustment in men and women who are HIV-positive (Vanable, Carey, Blair, & Littlewood, 2006). In addition to this, stigma is associated with adherence difficulties and it is more likely to happen among people who disclose their status to significant others in their lives.

PLWHA who attend support groups have better mental health than those who do not attend support groups (Dageid & Duckert, 2007). In addition to this, Rotheram-Borus, Murphy, Wight, Lee, Lightfoot, Swendeman, Birnbaum and Wright (2001) pointed out that young people living with HIV who attended the Being Together intervention group reported significantly lower levels of global emotional distress, somatization, anxiety, and phobic anxiety. Unsupportive social interactions from friends, family and a lover/spouse are associated with higher depressive symptoms (Schrimshaw, 2003). If individuals were HIV+, they were at particular risk for elevated symptomatology and syndromal depression when they also had higher levels of support from family members (Dickey, Dew, Becker, & Kingsley, 1999). According to Mays and Cochran (2001), social stigma of homosexuality

may have important mental health consequences. The importance of social support was extended to PLWHA who use the internet. Persons who used the internet for health information were better informed about HIV-related diseases and reported more use of active coping strategies and greater social support (Kalichman, Benotsch, Weinhardt, Austin, Luke, & Cherry, 2003). Kang, Rapkin, Remien, Melliens and Oh (2005) found that social rejection, negative self-worth, and perceived interpersonal insecurity were associated with heightened level of distress. Peer-group support intervention has a significant impact on anxiety, depression, and anger among AIDS orphans (Kumakech, Cantor-Graae, Maling, & Bajunirwe, 2008).

3.3.2. INTRINSIC SOCIAL CHALLENGES (FELT-STIGMA)

Being diagnosed HIV positive is perhaps one of the greatest stressors one can imagine. Not only does it raise the constant and extreme fear of a relentless health deterioration and death, but also it creates social isolation that pervades all aspects of a person's life. To make matters worse, many people diagnosed with HIV/AIDS already suffer from social isolation and rejection (Irwin, 2002). According to Campell, Nair, Maimane and Sibiya (2008), patients and carers feel isolated emotionally in a community where HIV/AIDS stigma makes people reluctant to disclose their status. This fear of disclosure also makes it difficult for people to access support. Fear of discrimination can be in many forms. People living with HIV/AIDS are reluctant to take medications that identify them as being ill. There is also self-imposed isolation which keeps women and PLWHA in general from getting the support that they really need (Carr & Gramling, 2004). Corrigan and Watson (2002) in Mak, Cheung, Law,

Woo, Li and Chung (2007) identified self-stigma as a stigma that occurs when members of a devalued group, being aware of the prejudice, stereotype, and discrimination in society, endorse and internalize these beliefs and behaviors. Lee, Kochman and Sikkema (2002) indicated that high levels of internalised stigma significantly predict levels of depression, anxiety, and hopelessness and they also increase the risk of psychological distress.

The study that was conducted by (Shawn, *et al.* 2005) in South Africa indicated that many South Africans do not acknowledge their HIV status and do not choose home based care as they fear rejection from their family and community. Furthermore, Crook, Browne, Roberts and Gafni (2005) reported that support services provided by Community-Based AIDS Service Organization have reduced client isolation and improve health related quality of life. This means that if they are reluctant in disclosing their status they will not get services hampering their quality of life. Social support is a very essential need in the face of life threatening illness (American Psychological Association, 2007). Social support has been shown to improve depressive symptoms (Cohen, Sharma, Acquaviva, Peterson, Patel, & Kimmel, 2007). In China the society's morality has adversely affected the development of solidarity among various PLWHA and further stigmatized and marginalized those already stigmatized due to their "deviance" prior to HIV infection. To protect themselves and their families from stigmas and discrimination, many PLWHA made a conscious decision of nondisclosure. However, living with secrets creates more challenges in PLWHA's daily lives and, thus, may further compromise their health and well-being (Zhou, 2007). The consequences of HIV/AIDS-related stigma can be rather daunting. People have been attacked, some fatally, because they were open about the fact that they were living with the virus. Women have lost their homes because their husbands have accused them – often

wrongly – of bringing the virus into the home. Companies have fired or refused to hire people infected with HIV. Religious congregations have rejected people with HIV and villagers expelled them from their communities (PANOS, 2006).

Research conducted in Brazil indicates that children and adolescents are also experiencing stigma. Their stories show that even though AIDS is the main cause of stigma and suffering at different moments, there is a legacy of racism and economic and gender-based discrimination that influenced their first years of life and continues to impact their lives (Abadi'a-Barrero & Castro, 2006). It should be noted that besides direct effects of received support (and satisfaction with received support) on physical functioning, it is also possible that the effects of received support and satisfaction with support are mediated by self-efficacy which, in turn is mediated by finding benefits in being diagnosed with HIV) (Luszczynska, Sarkar, & Knoll, 2007). Supportive social network is important for those living with HIV/AIDS in South Africa (Ncama, McInerney, Bhengu, Corless, Wantland, Nicholas, McGibbon & Davis, 2008). The majority of the families in South Africa who were supporting PLWHA, expressed the experience of added strain as a result of social isolation and ostracism due to the stigma attached to HIV/AIDS (Smit, 2007).

3.4. PSYCHOLOGICAL CHALLENGES

3.4.1. WELL-BEING

According to Barlow and Durand (2005), psychological factors affect the progression of AIDS. Learning that one has an incurable terminal illness is extremely stressful for anyone.

This happens every day to individuals with HIV. High levels of stress and low social support are associated with the faster progression of the disease. Louw and Edwards (1997) maintain that psychological factors can change the functioning of the nervous system. The nervous system in turn, can change the functioning of the immune system. Mood disorders are bound to develop in patients suffering from HIV and AIDS, given the frequency and severity of the stressors that these patients have to face during their illness (Ruiz, 2000). People living with HIV/AIDS experience self-blame, lack of self-worth and depression. HIV is a pervasive system of discrimination and exclusion that oppresses people living with HIV/AIDS (Francis, 2004).

The psychological and spiritual suffering of AIDS patients can be unusually severe. Physical pain can lead to anxiety and/or depression. The National Institute of Mental Health (2000) argued that depression can strike anyone. People with serious illnesses such as HIV may be at a greater risk. HIV/AIDS represent a major life crisis, being a stigmatized progressive and chronic disease; therefore, support after the HIV diagnosis is of major importance (Fietsma, Koen, Pienaar, & Minnie, 2007). During specific times in the course of HIV disease, patients are particularly vulnerable to acute distress, such as when first notified of a positive HIV status (Remien & Rabkin, 2001). Lack of support in any way usually leads to depression or other psychological distress. Kalichman, Heckman, Kochman, Sikkema and Bergholte (2000) found that there is a greater association of one's HIV status and suicide ideation. They further indicated that those people who had suicidal ideation perceived to have received less social support from family and friends.

As with other serious illnesses such as cancer, heart disease or stroke, however, HIV often can be accompanied by depression, an illness that can affect mind, mood, body and behavior. People with HIV also have a high incidence of anxiety disorders such as panic disorder. HIV/AIDS is often associated with a range of psychological sequelae that must be addressed throughout all stages of HIV infection (Family Health International, 2007). HIV/AIDS not only affects the immune system, it also affects one's psychological well-being. The study that was conducted in China by Meng, Liu, Chen, Song and Qian (2008) revealed that PLWHA's quality of life was affected. The discrimination and stigmatization is one of the factors that affect quality of life. Other problems include guilt, self-blame and expensive medical costs. They all affect PLWHA and as a result, mental problems such as depression inevitably manifest. Disclosing one's status was thought could enhance the well-being of those carrying the virus but in some instances it led to stigma and discrimination (Muula & Mfutso-Bengu 2005; in Ehlers, 2006). Prachakul, Grant and Keltner (2007) in their pilot study of relationships among functional social support, HIV-related stigma, social problem solving, and depressive symptoms in people living with HIV, found that depressive symptoms in PLWHA are associated with perception of stigma, perceived social support, and how problems are viewed and solved.

3.4.2. QUALITY OF LIFE

Link (1992) noted that AIDS Dementia Complex (ADC) is a complicated syndrome made up of different nervous system and mental symptoms found somewhat commonly in people with HIV-disease. The frequency of ADC increases with the advancing of the disease. It is fairly

uncommon in persons with early HIV-disease, but is found more common in AIDS patients with system-wide symptoms. The more people have difficulties in revealing their HIV status the more burden rests upon their shoulders. PLWHA are faced with the challenges of disclosing their status to significant others. This creates a lot of emotional difficulties and distress. Despite the treatment that PLWHA might get, they will require help so that they are able to adopt the right attitude to their situation. Even though treatment will be available to deal with the opportunistic infections, the psychological effects of this virus are more difficult to handle (Olapegba, 2005). Furthermore, there is the psychological impact of watching other family members dying of AIDS-related illness (Hosegood, Preston-Whyte, Busza, Moitse, & Timaeus, 2007). Other psychological challenges may include feelings of anger, loneliness, decreased support from friends and family and decreased sense of dissatisfaction (Shawn, *et al.* 2005). Fatigue is the common symptom of HIV/AIDS and it affects quality of life in PLWHA. Psychological distress needs to be addressed in order to prevent fatigue. Health care providers need to address psychological stressors to people living with HIV/AIDS. Emotional experiences and psychiatric and mental problems are important to be understood as they lead to the provision with intervention (Gray & Berger, 2007). Learning that one is HIV positive is an isolating and daunting moment with significant psychological ramifications and can exacerbate the pre-existing psychiatric symptoms (Remien & Mellins, 2007).

UNAIDS (2000) said that it is important to remember that emotional pain, the fear of dying, for example, or the pain of guilt, the meaninglessness of life, can be real and can hurt as much as physiologically inspired pain. Psychological distress plays a significant role in determining how HIV/AIDS impacts upon PLWHA and house-hold well-being. Health status

had an impact on the lives of PLWHA, with increased health leading to increased psychological well-being (Thomas, 2006). Gielen, McDonnell, Wu, O'Campo and Faden (2001) pointed out that women living with HIV who practice more self-care behaviours (healthy diet and vitamins, adequate sleep and exercise, and stress management) reported better physical and mental health and overall quality of life. PLWHA can experience higher fatigue severity because of higher psychological symptoms (Voss, Sukati, Seboni, Makoae, Moleko, Human, Molosiwa, & Holzemer, 2007). Most patients with serious, progressive illness confront a range of psychological challenges, including the prospect of real and anticipated losses, worsening quality of life and coping with uncertainty during their HIV seropositive status (Remien & Rabkin, 2001).

After being diagnosed with HIV, the majority of people tend to be depressed, angry and have a sense of losing hope in the future (Kelly, Freeman, Nkomo, & Nhlabati, 2006). The family of people who die due to HIV and HIV-related illnesses not only experience grief or loss. They also experience, anger, self blame, resentment and discrimination by community members, factors which influence their mental health significantly (Mizota, Ozawa, Yamazaki, & Inoue, 2006). This constellation of psychological symptoms suggests that people living with HIV/AIDS experience significant distress. Distresses likely to be reported include high levels of fear, worries, depression, and anxiety. It also suggests a great need for counseling services and psychological support (Makoae, *et al.* 2005). Depression and suicidal ideation represent significant problems for many older adults, especially those living with HIV. Logically, those who are aging with HIV may be particularly vulnerable to these influences (Vance, Moneyham, Fordham, & Struzick, 2008). Depth processing of traumatic experiences is related to long-term survival with AIDS and is associated with protected

immune status for women (O’Cleirigha, Ironsona, Antonia, Fletcher, McGuffeya, Balbina, Schneidermana, & Solomon, 2003). In another study HIV-related symptom was enough to significantly decrease all of the HRQOL scores (Bing, Hays, Jacobson, Chen, Gange, Kass, Chmiel, & Zucconi, 2000). A study conducted in the Eastern Cape province of South Africa indicated that despite improved treatments for HIV/AIDS, many living with the disease continue to experience high levels of physical and psychological symptomatology and being on HAART was not associated with lower HIV symptom levels (Peltzer & Phaswana-Mafuya, 2008). Reduction in depression helps improve the health-related quality of life in the lives of PLWHA (Elliot, Russo & Roy-Byrne, 2002). Morrison, Petitto, Have, Gettes, Chiappini, Weber, Brinker-Spence, Bauer, Douglas and Evans (2002) investigated depressive and anxiety disorders in women with HIV infection and found that women who are HIV seropositive are more likely to have depressive and anxiety disorders than their HIV seronegative counterparts.

3.5. HIV/AIDS AND AGE

Stigma associated with age and HIV stigma place many people at social and psychological disadvantage. This leads to combined stress which makes difficult for personal coping mechanisms. Older adults who disclosed their HIV status reported that they felt that social services and health professionals were blaming them and discriminating them for contracting HIV/AIDS (Vance, Moneyham, Fordham, & Struzick, 2008). Adolescents who are orphaned by AIDS are more likely to experience AIDS-related stigma which leads to depression,

posttraumatic stress, conduct problems and behavioural problems (Cluver, Gardner, & Operario, 2008).

Lack of adequate emotional support and feelings of isolation affects the individual's coping mechanism and this contributes to depression and suicidal ideation in older people living with HIV/AIDS (Vance, *et al.* 2008). The study that was conducted by Burgoyne and Renwick (2004) indicated that social support contributes significantly to adults living with HIV/AIDS. Older people living with HIV/AIDS who had thought about suicide indicated to have received less social support from their family and friends (Kalichman, *et al.* 2000).

Decline in physical functioning and death can contribute to depression. Adults aging with HIV are likely to experience comorbidities besides HIV. HIV itself may result in fatigue and depression leading to suicidal ideation (Vance, *et al.* 2008). Louwagie, Bachman, Meyer, Booyesen, Fairall and Heunis (2007) indicated that HAART is effective in improving health related quality of life among adults living with HIV. Children and adolescents are faced with the challenges of adhering to treatment (HAART) (Abadi'a -Barrero & Castro, 2006). On the other hand, older people who are HIV positive are faced with multiple challenges. They are faced with difficulty of making medical decisions and they are more likely to have shorter survival times than young people who are HIV positive despite being on HAART (Levy, Ory, & Crystal, 2003). Older people living with HIV/AIDS showed shorter survival time than younger people living with HIV even when they show good response to HAART (Navarro, Noguerras, Segura, Casabona, Miro, Murillas, Tural, Ferrer, Jaen, Force, Vilaro, Garcia, Masabeu, Altes, Esteve, Sued, Riera, Clotet, Podzamczar, & Gatell, 2008). Adults living with HIV found that identifying someone whom they can trust and share their burden of HIV-

status is an important part for adherence with medication. Social support was found to be an important aspect of bringing hope in these people's lives (Nam, *et al.* 2008).

Lowe, Gibson and Christie (2008) conducted a study in Jamaica amongst adolescents who were infected with HIV and found that adolescents living with HIV who had poor social support reported to have psychiatric symptoms than those who had good social support. Social support intervention might be particularly beneficial for older persons living with HIV infection (Chesney, Chambers, Taylor, & Johnson, 2003). In the US, Liu, Johnson, Ostrow, Silvestre, Visscher and Jacobson (2006) found that older age was significantly associated with worse physical functioning. Older people living with HIV/AIDS may find themselves alone at home as their adult children have left them. This exposes them to loneliness and lack of social support. Hawkley and Cacioppo (2007) argue that loneliness comes with ageism. They further added that those aging with HIV may be particularly at risk for fragile social networks and social isolation. Older people may have a comorbid illness while living with HIV/AIDS (Piette, Wachtel, Mor, & Mayor, 1995). Moreover, women displayed poorer mental health than HIV-seropositive men (Cook, Cohen, Burke, Grey, Anastos, Kirstein, Palacio, Richardson, Wilson, & Young, 2002).

3.6. HIV/AIDS AND GENDER

Men living with HIV/AIDS have greater rates of suicidal ideation than women living with HIV/AIDS and this are likely to be associated with HIV-related physical symptoms (Kalichman, et al, 2000). Most men and women who have a pre-existing depression it starts

to worsen after they are diagnosed with HIV. It also becomes chronic depression when they lose employment, they start to have financial problems, and they suffer isolation and poor health due to HIV/AIDS. However women tend to suffer more social isolation and stigmatization (Lichtenstein, Laska, & Clair, 2002). This is likely to be because of various factors. Women are expected to engage in heterosexual relationships with one partner. If a woman is married extra-marital relationships are unacceptable. It comes as a surprise to the society when a woman present being HIV positive. The concluding comment is that she was cheating not giving her the benefit of the doubt that perhaps she might have contracted the virus from her partner. Women are vulnerable to a number of social challenges. There are activities that put women at risk of contracting HIV such as injecting drugs and high-risk sexual behaviours. These behaviours themselves make women vulnerable to violence, family problems and inadequate social support (Hader, Smith, Moore, & Holmberg, 2001).

Stigma is a major contribution to difficulties in psychological adjustment among HIV positive men and women. Stigma or discrimination directed towards PLWHA becomes more frequent as overt symptoms of the illness emerge (Venable, Carey, Blair, & Littlewood, 2006). Other women living with HIV indicated that they were isolated by significant others in their lives once they disclosed that they were HIV positive. These isolated women, reported that they valued social support. They said that support groups helped them in talking about their feelings with people who understood them and who did not judge them (Enriquez, Lackey, & Witt, 2008). This is also supported by Hudson, Lee, Miramontes and Portillo, (2001) who indicated that women feel stigmatized and devalued due to HIV and they have to wait for a certain period to seek medical care. A study conducted by Siegel and Schrimshaw (2005) indicated that women living with HIV in the HAART era believe that being on

HAART were more likely to report health-related stressors such as stigmatization and disclosure issues.

HIV positive gay men indicated that learning that one is HIV positive is the most difficult thing to accept. Their reactions included depression, denial, anger and self-blame. This led to difficulties in adhering to antiretroviral treatment. However, they indicated that social support plays an important role to medication adherence (Brion & Menke, 2008). Emotional support was reported to be helpful by both HIV asymptomatic and symptomatic gay men living with HIV (Pakenham, 1998). Men living with HIV are also admitted to care facilities with complaints such as weakness, (tiredness and fatigue), weight loss, disease progression, and pain and medication adherence (Fields & Selwyn, 2003). In South Africa, Simbayi, et al. (2007) indicated that men living with HIV experienced more internalized stigma than women living with HIV. A study conducted in the US found that women living with HIV, especially those who are socially and economically marginalized, continue to experience significant distress, even when they receive ongoing medical care and have access to HAART (Remien, Exner, Kertzner, Ehrhardt, Rotheram-Borus, Johnson, Weinhardt, Kittel, Goldstein, Pinto, Morin, Chesney, Lightfoot, Gore-Felton, Dodge, Kelly, & NIMH Healthy living project trial group, 2006).

Having larger social networks is associated with better mental health and overall quality of life in women living with HIV/AIDS (Gielen, McDonnell, Wu, O'Campo, & Faden, 2001). This can mean that having more people whom you can rely on is better than having few people. Having more people around is better because at least one of them might be available unlike when there are few people who might all not be available in times of need. Women

living with HIV are more concerned about their health. This is evident by a study conducted by Enriquez, Lackey and Witt (2008) which indicated that women living with HIV desired a high frequency of health care interventions. Sanders (2008) also mentioned that more women experience stigma and feelings of ambivalence. The stigma is also added by nurses who have judgmental attitudes towards people with HIV/ AIDS, especially regarding the means by which the patient contracted the disease and the extent to which nurses believed this to be self-inflicted (Surlis & Hyde, 2001).

Men and women living with HIV/AIDS report high prevalence of fatigue. This high prevalence of fatigue is associated with physical and psychological symptoms such as fever and depression (Voss, *et al.* 2007). Women also experience high levels of fatigue and greater fatigue severity (Husain, Stewart, Arseneault, Moineddin, Cellarius, Librach, & Dudgeon, 2007). Solomon, Venkatesh, Brown, Verma, Cecelia, Daly, Mahendra, Cheng, Kumarasamy and Mayer (2008) examined gender-based differences in the quality of life in men and women living with HIV in South India and found that women reported more psychological challenges than men. Women living with HIV/AIDS reported poor health-related quality of life than men living with HIV (Mrus, Williams, Tsevat, Cohn, & Wu, 2005). Women with HIV/AIDS had worse conditions than men in most aspects of life. This is because of lack of positive perception of their role in the society and cultural beliefs in addition to the stigma attached to the disease (Nojomi, Anbary, & Ranjbar, 2008).

Prevalence of current and lifetime Axis I anxiety disorders did not differ between men with or without AIDS. Other studies found that men with more HIV symptoms, physical limitations, and greater fatigue reported higher levels of stress and anxiety (Sewell, Goggin,

Rabkin, Ferrando, McElhiney, & Evans, 2000). Reports of the caregivers of children living with HIV/AIDS indicated that more girls exhibited withdrawn/depressed symptoms (internalizing) than boys (Burgos, Hernandez-Rief, Mendoza, Castillo, & Shor-Posner, 2007). A study conducted in South India found that women have lower scores on several areas of Quality of Life compared to men (Chandra, Satyanarayana, Satishchandra, Satish, & Kumar, 2009).

3.7. RESEARCH HYPOTHESES

3.7.1. People living with HIV/AIDS with more medical challenges will suffer more psychological distress than those with less medical challenges.

3.7.2. People living with HIV/AIDS with more social support will suffer less psychological distress than those with less social support.

3.7.3. Young people living with HIV/AIDS will suffer more psychological distress than older people living with HIV/AIDS.

3.7.4. Women living with HIV/AIDS will suffer more psychological distress than men living with HIV/AIDS.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. INTRODUCTION

This chapter focuses on research methodology, which comprises of the tools and techniques upon which the entire research was based. It includes data collection methods, instruments, sampling and sampling size, procedure used to collect data and methods of data analysis.

4.2. METHOD

4.2.1. RESEARCH DESIGN

The study is quantitative and as a result used a randomized-cross sectional design. This design is useful for the needs assessment phase of research dealing with the development and a group work programme (de Vos, 2002). The focus is on relationships between and among variables in a single group and all measures is taken at the same time (Robson, 2002).

The researcher used the design to study the relationship between selected demographic variables (i.e. age-young and old; gender-male and female; and nature of needs-psychological; social: social support and the satisfactory of it; and medical: lack of ARVs and access to hospitals/treatment).

4.2.2. SAMPLING

Purposive sampling was used in this study. It is not always the case that generalization from sample to population is required. A selection of those to be surveyed is made according to a known characteristic (May, 1993). A sample is composed of elements that contain the most characteristic, representative or typical attributes of the population (de Vos, 2002). The researcher picks subjects on the basis of specific characteristics, building up a sample of sufficient size having desired traits. It ensures a balance of group sizes when multiple groups are to be used. The sample method is difficult to justify the representativeness of the resulting sample (Black, 1999). The strategy is to select units that are judged to be typical of the population under investigation. The greater danger of this sample is that it relies heavily on the subjective considerations of the researcher than on scientific criteria (Bless & Higson-Smith, 1995).

The sample was drawn from men and women who attend the HIV/AIDS clinic at Polokwane/Mankweng Hospital Complex. A total number of 200 males and females living with HIV/AIDS participated in the study.

4.2.3. PARTICIPANTS/ SETTING

Participants were ($N = 200$) young and adult males and females living with HIV/AIDS who attend HIV/AIDS clinic/unit in Polokwane/Mankweng Hospital Complex. The age of the participants ranged from 20-71 years ($\bar{X} = 43.70$, $SD = 12.420$). Of the sample 124 (62%) participants were women and 75 (37, 5%) were men. The majority of the participants (56%)

were single, followed by (33%) of married people and (9.5%) of those who are widowed. Most participants were Christians (88.5%) and had secondary education (42.5%). Participants' duration of diagnosis or years that they have been living with HIV/AIDS ranged from 0-19 years ($\bar{X} = 3.31$, $SD = 3.070$).

4.3. INSTRUMENTS

A questionnaire was designed with FIVE sections- A, B, C, D and E. The sections were as follows:

SECTION A (DEMOGRAPHICS)

Participants answered questions on age, sex, marital status, and religion, level of education, and years of education.

SECTION B (QUESTIONS ON MEDICAL CHALLENGES)

Participants answered questions such as how long they had been diagnosed, age at diagnosis, access to ARVs and how often, access to hospital treatment and how often they had access to a medical doctor/ nurse.

SECTION C (QUESTIONS ON PSYCHOLOGICAL CHALLENGES)

Participants answered questions relating to their access to a clinical psychologist and how often, access to an HIV/AIDS counselor and how often, access to a social worker and how often, possession of medical aid and whether medical aid was meeting their needs.

SECTION D (MULTIDIMENSIONAL SCALE TO MEASURE SOCIAL SUPPORT)

The description of Multidimensional Scale of Perceived Social Support and psychometric properties.

The MSPSS (Zimet, Dahlem, Zimet, & Farley, 1988) is a scale used to assess social support. The scale contains 12 items whereby the testee rates support received from family members, friends and significant others. All items have a 7 point scoring system from 1-7, with (1) indicating very strongly disagree, (2) strongly disagree, (3) mildly disagree, (4) neutral, (5) mildly agree, (6) strongly agree and (7) very strongly agree.

Canty-Mitchell and Zimet (2000) assessed reliability of the MSPSS with Cronbach's coefficient alpha and the results for the MSPSS scale was .93. The discriminant validity for the Family subscale ($r = 0.76$, $p < 0.001$), Friends subscale ($r = 0.33$, $p < 0.001$), and Significant other subscale ($r = 0.48$, $p < 0.001$). The psychometric properties of this scale were validated in South Africa by Bruwer, Emsley, Kidd, Lochner and Seedatet (2008). The reliability of this scale was tested for the present study population and the Cronbach's alpha was .91.

SECTION E (WELL-BEING SCALE- GHQ-28)

The description of GHQ-28 and psychometric properties

The GHQ-28 (Goldberg & Allison, 1995) is used to detect psychiatric disorder in the general population and within community and non-psychiatric clinical setting such as primary care or general medical outpatients. In the GHQ-28 the individual is asked to compare his/her recent psychological state with his usual state. All items have a 4 point scoring system using Likert

scoring (0-1-2-3) with high score indicating more pathology. The GHQ-28 contains 28 items that, through factor analysis, have been divided in two four subscales (Vallejo, Jordan, Diaz, Corneche, & Ortega, 2007).

This scale was also used by other researchers in South Africa. For example, Ward, Lombard and Gwebeshu (2008) used this scale in their study of critical incident exposure in South African emergency medical personnel: prevalence and associated mental health issues and was reliable. The reliability of this scale was tested for the present study and the Cronbach's alpha was .94.

4.4. PROCEDURE

Ethical protocols were approved by the Department of Psychology and the School of Human and Social Sciences Senior Degrees Committee of the University of Limpopo (Turffloop Campus). Permission to continue with the study was first granted from the Department of Health and Social Development of the Limpopo Province of South Africa. Furthermore permission was obtained from the CEO of the hospital who wrote to the participating clinic a memo with regard to the study to be undertaken. Clinic managers also made staff members aware that there will be a study taking place in their section and encouraged them to offer support to the researcher.

The researcher visited the selected hospital to reach the participants. The participants were informed about the nature of the study and they agreed to participate. They were then provided with the questionnaires for them to fill in; thereafter the researcher collected the

questionnaires and kept them for data analysis. Questionnaires were filled in the presence of the research assistant, enabling the clarifying of certain questions to the participants.

4.5. STATISTICAL METHOD

Data collected were analyzed using Statistica for windows programme. An Analysis of Variance (ANOVA) was employed to investigate differences between-group differences. Post-hoc test (Bonferroni) was employed to establish within some of the group differences.

CHAPTER FIVE

RESEARCH RESULTS

5.1. INTRODUCTION

The aim of the study was to explore the unmet needs and how these affect the well-being of people living with HIV/AIDS in Polokwane/Mankweng Hospital Complex.

A questionnaire consisting of five subsections was used to collect data for the study. The sections covered the biographical information, questions on medical needs, questions on psychological needs, social support as measured by the multidimensional scale of perceived social support and psychological well-being as measured by the GHQ-28. Data were computed with ANOVA. Results are presented below in tables and figures.

5.2. Results of the study

5.2.1. Hypothesis one: Medical groups and well-being

Hypothesis one, which stated that people living with HIV/AIDS with more medical challenges will suffer more psychological distress than those with less medical challenges was tested with one-way ANOVA and results showed that there was no statistical significance between PLWHA who have medical challenges and those who do not have medical challenges.

Table 5.1. ANOVA for the Psychological Well-being and Medical Groups

	SS	DF	MS	F	p
Somatic complaints	22.494	1, 198	22.494	1.1940	n/s
Anxiety and insomnia	32.414	1, 198	32.414	0.9713	n/s
Social dysfunction	1.020	1, 198	1.020	0.0691	n/s
Severe depression	2.573	1, 198	2.573	0.14321	n/s
Total GHQ	0.0663	1, 198	0.0663	0.276	n/s

n/s- Not significant

The above table indicates that there is no statistical difference between the medically challenged and the medically unchallenged groups and psychological distress. However, although those who are medically challenged reported more of somatic complaints, depression, anxiety and social dysfunction than those who are not medically challenged, this difference did not reach an acceptable significance.

However, according to table 5.2 and figure 5.1. and 5.2. there exist differences in psychological distress between PLWHA with more medical challenges and those with less medical challenges. PLWHA who reported to have medical challenges have higher scores on somatic complain ($\bar{X} = 7.13$) versus those who did not report medical challenges ($\bar{X} = 6.14$). PLWHA who reported to have medical challenges also have higher scores on anxiety and insomnia ($\bar{X} = 7.23$) than those who reported no medical challenges ($\bar{X} = 6.10$). Lastly, PLWHA who reported to have medical challenges had high scores on severe depression ($\bar{X} = 3.80$) than those who reported no medical challenges ($\bar{X} = 3.48$). This shows that the medically challenged group experiences more somatic complaints, anxiety and insomnia and severe depression than the medically non-challenged group. As there exist no significant statistical difference, hypothesis one is thus rejected.

Table 5.2. Table of Means for the Medical Challenges and Psychological Well-being

Group	N	Somatic complaints \bar{X}	Anxiety and insomnia \bar{X}	Social dysfunction \bar{X}	Severe depression \bar{X}
No medical challenges	170	6.194	6.106	8.900	3.482
Medical challenges	30	7.133	7.233	8.700	3.800
Total	200	6.336	6.275	8.870	3.530

5.2.1.2. Graphic representation

Figure 5.1. Graphic representation of the overall psychological well-being of the medically challenged and the medically unchallenged groups

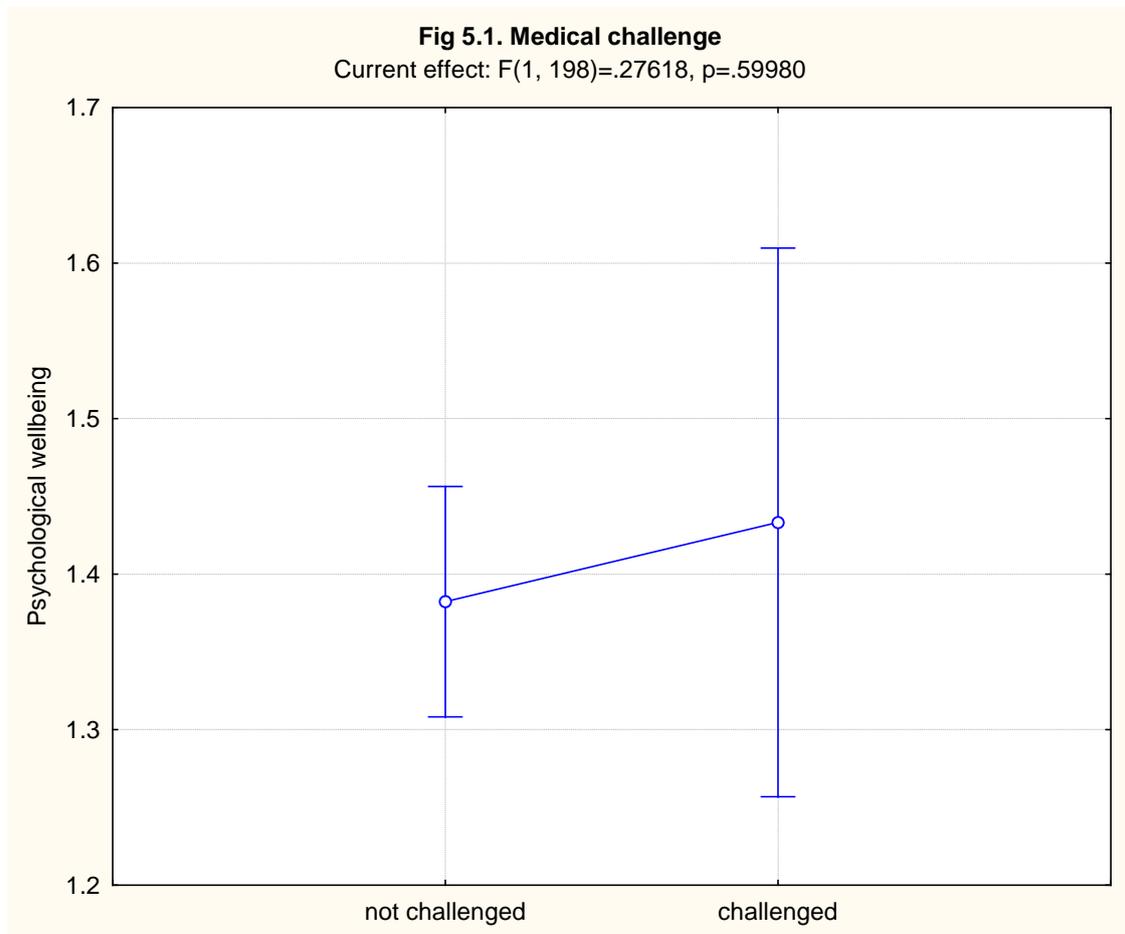


Figure 5.1. Overall psychological well-being and medical challenges. The above graph indicates that PLWHA who have medical challenges experienced more psychological distress than PLWHA who have no medical challenges. This is indicated by the slope of the graph which rose high towards the direction of people who have medical challenges.

Figure 5.2. Graphic representation of psychological well-being of the medically challenged and the medically unchallenged groups

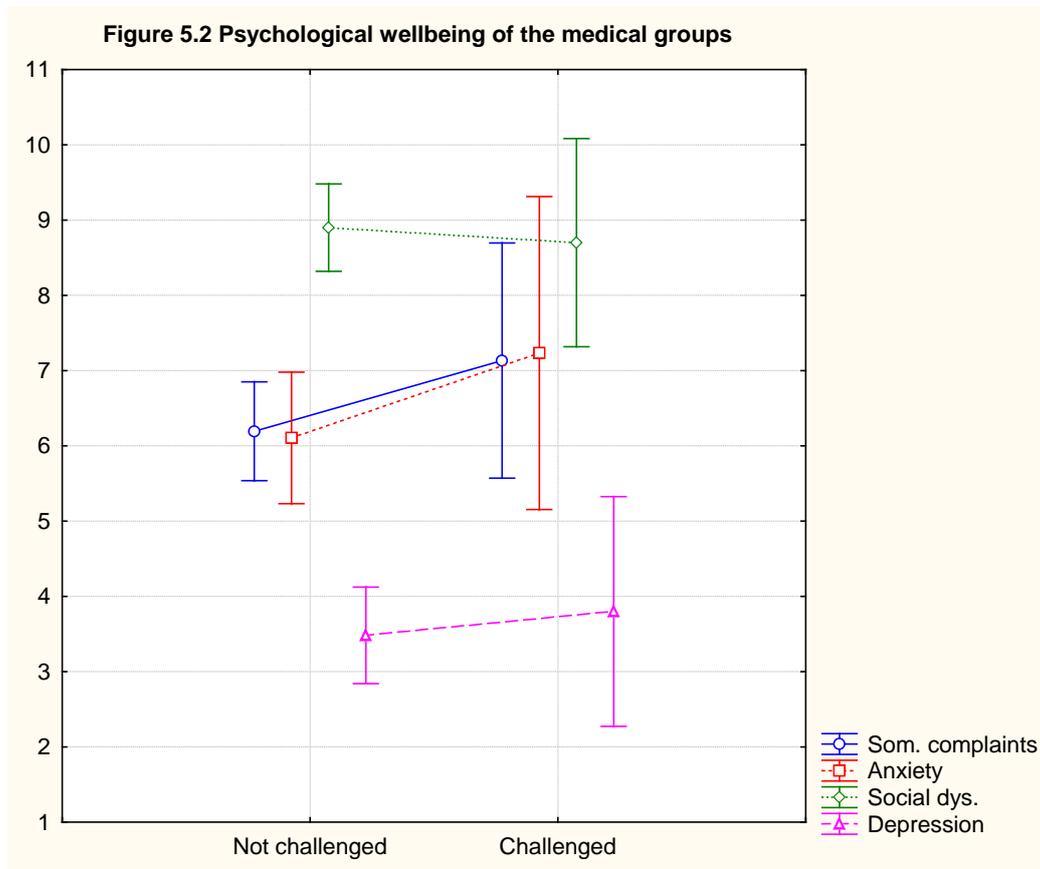


Figure 5.2. Psychological well-being and medical challenges. The above graph indicates that the medically challenged group has more psychological distress than the medically non-challenged group. The graph illustrates high scores on somatic complaints, anxiety and insomnia and a slight high score on depression. However, medically non-challenged group has high scores on social dysfunction than the medically challenged group.

5.2.2. Hypothesis two: Social support group

Hypothesis two states that people living with HIV/AIDS with less social support will suffer more psychological distress than those with more social support. This hypothesis was tested with one-way ANOVA and results revealed significant effects on somatic complaints, $F(1, 198) = 12.20$; $p < .001$, anxiety and insomnia $F(1, 198) = 10.19$; $p < .002$, social dysfunction $F(1, 198) = 15.246$; $p < .001$, severe depression $F(1, 198) = 11.241$; $p < .001$ and total GHQ $F(1, 198) = 2.8608$; $p < .001$ see table 5.3. This means that hypothesis two is accepted.

Table 5.3. ANOVA for the Psychological Well-being and Social Support Groups

	SS	DF	MS	F	p
Somatic complaints	217.875	1, 198	217.875	12.206	.001**
Anxiety and insomnia	322.001	1, 198	322.001	10.0914	.002**
Social dysfunction	208.95	1, 198	208.95	15.246	.001**
Severe depression	191.258	1, 198	191.258	11.2419	.001**
GHQ Total	2.8608	1, 198	2.8608	12.667	.001**

* $p < 0.05$

** $p < 0.01$

Table 5.3 indicates that there is statistical significance ($p < .001$) between social support and psychological distress. This means that social support plays a significant role in determining

psychological well-being in the lives of people living with HIV/AIDS as indicated by the data above. The results indicate that social support plays a vital role in all four psychopathological symptoms of psychological distress: somatic complaints ($p < .001$), anxiety and insomnia ($p < .002$), social dysfunction ($p < .001$) and severe depression ($p < .001$). This is further indicated by table of means (table 5.4) and figures 5.3, 5.4, 5.5, 5.6 and 5.7 below.

Table 5.4. Table of Means for the Social Support and Psychological Well-being.

Group	N	Somatic complaints \bar{X}	Anxiety and insomnia \bar{X}	Social dysfunction \bar{X}	Severe depression \bar{X}
High social support	110	5.390	5.127	7.945	2.645
Low social support	90	7.488	7.677	10.000	4.879
Total social support	200	6.335	6.275	8.870	3.530

Figure 5.3. Graphic representation of psychological well-being and social support

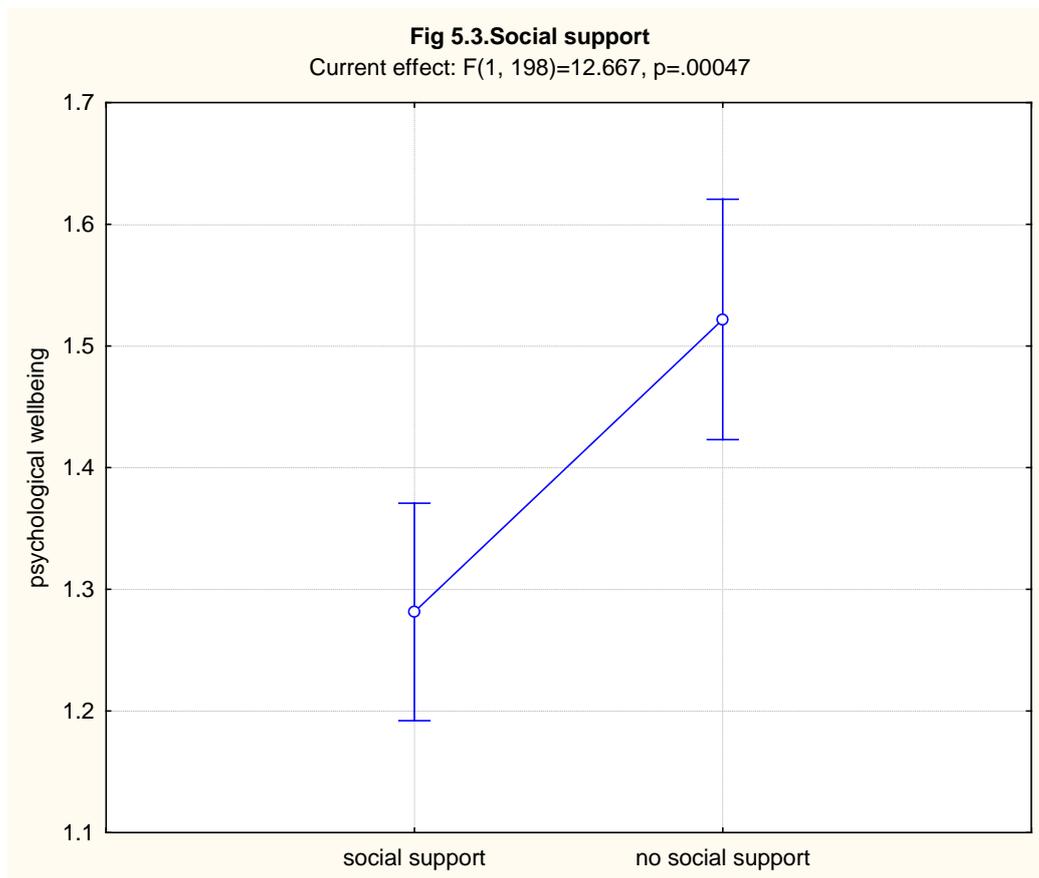


Figure 5.3. Psychological well-being and social support. The above graph indicates that PLWHA who have no or inadequate social support report more psychological distress than PLWHA who have adequate social support. This is illustrated by the slope of the graph which is high towards the direction of PLWHA who have no social support.

Figure 5.4. Graphic representation of the somatic complaints and social support

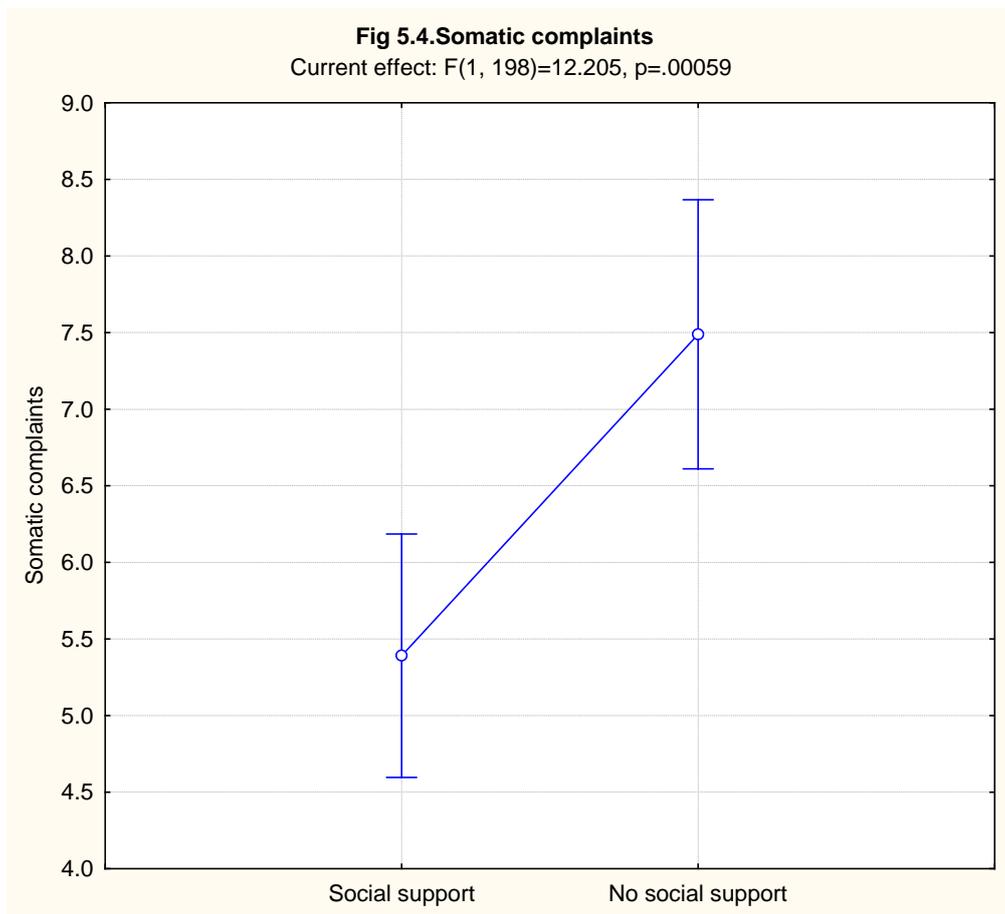


Figure 5.4. Somatic complaints and social support. The above graph indicates that PLWHA with no or poor social support reported more somatic complaints than those with adequate social support. This is shown by the direction of the graph which is high towards the direction of PLWHA with no social support.

Figure 5.5. Graphic representation of the anxiety and insomnia and social support

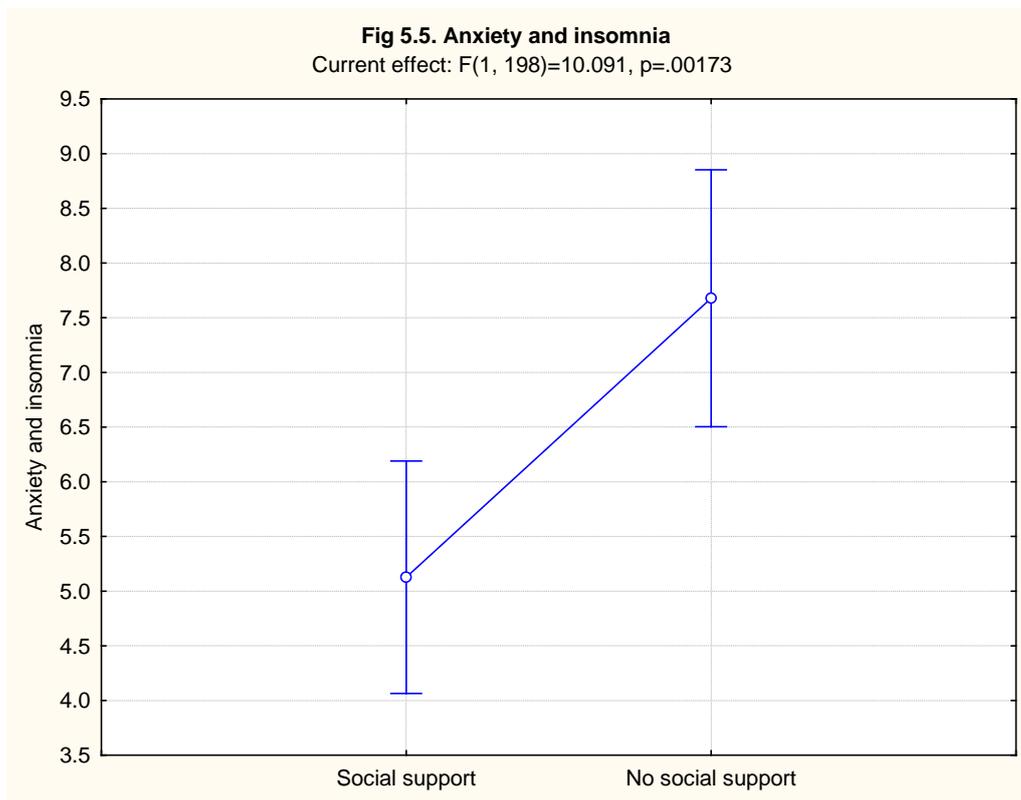


Figure 5.5. Anxiety and insomnia and social support. The above figure indicates that PLWHA with no or poor social support reported more anxiety and insomnia than those with adequate social support. This is illustrated by the direction of the graph which is high in the direction of PLWHA with no social support.

Figure 5.6. Graphic representation of the social dysfunction and social support

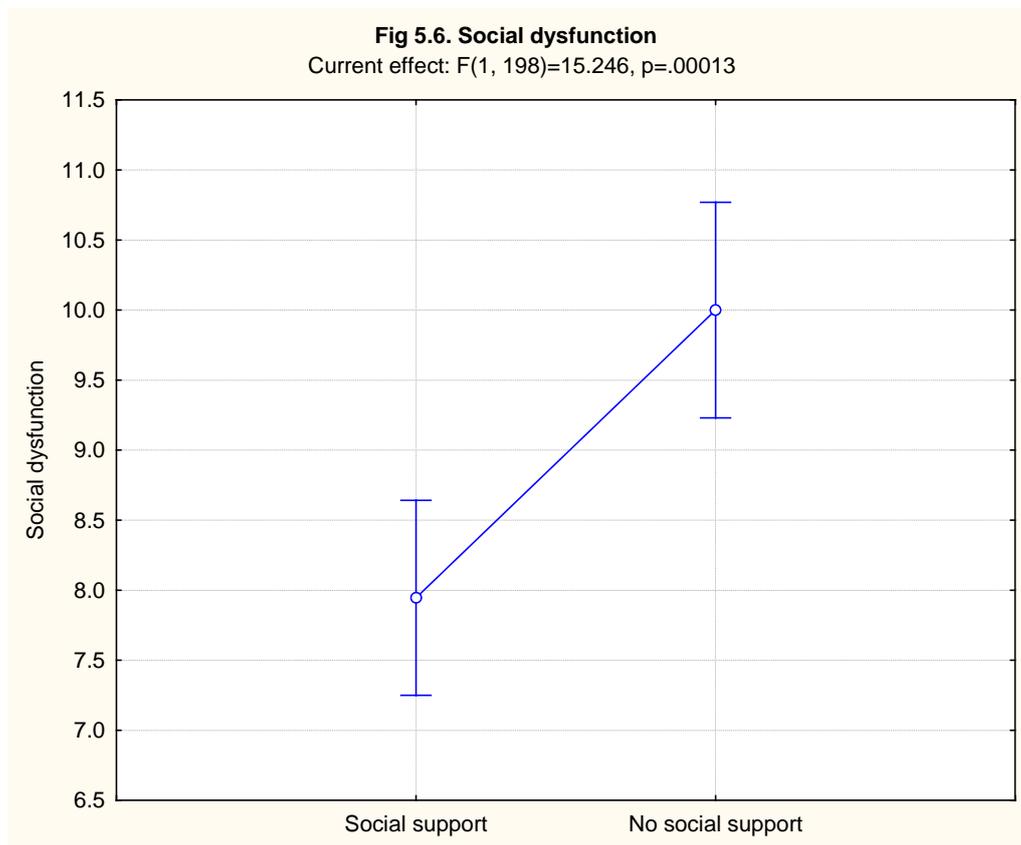


Figure 5.6. Social dysfunction and social support. The above figure indicates PLWHA with no or poor social support reported more social dysfunction than those with good social support. This is indicated by the direction of the graph which is high towards the side of PLWHA with no social support.

Figure 5.7. Graphic representation of the severe depression and social support groups

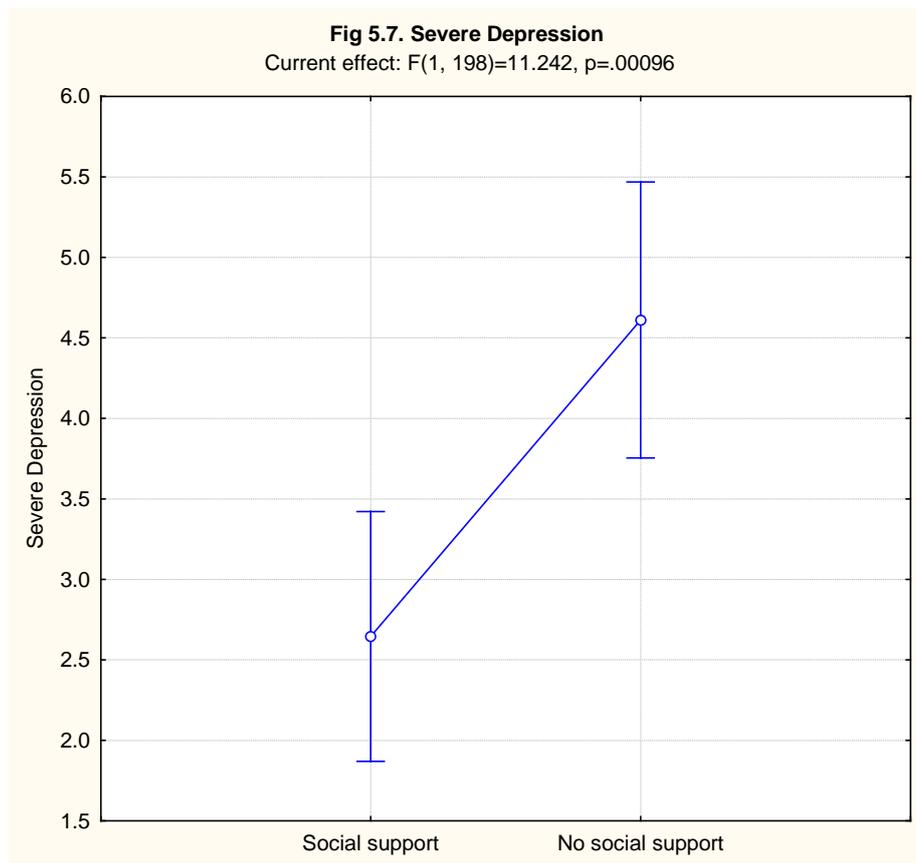


Figure 5.7. Severe depression and social support. The above graph indicates that PLWHA with no or poor social support reported more severe depression than those with good social support. This is illustrated by the direction of the graph which is high in the side of PLWHA with no social support.

5.3. Hypothesis three: Age groups and psychological well-being

Hypothesis three indicated that young people living with HIV/AIDS will suffer more psychological distress than older people living with HIV/AIDS. This hypothesis was tested with one-way ANOVA and results revealed an acceptable level of statistical significance for total GHQ $F(4, 195) = 2,488; p < .04$. In addition to this there is a significant difference $F(4, 195) = 3.579; p < .002$ between age groups and social dysfunction ($F(4, 195) = 3,579, p < .01$) and depression, ($F(4, 195) = 2,038, p < .05$) scale of the GHQ.

On the subscales of GHQ there was no significant difference for somatic complaints and anxiety and insomnia.

Table 5.5. ANOVA for the Psychological Well-being and Age Groups

	SS	DF	MS	F	p
Somatic complaints	4.757	4, 195	11.439	0.6018	n/s
Anxiety and insomnia	248.279	4, 195	62.070	1.8937	n/s
Social dysfunction	199.91	4, 195	49.98	3.579	.001**
depression	142.868	4, 195	35.717	2.0383	.05*
GHQ Total	2.3105	4, 195	0.5776	2.488	.04*

n/s- Not significant

* $p < 0.05$

** $p < 0.01$

There is a statistical significance between age groups and overall psychological distress ($p < .04$). There is also a significant difference between age groups and social dysfunction psychopathological symptom of psychological distress ($p < .001$). However, Figure 5.9 indicates that age group < 30 and $50-59$ experience more somatic complaints than other groups. Figure 5.10 indicates that there is a difference between age group <30 and $60+$ on anxiety and insomnia component of psychological well-being. But this difference did not reach an acceptable level of significance. The age group of those <30 years experience severe depression more than other age groups.

A further analysis of differences between age groups was done and there was a significance statistical difference between age group $30-39$ ($p < .001$) and age group $60+$ and this difference was on the social dysfunction subscale of psychological distress (see table 5.6). Hypothesis three is thus accepted.

Table 5.6. Results of the Post-hoc Analysis (Bonferroni) (Social dysfunction –age groups)

Age group	<30	30-39	40-49	50-59	60+
<30	-	n/s	n/s	n/s	n/s
30-39		-	n/s	n/s	.001**
40-49			-	n/s	n/s
50-59				-	n/s
60+					-

n/s- not significant

** $p < 0.01$

Table 5.7. Descriptive Statistics for the Psychological Well-being and Age Groups

Group	Level of factor	N	Somatic complaints \bar{X}	Anxiety & insomnia \bar{X}	Social dysfunction \bar{X}	Severe depression \bar{X}
Age group	<30	29	6.551	7.586	9.103	5.275
Age group	30-39	53	5.867	5.754	7.396	2.566
Age group	40-49	50	6.540	6.780	9.320	3.376
Age group	50-59	42	6.976	6.929	9.000	3.425
Age group	60+	26	5.615	3.846	10.538	3.230
Total		200	6.335	6.725	8.870	3.530

Figure 5.8. Graphic representation of psychological well-being and age groups

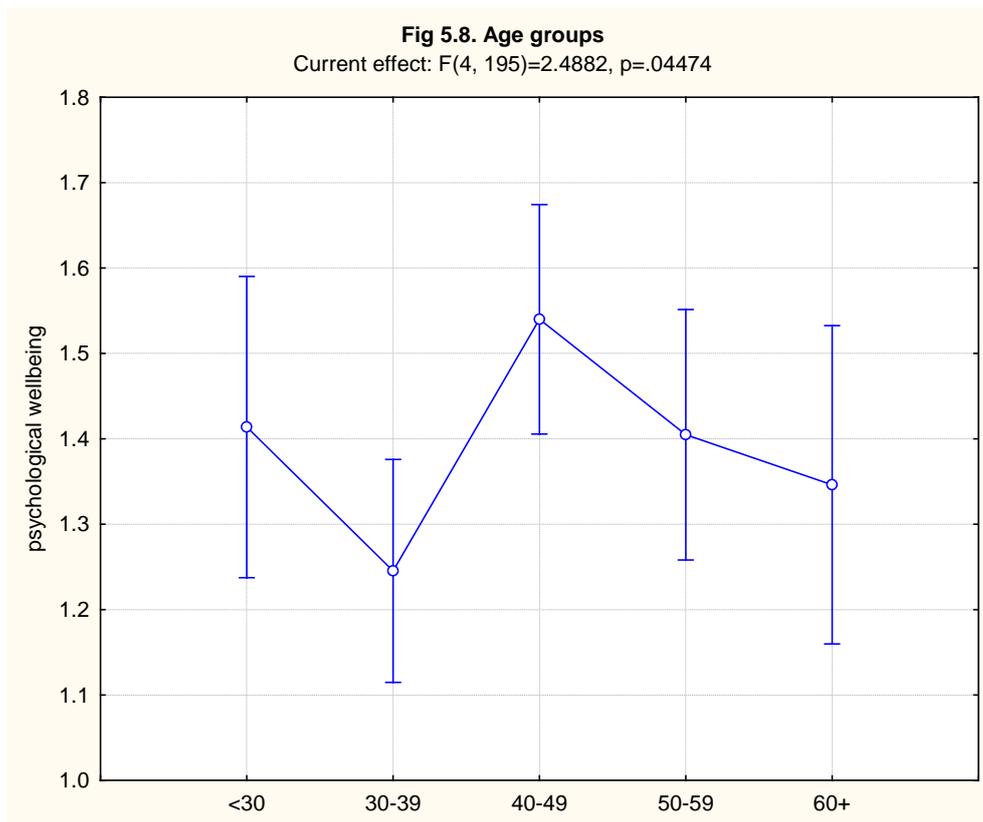


Figure 5.8. Psychological well-being and age groups. The above figure indicates that those between 40-49 reported more psychological symptoms, followed by those below 30 and those between 50-59 years followed by those above 60 years. The least survivors are those between 30-39 years.

Figure 5.9. Graphic representation of the somatic complaints and age groups

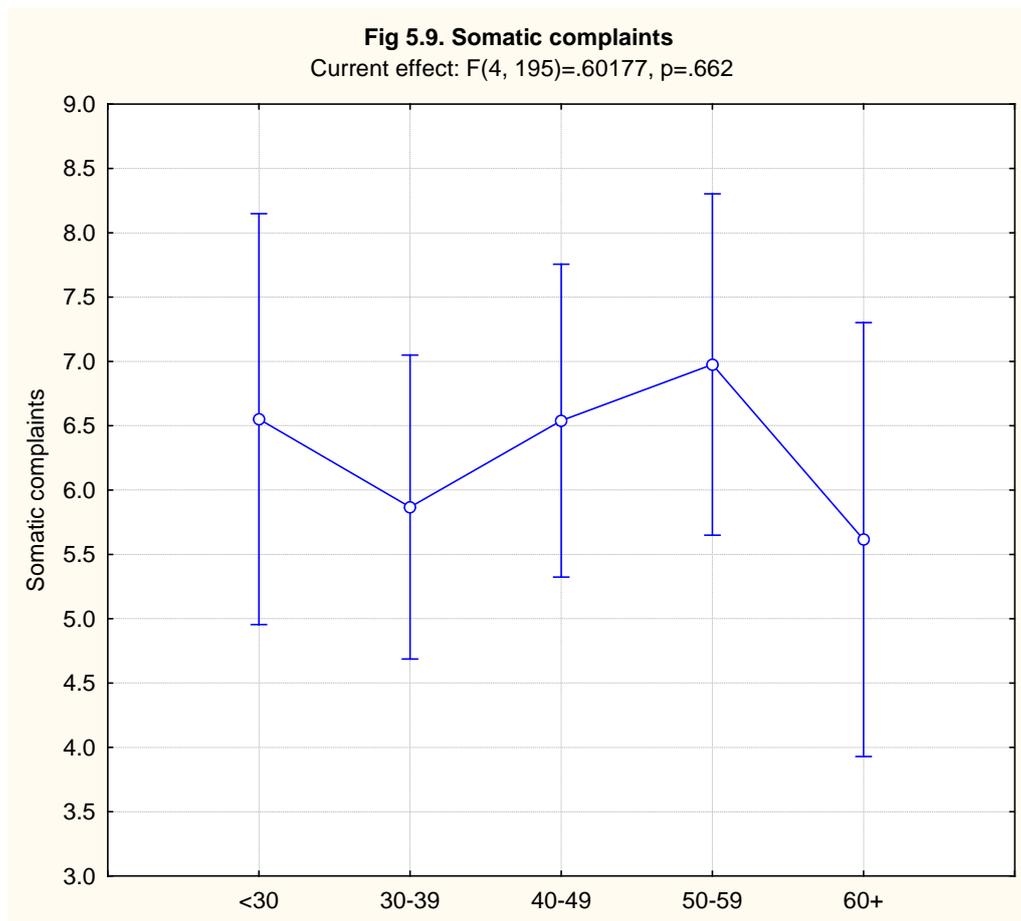


Figure 5.9. Somatic complaints and age groups. The above figure indicates that people between 50-59 experience more somatic complaints followed by those between 40-49, then those below 30 and those between 30-39 years. The least people to experience somatic complaints are those above 60 years.

Figure 5.10. Graphic representation of the anxiety and insomnia and age groups

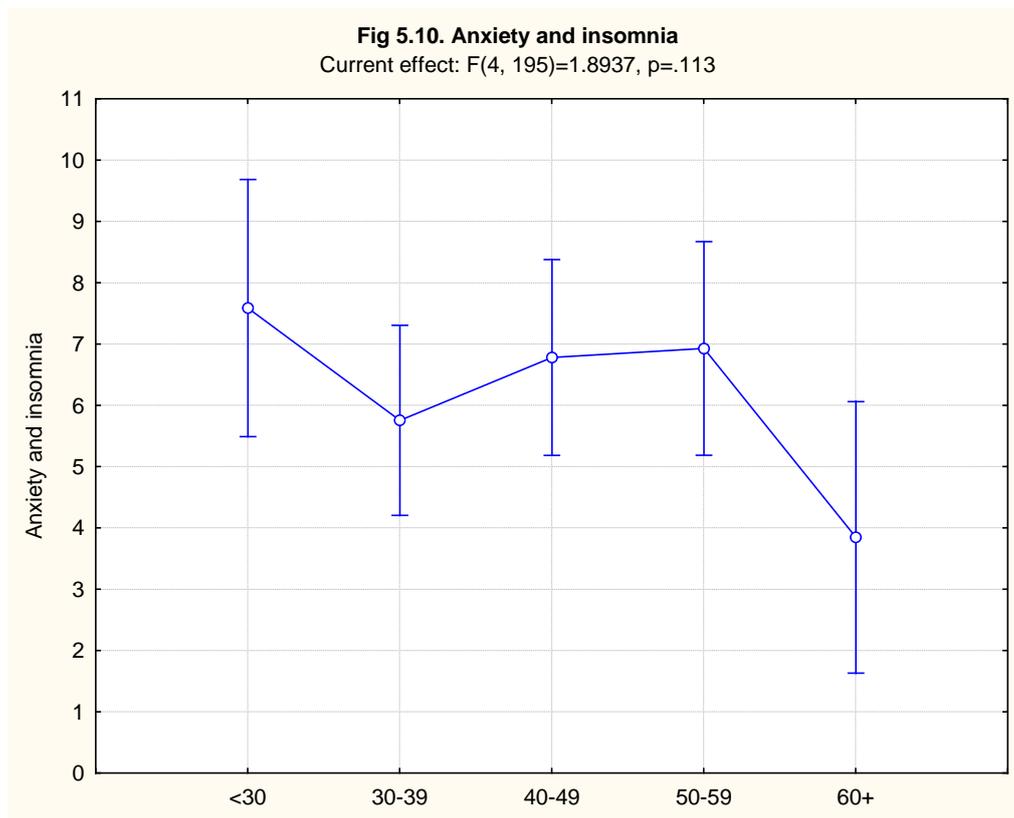


Figure 5.10. Anxiety and insomnia and age groups. The above figure indicates that PLWHA below 30 years experience more anxiety and insomnia followed by those between 50-59, followed by 40-49 and finally 30-39 years. The least people to experience anxiety and insomnia are those above 60 years.

Figure 5.11. Graphic representation of the social dysfunction and age groups

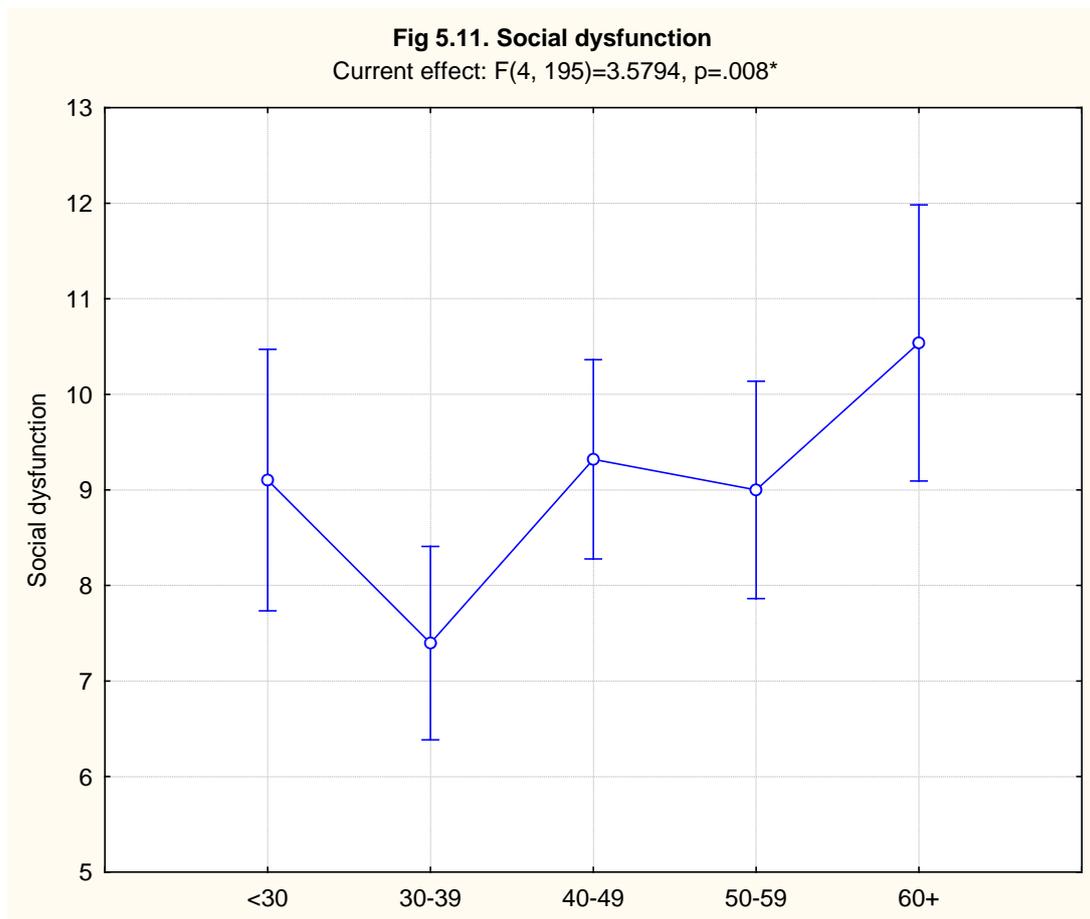


Figure 5.11. Social dysfunction and age groups. The above graph indicates that PLWHA who are above 60 years experienced more social dysfunction followed by those between 40-49, then by those below 30 and those between 50-59 years. Those between 30-39 experienced the least social dysfunction.

Figure 5.12. Graphic representation of severe depression and age groups

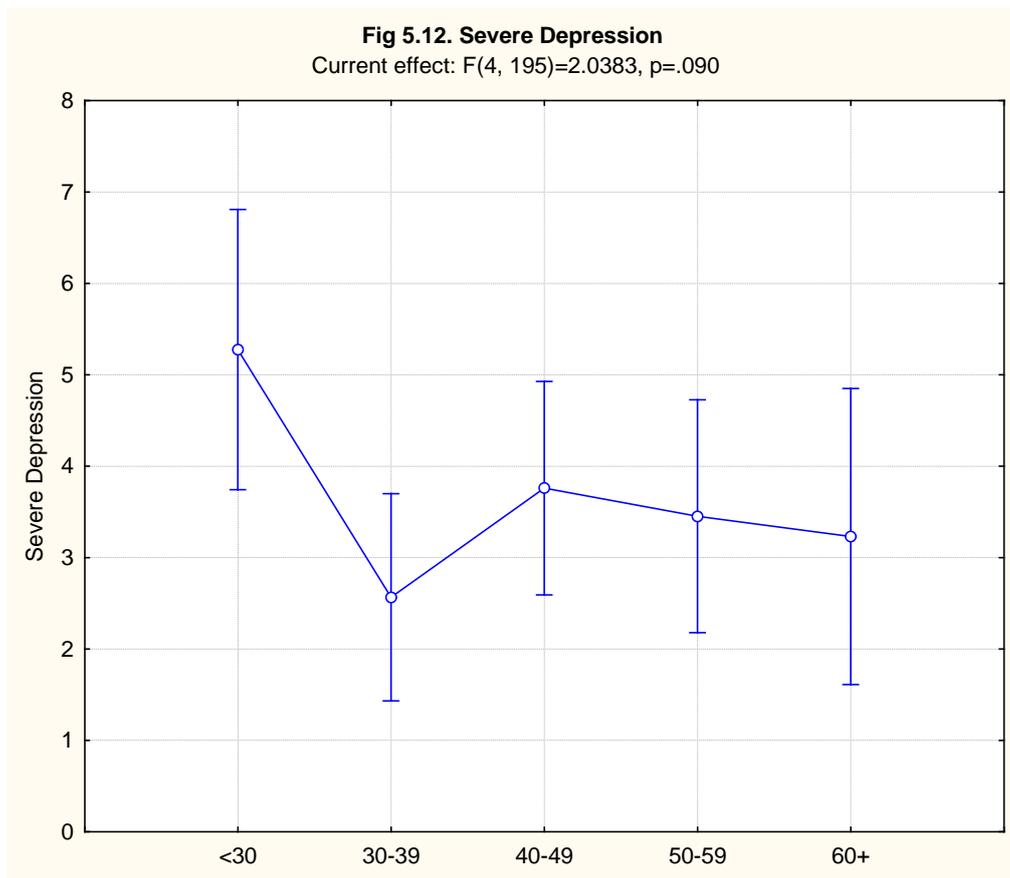


Figure 5.12. Severe depression and age groups. The above graph indicates that PLWHA who are below 30 years experienced more severe depression followed by those between 40-49, 50-59 then those above 60 years. Those who are between 30-39 suffer the least depression.

5.4. Hypothesis four: Gender groups

Hypothesis four predicted that women living with HIV/AIDS will suffer more psychological distress than men living with HIV/AIDS. This hypothesis was tested with one-way ANOVA and results did not reach an acceptable level of statistical significance.

Table 5.8. ANOVA for the Psychological Well-being and Gender Groups

	SS	DF	MS	F	p
Somatic complaints	13.503	1, 197	13.503	0.712	n/s
Anxiety and insomnia	80.200	1, 197	80.200	2.413	n/s
Social dysfunction	2.16	1, 197	2.16	0.146	n/s
Severe depression	42.704	1, 197	42.704	2.394	n/s
GHQ total	0.1450	1, 197	0.1450	0.604	n/s

n/s- not significant

Table 5.8. indicates that there is no statistical significant difference between gender and psychological well-being. However, a table of means (table 5.9) indicated that women living with HIV/AIDS have high scores on somatic complaints ($\bar{X} = 6.52$) and anxiety and insomnia ($\bar{X} = 6.75$) than males living with HIV/AIDS ($\bar{X} = 5.98$) and anxiety and insomnia ($\bar{X} = 5.44$). This is further illustrated in figures 5.14 and 5.15 which indicate that females

living with HIV/AIDS experienced more somatic complaints and anxiety and insomnia than males living with HIV/AIDS.

Contradictory to the study hypothesis, men living with HIV/AIDS had higher scores on social dysfunction ($\bar{X} = 9.01$) and severe depression ($\bar{X} = 4.13$) than women living with HIV/AIDS ($\bar{X} = 8.79$) and severe depression ($\bar{X} = 3.17$). This is further illustrated in figures 5.16 and 5.17. Hypothesis four is thus rejected.

Table 5.9. Descriptive Statistics for the Psychological Well-being and Gender Groups

Level of factor	N	Somatic complaints \bar{X}	Anxiety and insomnia \bar{X}	Social dysfunction \bar{X}	Severe depression \bar{X}
Male	75	5.987	5.440	9.013	4.133
Female	129	6.524	6.750	8.798	3.177
Total	199	6.322	6.256	8.879	3.538

Figure 5.13. Graphic representation of psychological well-being and gender

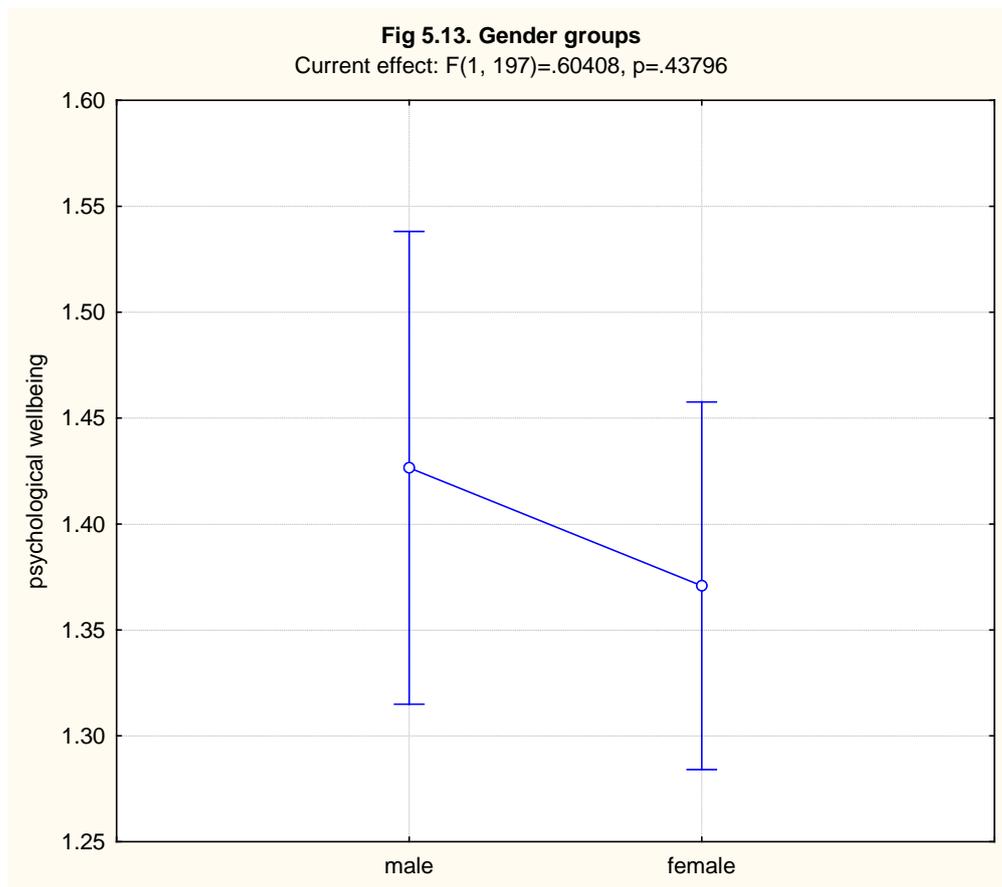


Figure 5.13. Psychological well-being and gender groups. The above figure indicates that men living with HIV/AIDS reported more psychological distress than women living with HIV/AIDS. This is indicated by the direction of the graph which is high in the direction of men living with HIV/AIDS and is low in the side of women living with HIV/AIDS.

Figure 5.14. Graphic representation of the somatic complaints and gender

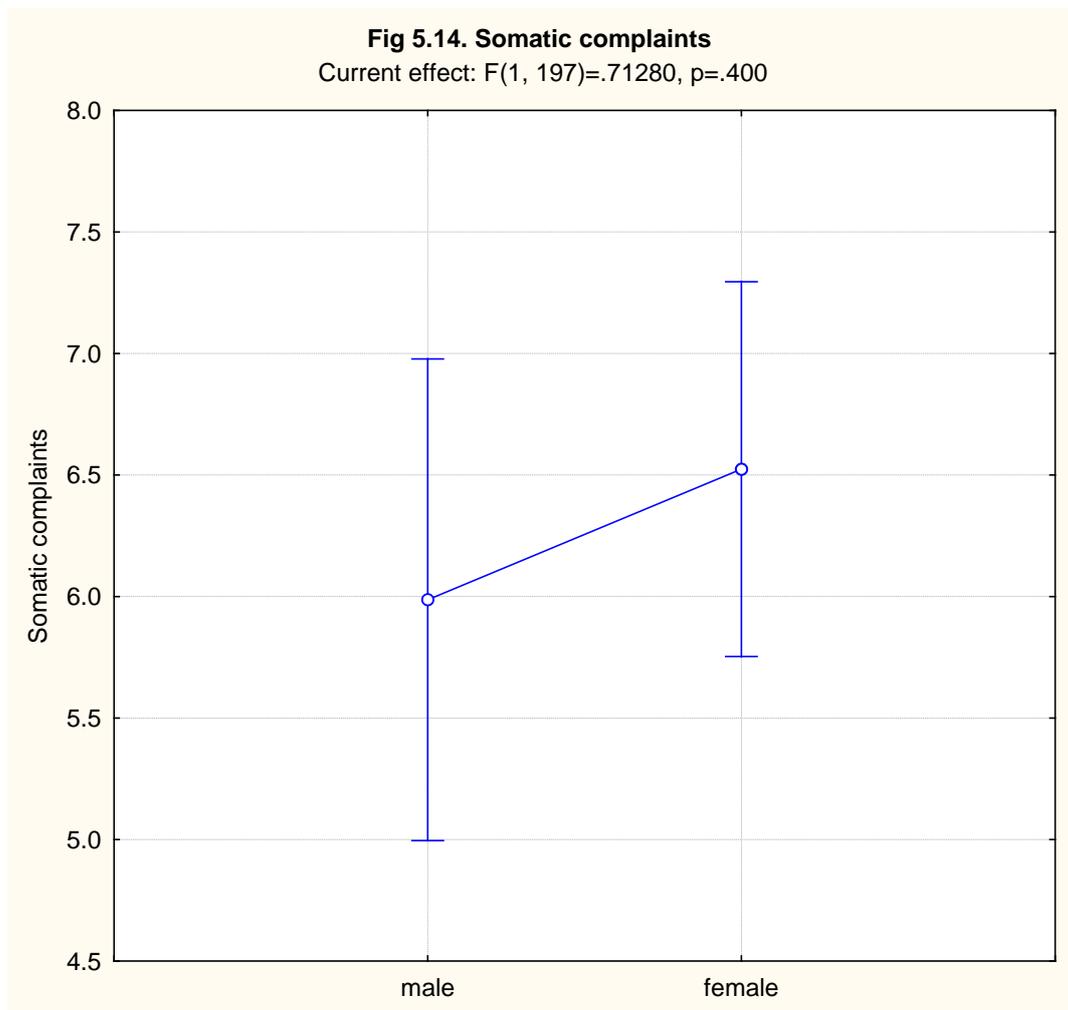


Figure 5.14. Somatic complaints and gender. The above graph indicates that women living with HIV/AIDS reported more somatic complaints than men living with HIV/AIDS. This is indicated by the slope of the graph which is high in the direction of women living with HIV/AIDS and low in the direction of men living with HIV/AIDS.

Figure 5.15. Graphic representation of the anxiety and insomnia and gender

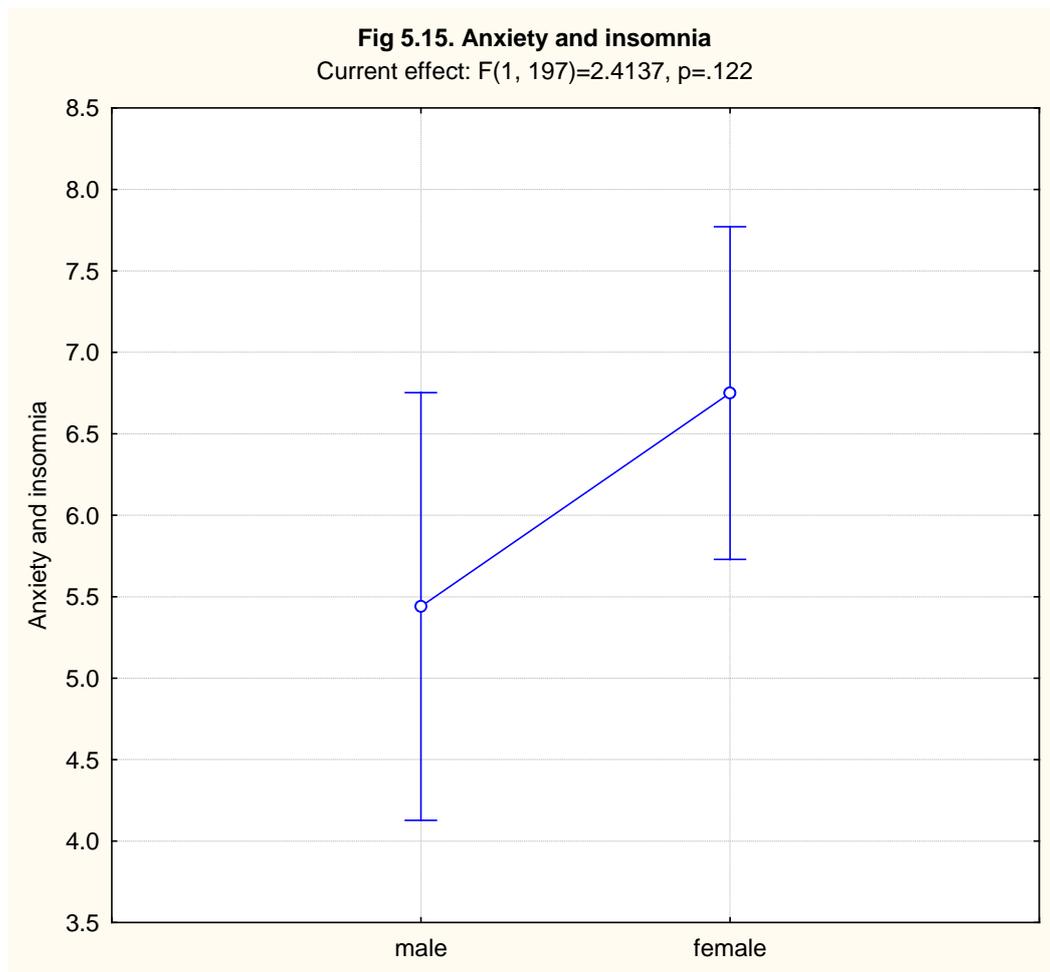


Figure 5.15. Anxiety and insomnia and gender. The above graph indicates that women living with HIV/AIDS experienced more anxiety and insomnia than men living with HIV/AIDS. This is illustrated by the slope of the graph which is high in the direction of women living with HIV/AIDS and low in the side of men living with HIV/AIDS.

Figure 5.16. Graphic representation of the social dysfunction and gender

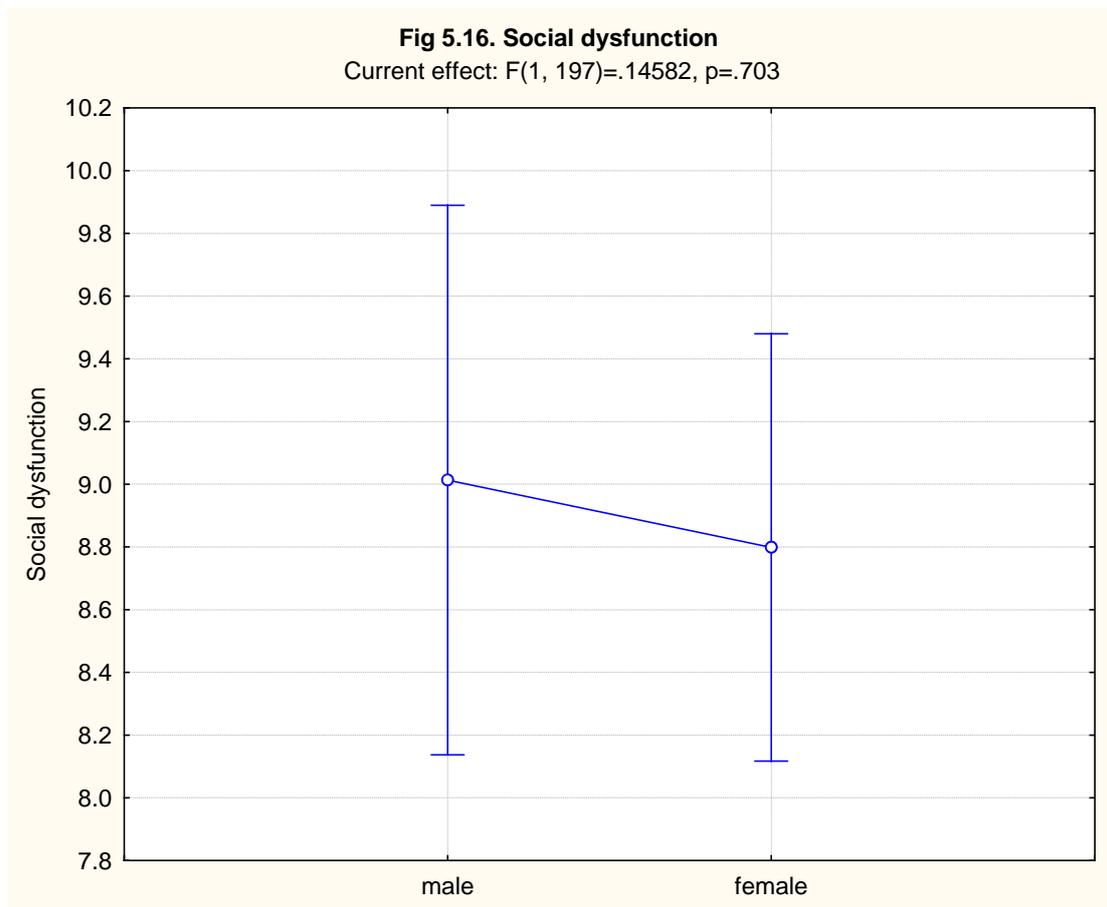


Figure 5.16. Social dysfunction and gender. The above figure indicates that men living with HIV/AIDS reported more social dysfunction than women living with HIV/AIDS. This is illustrated by the slope of the graph which is high in the direction of men living with HIV/AIDS and low in the side of women living with HIV/AIDS.

Figure 5.17. Graphic representation of the severe depression and gender

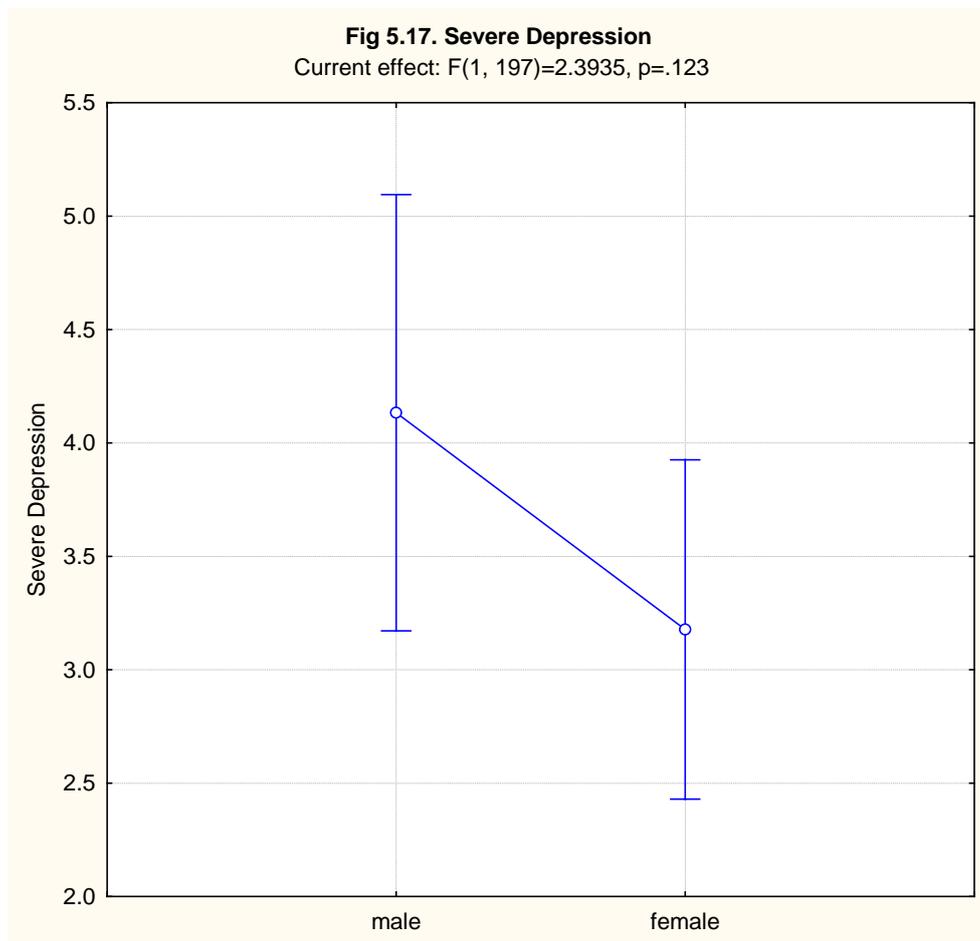


Figure 5.17. Severe depression and gender. The above figure indicates that men living with HIV/AIDS experienced more severe depression than women living with HIV/AIDS. This is indicated by the direction of the graph which is high in the side of men living with HIV/AIDS and low in the side of women living with HIV/AIDS.

CHAPTER SIX

DISCUSSION OF RESULTS

6.1. Introduction

The aim of this study was to explore the unmet needs and well-being of people living with HIV/AIDS in Polokwane/Mankweng Hospital Complex.

The objective of the study was:

- a. To understand the nature of medical challenges faced by people living with HIV/AIDS and how these affect their psychological well-being.
- b. To understand the social challenges faced by people living with HIV/AIDS and how these affect their psychological well-being.
- c. To understand how age of participants affect psychological well-being.
- d. To understand how males and females living with HIV/AIDS report psychological well-being.

The study used the GHQ-28 to assess psychological distress among young and old male and female individuals living with HIV/AIDS who attend HIV/AIDS clinic at the Polokwane/Mankweng Hospital Complex.

6.2. Discussion of results

6.2.1. Hypothesis one: Medical challenges and psychological well-being

Hypothesis one which stated that people living with HIV/AIDS with more medical challenges will suffer more distress than people living with HIV/AIDS with less medical challenges was rejected. Though the results of the study were not statistically significant, there were some differences with the scores of psychological distress. People living with HIV/AIDS who have more medical challenges reported more psychological distress than people living with HIV/AIDS with less medical challenges. According to Louwagie, Bachmann, Meyer, Booysen, Fairall and Heunis (2007) patients receiving HAART reported better health related quality of life. Another study indicated that HIV-infected outpatients need more and more flexible support by their physicians (Albus, Schmeisser, Salzberger, & Fatkenheuer, 2005). In South Africa, access to medications to treat symptoms associated with HIV infection is limited to the hospital and inpatient setting (Shawn, *et al.* 2005). Quality of life is associated with body changes rather than being on HAART (Mutimura, Stewart, & Crowther, 2007). In addition to this, Vosvick, *et al.* (2003) stipulated that pain management may be effective in improving physical quality of life.

The results of this study indicated that PLWHA who have medical challenges experience more somatic complaints than PLWHA who do not have medical challenges. Patients living with HIV/AIDS experienced higher fatigue severity because of higher acuity of physical and psychological symptoms (Voss, *et al.* 2007). Bing, *et al.* (2000) also indicated that HIV-related symptoms decrease health related quality of life. Physical health is likely to be affected by positive serostatus. In South Africa, Peltzer and Phaswana-Mafuya (2008) indicated that despite improved treatments for HIV/AIDS, many living with the disease

continue to experience high levels of physical and psychological symptomatology. On the other hand, the presence of HAART failure was significantly associated with increased self-reports of physical health complaints (Parsons, Braaten, Hall & Robertson, 2006). Women with HIV/AIDS reported poorer HRQoL than men in the domains of physical functioning, pain, and energy/fatigue (Mrus, *et al.* 2005).

The results of the study indicated that PLWHA who have medical challenges reported more of anxiety and insomnia than PLWHA who do not have medical challenges. Furthermore, PLWHA who do not have medical challenges experienced social dysfunction than those without medical challenges. This is supported by Konkler-Parker, Erlen and Dubbert (2008) who mentioned that stigma was found as a potential access difficulty related to the shame of picking up HIV medications. Can this be as a result of discrimination with HAART? Women are reported to experience stigma and feelings of ambivalence (Sanders, 2008). Stigma is also added by nurses who have judgmental attitudes towards people with HIV/ AIDS (Surlis & Hyde, 2001). HAART changes the social course of AIDS and the experience of stigma when children reach adolescence. While access to HAART means improved survival and quality of life, it also means that healthy-looking adolescents contest adult power and health care practices (Abadi'a-Barrero & Castro, 2006).

The results of this study indicated that PLWHA with medical challenges experience more depression than those without medical challenges. This is further supported by Golub, *et al.* (2003) who noted that distress may precede the decline in immune function seen in HIV infection. Health-related quality of life may be improved with reduction in depression (Elliot, Russo & Roy-Byrne, 2002). Contradictory to the study findings Remien, *et al.* (2006)

indicated that despite ongoing medical care and access to HAART, women living with HIV continue to experience distress.

6.2.2. Hypothesis two: Social support and psychological well-being

Hypothesis two stated that people living with HIV/AIDS with less social support will suffer more psychological distress than people living with HIV/AIDS with more social support. This was supported by the results of this study which showed that the less the social support, the more the psychological distress in the lives of people living with HIV/AIDS. High scores were obtained in all the psychopathological symptoms. This was supported by Gielen, *et al.* (2001) who indicated that having a larger social network was associated with better mental health and overall quality of life. More instrumental social support was also associated with higher overall quality of life. There is an inverse relationship between social support and distress regarding women living with HIV infection (Hudson, Lee, Miramontes & Portillo, 2001). In another study conducted in South Africa, feelings of anger, loneliness, decreased support from family and friends, and a decreased sense of satisfaction were the psychological symptoms of the most immediate and overall importance in PLWHA (Shawn, *et al.* 2005). It should be noted that the effects of received support and satisfaction with support are mediated by self-efficacy (which is in turn mediated by finding benefits in being diagnosed with HIV) (Luszczynska, Sarkar, & Knoll, 2007).

Ncama, *et al.* (2008) support the hypothesis of the study by pointing out that supportive social network is important for those living with HIV/AIDS in South Africa. This is further supported by Dageid and Duckert (2007) who, in their study in South Africa, indicated that being part of a support group helps in improving mental health among people living with

HIV/AIDS. Furthermore, Smit (1997) indicated that families who were supporting PLWHA, experienced social isolation and ostracism due to the stigma attached to HIV and AIDS. Emotional support is found to be helpful dealing with HIV/AIDS and other chronic diseases. The effectiveness of physical support appears to depend on the stage of the illness (Pakenham, 1998). Social support is important in the lives of PLWHA regardless of age as supported by Lowe, Gibson and Christie (2008). In addition to this, Chesney, Chambers, Taylor and Johnson (2003) showed that social support intervention might be particularly beneficial for older persons living with HIV infection. Family support reduced internalized stigma and contributed to a positive sense of self-worth among PLWHA in China (Li, Wang, Williams & He, 2009).

PLWHA with less social support had more depressive symptoms, supporting the value of functional support in the psychological well-being of PLWHA. This is further supported by Schrimshaw (2003) who indicated that unsupportive social interactions from friends, family and a lover/spouse were each positively associated with higher depressive symptoms. In addition, Kang, *et al.* (2005) stipulated that social rejection is associated with heightened level of distress. Prachakul, Grant and Keltner (2007) also indicated that people living with HIV/AIDS with less functional support were likely to have higher perceived stigma. According to Mays and Cochran (2001), social stigma has important mental health consequences. Kalichman, *et al.* (2003) said that persons who used the internet for health information were better informed about HIV disease and reported more use of active coping strategies and greater social support.

6.2.3. Hypothesis three: Age and psychological well-being

Hypothesis three predicted that young people living with HIV/AIDS will report more psychological distress than old people living with HIV/AIDS. The results did not reach an acceptable level of statistical significance. Though the results were not significant, they seemed to be the other way round as predicted by the hypothesis. It was indicated that the middle age group experienced more psychological distress than the rest of other age groups. However, young (<30 years) people living with HIV/AIDS scored high on psychopathological symptoms somatic complaints, anxiety and insomnia, and severe depression than older (60+ years) people living with HIV/AIDS. Surprisingly older people living with HIV/AIDS scored high on social dysfunction than younger people living with HIV/AIDS. According to Rotheram-Borus, Murphy, Wight, Lee, Lightfoot, Swendeman, Birnbaum and Wright (2001) young people living with HIV reported lower levels of global emotional distress, somatization, anxiety, and phobic anxiety. A study conducted in San Francisco did not find a significant relationship between age and physical or social functioning (Vosvick, *et al.* 2003). In New York, another study found no gender differences in reporting of stigma, nor was there ethnic or age differences (Vanable, Carey, Blair, & Littlewood, 2006).

Older adults who contract the virus have shorter survival times than their younger counterparts despite treatment with HAART (Levy, Ory, & Crystal, 2003). Levy, *et al.* (2003) further indicated that older patients had shorter survival span than the younger population, although they presented good viral and immunological response to HAART. Older age was significantly associated with worse physical functioning (Liu, *et al.* 2006). Women conveyed a desire for more frequent health screenings and a need to know how to

differentiate symptoms of advancing HIV from symptoms associated with aging (Enriquez, Lackey & Witt, 2008).

Older people living with HIV/AIDS may find themselves alone at home as their adult children have left them. This exposes them to loneliness and lack of social support. This is supported by Hawkley and Cacioppo (2007) who argued that loneliness comes with ageism and those aging with HIV may be particularly at risk for fragile social networks and social isolation. Other research found that aging PLWHA was doing so without traditional informal supports such as partners and family members who could provide social and emotional care (Vance, Moneyham, Fordham, & Struzick, 2008). Midlife and older adults living with HIV tend to have few systems of community support, typically lack siblings or parents to care for them, and may experience multiple AIDS-related losses within their social networks (Levy, Ory, & Crystal, 2003). Persons who are in midlife and older and are living with HIV-AIDS experience significant emotional distress and thoughts of suicide (Kalichman, *et al.* 2000). Furthermore, older group of PLWHA perceived receiving less support from their families and friends (Kalichman, *et al.* 2000). Some studies found no age differences in the experiencing of stigma among PLWHA (Vanable, *et al.* 2006). The majority of HIV-infected people are young, and therefore community support systems may be less available or less effective for older people with HIV. In addition to this, older people may be less informed about AIDS. They may have a comorbid illness while living with HIV/AIDS (Piette, Wachtel, Mor, & Mayor, 1995). Older people infected with HIV tend to progress more rapidly to AIDS and report lower levels of quality of life and social support than their younger counterparts (Chesney, *et al.* 2003).

6.2.4. Hypothesis four: Gender and psychological well-being

Hypothesis four predicted that women living with HIV/AIDS will suffer more psychological distress than men living with HIV/AIDS. Contrary to the study hypothesis, men living with HIV/AIDS seemed to experience more psychological distress than females. However, women scored higher on somatic complaints and anxiety and insomnia. This is supported by Husani, *et al.* (2007) who reported that women reported more fatigue than men in Canada. Contradicting the hypothesis, men living with HIV/AIDS reported more on social dysfunction and severe depression. This seems to be unusual as it is believed that women suffer more depression than men. This is supported by Solomon, Venkatesh, Brown, Verma, Cecilia, Daly, Mahendra, Cheng, Kumarasamy and Mayer (2008) who indicated that women were more likely to be asymptomatic than men.

According to Louwagie, Bachmann, Meyer, Booysen, Fairall and Heunis (2007) Women rated their health higher than men. Women with HIV/AIDS had worse conditions than men in most aspects of life (Nojomi, Anbary, & Ranjbar, 2008). Morrison, *et al.* (2002) found that women who are HIV seropositive have depressive and anxiety disorders than their HIV seronegative counterparts. Men with more HIV symptoms, physical limitations, and greater fatigue reported higher levels of stress and anxiety (Sewell, *et al.* 2000).

The results of this study indicated that males experienced more social dysfunction than women. Can this be because women attend support groups than men? This is contradicted by Lichtenstein, Laska, and Clair (2002) as they indicated that although men experienced stigma and rejection, being discredited was more socially disruptive for women, especially those with children. Another study conducted in New York among men and women living with

HIV found no gender differences in reporting of stigma (Venable, Carey, Blair & Littlewood, 2006).

The current study results showed that men experiences depression more than women. This is supported by Kalichman, *et al.* (2000) as they indicated that men reported greater rates of suicidal ideation than women and that suicidal ideation was associated with HIV-related physical symptoms. However, Simbayi, *et al.* (2007) in Cape Town, South Africa indicated that men reported less social support and less depression than women. Contradictory to the study hypothesis, high levels of depressive symptoms and poor mental health quality of life was reported among HIV-seropositive women than HIV men (Cook, *et al.* 2002). This is further supported by Burgos, *et al.* (2007) by indicating that more girls living with HIV exhibited withdrawn/depressed symptoms (internalizing) than boys living with HIV.

The expression of negative feelings or reporting unpleasant negative feeling may be consistent with gender role expectations for women as compared to men, and as such they do not receive adequate social support leading to them reporting poor health related quality of life (Mrus, *et al.* 2005). Women have lower scores on several areas of quality of life compared to men (Chandra, *et al.* 2009).

6.3. Conclusion

In this study the following conclusions are made:

- PLWHA who are medically challenged (do not have access to a medical officer or a nurse, treatment) reported more psychological distress than those who are not

medically challenged although the results did not reach an acceptable level of significance.

- PLWHA without access to medical facilities reported more of somatic complaints, anxiety and insomnia and severe depression.
- PLWHA who have medical challenges experienced more psychological distress than those who do not have medical challenges.
- PLWHA who have adequate social support (support from friends, family members and significant others) reported good psychological well-being than those who had poor social support.
- PLWHA who have poor social support scored higher on somatic complaints, anxiety and insomnia, social dysfunction and severe depression.
- Adequate social support has proven to be effective in enhancing the lives of PLWHA.
- Young people living with HIV/AIDS reported more psychological distress than older PLWHA.
- Young PLWHA reported more anxiety and insomnia and severe depression than older PLWHA.
- Age does play a significant role in the psychological functioning of PLWHA.
- Women living with HIV/AIDS (WLWHA) reported more psychological distress than men living with HIV/AIDS (MLWHA) although the results did not reach an acceptable level of statistical significance.

- WLWHA reported more somatic complaints and anxiety and insomnia than MLWHA.
- MLWHA reported more social dysfunction and severe depression than WLWHA.

From the results of the study it is concluded that HIV/AIDS affect the lives of people significantly. It was shown that those whose needs were not met suffer more psychological distress than those whose needs were met. Social support plays a significant role in the lives of those infected and affected by HIV/AIDS. This happened irrespective of age and gender. Young PLWHA reported more psychological distress than older PLWHA. However, older people living with HIV/AIDS were found to be experiencing more social dysfunction than younger people living with HIV/AIDS. Men and women living with HIV/AIDS are affected differently. Women were found to experience more somatic complaint and anxiety and insomnia whereas, on the other hand, men reported more social dysfunction and severe depression.

6.4. Recommendations

From the results of the study it is recommended that:

- More research be conducted to give a thorough understanding of psychological well-being of PLWHA.
- PLWHA be encouraged to attend support groups within their communities which will aid in decreasing the level of psychological distress in their lives.

- HIV/AIDS clinics should be encouraged to also have some sort of small support groups wherein PLWHA will talk about their challenges of living with the disease with trained health care professionals.
- Psychological intervention should be accessible to all PLWHA.
- Policy makers should consider the psychological needs of PLWHA.

6.5. Clinical implications

Health care providers working with PLWHA should not take for granted the psychosocial impact of HIV/AIDS on sufferers. In other words, attention should not be focused only on the physiological reaction to the illness. The psychological impact of the disease is equally important. Health care providers working with PLWHA should do psychological functioning screening on PLWHA and recommend proper referrals to other health care providers should a need arise.

6.6. Limitations of the study

The study has the following limitations:

- In this study, the participants were approached at the hospital clinics where they receive treatment and that majority of the participants were on HIV treatment i.e. ARVs. This could have served as a barrier of obtaining a significant number of people who have medical challenges.

- The future area of research should be done with participants who are not obtainable from the hospital.
- The questionnaires were filled in at the clinic where participants were participants had come for consultation. This could have led to bias of their answers.
- The use of hospitals as a source of participants limited the study with valuable information as no information about PLWHA who did not visit the hospital was not.
- Lack of a control group and the unequal number of groups of participants made the study to yield unacceptable level of results.

6.7. Possibilities of future research

Future research should be extended to a larger sample of people living with HIV/AIDS. There should be a control group and other factors that may be contributing to either positive or negative well-being such as individual resilient should be explored.

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APPENDICES

Appendix 1: Questionnaire

**DEPARTMENT OF PSYCHOLOGY
FACULTY OF HUMANITIES
SCHOOL OF SOCIAL SCIENCES
UNIVERSITY OF LIMPOPO
TURFLOOP CAMPUS**

Dear Sir/Madam

This is a research survey and this questionnaire is designed to measure the unmet needs and wellbeing of people living with HIV/AIDS in Polokwane/Mankweng Hospital Complex. There are many differences of opinions in relation to this subject. We would like to know what you think and how you feel. There is no right or wrong answers. We are only interested in your opinion as it relates to your feelings. It is important you answer every item. Please do not sign your name and respond as honestly as possible.

SECTION A

1. Age (yrs):.....
2. Sex:.....
3. Marital status:.....
4. Religion:.....
5. Level of Education:.....
 - i. no formal education
 - ii. primary education
 - iii. Secondary/Tertiary/Teacher education
 - iv. University education and above
 - v. Others (please specify)
6. Years of Education.....

SECTION B

1. How long have you been diagnosed.....
2. age at diagnosis.....
3. Do you have access to ARVs? Yes() No()
4. If yes, how regular? Rare(), Often(), Always()
5. If no. why? Please explain:.....
.....
.....
.....
6. Do you have access to hospital treatment? Yes() No()
7. If yes, how regular? Rare(), Often(), Always()
8. If no, why? Please explain:.....
.....
.....
.....
9. Do you regularly have access to a medical doctor or a nurse? Yes()/No()
10. If yes, how regular? Rare(), Often(), Always()
11. If no, please state why?.....
.....
.....

SECTION C

1. Do you have access to a clinical psychologist? Yes()/ No()
2. If yes, how regular? Rare(), Often(), Always()
3. If no, please state why?.....

.....
.....

4. Do you have access to an HIV/AIDS counselor? Yes() No()

5. If yes, how regular? Rare (), Often(), Always()

6. If no, please state why?.....
.....
.....

7. Do you have access to a social worker? Yes()/ No()

8. If yes, how regular? Rare (), Often(), Always()

9. If no, please state why?.....
.....
.....

10. Do you have a medicare/Aid? Yes () No ()

11. If yes what type.....

12. Is your medicare/Aid meeting your needs? Yes () No ()

13. If no, please explain.....

14. What aspects does your medicare/Aid cover?

Medical (), psychological/counseling services ()

14. If you don't have a medicare/Aid, please explain why?

.....

SECTION D

Multidimensional Scale of Perceived Social Support

Instructions: We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.

Circle the "1" if you **Very Strongly Disagree**

Circle the "2" if you **Strongly Disagree**

Circle the "3" if you **Mildly Disagree**

Circle the "4" if you are **Neutral**

Circle the "5" if you **Mildly Agree**

Circle the "6" if you **Strongly Agree**

Circle the "7" if you **Very Strongly Agree**

- | | | | | | | | | |
|----|--|---|---|---|---|---|---|---|
| 1. | There is a special person who is around when I am in need. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. | There is a special person with whom I can share my joys and sorrows. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. | My family really tries to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. | I get the emotional help and support I need from my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. | I have a special person who is a real source of comfort to me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. | My friends really try to help me. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. | I can count on my friends when things go wrong. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8. | I can talk about my problems with my family. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

9. I have friends with whom I can share my joys and sorrows. 1 2 3 4 5 6 7
- 10 There is a special person in my life who cares about my feelings. 1 2 3 4 5 6 7
- 11 My family is willing to help me make decisions. 1 2 3 4 5 6 7
- 12 I can talk about my problems with my friends. 1 2 3 4 5 6 7

SECTION E

We should like to know if you have had any medical complaints, and how your health has been in general, over the past few weeks

Please answer ALL the questions by indicating with an "x" the answer which you think most nearly applies to you.

Please remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer ALL the questions. Thank you very much for your cooperation.

Have you recently: (enter an "x" in the appropriate column for each question with only 1 answer per row)

Been feeling perfectly well and in good health	better than usual	same as usual	worse than usual	much worse than usual
Been feeling in need of some medicine to pick you up?	not at all	no more than usual	worse than usual	much worse than usual
Been feeling run down and out of	not at all	no more than usual	worse than usual	much worse than usual

sorts?				
Felt that you are ill?	not at all	no more than usual	worse than usual	much worse than usual
Been getting any pains in your head?	not at all	no more than usual	worse than usual	much worse than usual
Been getting a feeling of tightness or pressure in your head?	not at all	no more than usual	worse than usual	much worse than usual
Been having hot or cold spells?	not at all	no more than usual	worse than usual	much worse than usual
Lost much sleep over worry?	not at all	no more than usual	rather more than usual	much more than usual
Had difficulty staying asleep?	not at all	no more than usual	rather more than usual	much more than usual
Felt constantly under strain?	not at all	no more than usual	rather more than usual	much more than usual
Been getting edgy and bad-tempered?	not at all	no more than usual	rather more than usual	much more than usual
Been getting scared or panicky for no good?	not at all	no more than usual	rather more than usual	much more than usual
Found everything getting on top of you?	not at all	no more than usual	rather more than usual	much more than usual

Been feeling nervous and uptight all the time?	not at all	no more than usual	rather more than usual	much more than usual
Been managing to keep yourself busy and occupied?	more so than usual	same as usual	rather less than usual	much less than usual
Been taking longer over the things you do?	quicker than usual	same as usual	longer than usual	much longer than usual
Felt on the whole you were doing things well?	better than usual	about the same	less well than usual	much less well
Been satisfied with the way you've carried out your task?	more satisfied	about the same as usual	less satisfied than usual	much less satisfied
Felt that you are playing a useful part in things?	more so than usual	same as usual	less useful than usual	much less useful
Felt capable of making decisions about things?	more so than usual	same as usual	less so than usual	much less capable
Been able to enjoy your normal day-to-day activities?	more so than usual	same as usual	rather less than usual	much less than usual
Been thinking of yourself as a	not at all	no more than usual	rather more than usual	much more than usual

worthless person?				
Felt that life is entirely hopeless?	not at all	no more than usual	rather more than usual	much more than usual
Felt that life isn't worth living?	not at all	no more than usual	rather more than usual	much more than usual
Thought of the possibility that you might do away with yourself?	definitely not	I don't think so	has crossed my mind	definitely has
Found at times you couldn't do anything because your nerves were too bad?	not at all	no more than usual	rather more than usual	much more than usual
Found yourself wishing you were dead and away from it all?	not at all	no more than usual	rather more than usual	much more than usual
Found that the idea of taking your own life kept coming into your mind?	definitely not	I don't think so	has crossed my mind	definitely has

**UNIVERSITY OF LIMPOPO
ETHICS COMMITTEE**

APPLICATION FOR HUMAN EXPERIMENTATION

(Completed forms, preferably typed, should reach the Chairperson of the Ethics Committee at least one month before the experimentation is due to start. Projects where the researcher only receives human material for analysis without actually being involved with collection from the experimental group must still register in the normal way. Researchers who are involved with projects which have been approved by Ethical Committees of other Institutions should provide this Committee with the necessary information and provide it with a shortened protocol for approval)

PROJECT TITLE:

PROJECT LEADER:

DECLARATION

I, the signatory, hereby apply for approval to execute the experiments described in the attached protocol and declare that:

1. I am fully aware of the contents of the Guidelines on Ethics for Medical Research, Revised Edition (1993) and that I will abide by the guidelines as set out in that document (available from the Chairperson of the Ethics Committee); and
2. I undertake to provide every person who participates in any of the stipulated experiments with the information in Part II. Every participant will be requested to sign Part III.

Name of Researcher:

Signature:

Date:

-

For official use by the Ethics Committee:

Approved/Not approved

Remarks:

Signature of Chairperson:

Date:

PROJECT TITLE : *(it is compulsory for the researcher to complete this field before submission to the ethics committee)*

PROJECT LEADER: *(it is compulsory for the researcher to complete this field before submission to the ethics committee)*

APPLICATION FOR HUMAN EXPERIMENTATION: PART II

Protocol for the execution of experiments involving humans

1. Department:

2. Title of project:

3. Full name, surname and qualifications of project leader:

4. List the name(s) of all persons (Researchers and Technical Staff) involved with the project and identifies their role(s) in the conduct of the experiment:

Name:

Qualifications:

Responsible for:

5. Name and address of supervisor:

6. Procedures to be followed:

7. Nature of discomfort:

8. Description of the advantages that may be expected from the results of the experiment:

Signature of Project Leader:

Date:

PROJECT TITLE: *(it is compulsory for the researcher to complete this field before submission to the ethics committee)*

PROJECT LEADER: *(it is compulsory for the researcher to complete this field before submission to the ethics committee)*

APPLICATION FOR HUMAN EXPERIMENTATION: PART II

INFORMATION FOR PARTICIPANTS

1. You are invited to participate in the following research project/experiment:

(it is compulsory for the researcher to complete this field before submission to the ethics committee)

2. Participation in the project is completely voluntary and you are free to withdraw from the project/experiment (without providing any reasons) at any time.
3. It is possible that you might not personally experience any advantages during the experiment/project, although the knowledge that may be accumulated through the project/experiment might prove advantageous to others.

4. You are encouraged to ask any questions that you might have in connection with this project/experiment at any stage. The project leader and her/his staff will gladly answer your question. They will also discuss the project/experiment in detail with you.

5. Your involvement in the project.

The nature of the specific project/experiment, the alleged risk-factors, factors that might possibly cause discomfort, the expected advantages and the known and/or likely side-effects should be explained under this item.

This section is to be drawn up by the researcher and must be submitted together with the application form.

(it is compulsory for the researcher to complete this field before submission to the ethics committee)

UNIVERSITY OF LIMPOPO

ETHICS COMMITTEE

PROJECT TITLE:

PROJECT LEADER:

CONSENT FORM

I, _____ hereby voluntarily consent to participate in the following project: *(it is compulsory for the researcher to complete this field before submission to the ethics committee)*

I realise that:

1. The study deals with _____(eg. effect of certain medication on the human body) *(it is compulsory for the researcher to complete this field before submission to the ethics committee)*
2. The procedure or treatment envisaged may hold some risk for me that cannot be foreseen at this stage;

3. The Ethics Committee has approved that individuals may be approached to participate in the study.
4. The experimental protocol, ie. the extent, aims and methods of the research, has been explained to me;
5. The protocol sets out the risks that can be reasonably expected as well as possible discomfort for persons participating in the research, an explanation of the anticipated advantages for myself or others that are reasonably expected from the research and alternative procedures that may be to my advantage;
6. I will be informed of any new information that may become available during the research that may influence my willingness to continue my participation;
7. Access to the records that pertain to my participation in the study will be restricted to persons directly involved in the research;
8. Any questions that I may have regarding the research, or related matters, will be answered by the researchers;
9. If I have any questions about, or problems regarding the study, or experience any undesirable effects, I may contact a member of the research team;

10. Participation in this research is voluntary and I can withdraw my participation at any stage;
11. If any medical problem is identified at any stage during the research, or when I am vetted for participation, such condition will be discussed with me in confidence by a qualified person and/or I will be referred to my doctor;
12. I indemnify the University of Limpopo and all persons involved with the above project from any liability that may arise from my participation in the above project or that may be related to it, for whatever reasons, including negligence on the part of the mentioned persons.

SIGNATURE OF RESEARCHED PERSON

SIGNATURE OF WITNESS

SIGNATURE OF PERSON THAT INFORMED
PARENT/GUARDIAN

SIGNATURE OF

THE RESEARCHED PERSON

Signed at _____ this _____ day of _____ 200