ASSESSMENT OF QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV/AIDS ATTENDING ANTI-RETROVIRAL CLINICS IN KOGI STATE

BY

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DEDICATION

This work is dedicated in loving memory of my Dad Sam-Jones Mofolorunsho KSJ. JP. LL.B.

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LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Virus
ARV	Antiretroviral
CNLS	Conseil National de Lutte contre le SIDA
CSW	Commercial Sex Workers
HAART	Highly Active Antiretroviral Therapy
HATQOL	HIV/AIDS Targeted Quality of Life
HIV	Human immune deficiency virus
HRQOL	Health Related Quality Of Life
IDU	Injecting Drug Users
MOH	Ministry Of Health
MSM	Men Who Have Sex with Men
PAAC	Partners Against AIDS in the Community
PLWHA	People Living With HIV/AIDS
QOL	Quality Of Life
STIs	Sexually Transmitted Infections
UN	The United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNGASS	General Assembly Special Session
WHO	World Health Organisation

ABSTRACT

Background: The acquired immune-deficiency syndrome (AIDS) is a fatal illness caused by a retrovirus known as the human immune-deficiency virus (HIV) which breaks down the body's immune system, leaving the victim vulnerable to a host of life threatening opportunistic infections, and as such undermining the quality of life (QOL) of PLWHA and reversing the gains made in social and economic development of both individuals and groups. However, there is little information from developing countries on people living with HIV/AIDS attending anti-retroviral clinics in terms of socio-demographic characteristics, quality of life, and socioeconomic factors influencing quality of life.

Objective: To determine the quality of life of people living with HIV/AIDS in Kogi State.

Methods: A Cross-Sectional study was used to assess the quality of life of PLWHA attending anti-retroviral clinics in Kogi state. The sample consisted of 252 PLWA aged 18 years or older who were interviewed using an interviewer administered questionnaire. Information collected included socio-demographic characteristics, occupation, individual income, and social support from family and friends. Quality of life was assessed using the 31-item WHOQOL-HIVbref questionnaire (scores range 4-20).

Results: Sixty-two percent of the participants were females, mean age was 34 years, 38.9% had attended or completed secondary school. Mean CD4 count was 306.60/mm^3. Thirty-nine percent were traders: for individual income, 41.7% reported having a source of income. Forty-four percent reported a minimum monthly income of N5000 and above. There were statistically significant differences in mean scores of quality of life for the level of independence domain according to gender, with males having lower scores (13.9) in the same domain. Men also had the lowest scores for the social relationships and environmental domains. Women were seen to have higher overall quality of life in all domains except in the spirituality/religion/belief domain.

Conclusions: Despite differences in sex, occupation, income, CD4$^+$ count and clinical infection status, people living with HIV/AIDS had better quality of life in physical and psychological health domains but lower quality in social relationships and environment domains. The latter domain could reflect stigmatization and discrimination associated to the difficulties of disclosing their HIV status in social settings. The implication of this study hinged on the fact that the quality of life of PLWHA as important as it is could be influenced by some factors which if known, could be appropriated to the advantage of improving the quality of life of the PLWHA in Nigeria.

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND

AIDS, the acquired immune-deficiency syndrome is a fatal illness caused by a retrovirus known as the human immune-deficiency virus (HIV) which breaks down the body's immune system, leaving the victim vulnerable to a host of life threatening opportunistic infections, neurological disorders, or unusual malignancies (Parks 2007).

Although only discovered in the early 1980s among homosexuals in the United States of America, AIDS has become the world's greatest threats to health and communities, as it has killed millions of people of all ages and ethnicities (Duh, 1991; Kalichman, 2003; Lachman, Lachman and Butterfield, 1979; Olapegba, 2005). Aggleton and Homans, (1988) agued that AIDS is not a disease of a particular class and it has affected and killed heterosexuals and homosexuals, women and men, black and white, young and old, rich and poor, the promiscuous and the inexperienced.

It has been estimated that about 40 million people are infected in the world with the developing countries accounting for about 90 per cent of infections. Of the developing countries, Sub-Saharan Africa accounts for about 67 per cent of the global victims (UNAIDS, 2007). An estimated 21.8 million people have died from AIDS since the epidemic began; 17.5 million were adults, including 9 million women; 4.3 million were children under 15 years (Adetokunbo and Herbert, 2003). AIDS cases and deaths have only recently reached the epidemic levels in many severely affected countries. The joint United Nations Programme on HIV/AIDS and the World

Health Organization (2006) estimates that of the 39.5 million people currently infected with HIV, 28 million live in sub Saharan Africa and as such the increasing pandemic has undermined the quality of life (QoL) of people living with HIV/AIDS in this area.

Globally, the greatest mortality impact is on people between the ages of 20 and 40 years which have dramatically changed the life expectancy in most affected parts of the world (Parks, 2007). Perkel (1992) mentioned that from the time AIDS was first recognized as a distinct syndrome, it became increasingly evident that it was spreading at an alarming rate. The prevalence and spread of this disease has led to critical developmental issues. According to Nelson-Twakor (2003) the developmental implications of the AIDS pandemic on the world economy and the social relations are dire and expected to reverse the gains made in social and economic development with the tendency to affect individuals and groups.

Women and young people increasingly appear to bear the brunt of the burden of disease and female infection rates are rising worldwide. Today's youth are the most numerous generations of young people ever to encounter an epidemic like HIV/AIDS. Young people aged 15-24 make up half of the five million new HIV infections each year and it is estimated that 5-6,000 young people throughout the world become infected each day (UNAIDS 2004). While women accounted for approximately half of all HIV cases worldwide at the end of 2003, in sub-Saharan Africa, 57% of all cases were female (Baden and Wach,1998).

In June 2001 the UN General Assembly Special Session (UNGASS) on HIV/AIDS emphasized the gender dimension of the HIV/AIDS epidemic. Often, women who do not have control over resources and are less able to exert control over their lives and bodies, are more susceptible to sexual abuse and violence. When their livelihood options are narrow, poverty also pushes many women in risky situations, such as commercial sex work (CSW), human trafficking

and migration which increase women's HIV vulnerability to HIV/AIDS. In Mumbai, for example, 72% of CSWs under the age of 18 are HIV positive and 50% of Nepali women who have worked there as CSWs, have been tested to be HIV positive (Oberhauser, 2004; Family Health International, 2000). In Nepal and elsewhere, many young women engage in CSW in exchange for school or college fees.

It has been observed also that certain factors such as social values and cultural norms play an important role in women's vulnerability and exposure to the HIV virus. For example, in many Latin American countries such as Brazil, homophobia and the machismo culture leads many men who have sex with men (MSM) to define themselves as heterosexual by also having sex with women, which increases women's exposure to the virus (UNIFEM).

Researchers have also argued that significant social changes in the 1970s made changes in patterns of mobility as well as in sexual behaviors, drug use and blood use and collection created a context in which a viral disease such as HIV/AIDS could rapidly spread. Globally unprotected heterosexual route is the predominant route of transmission of the virus. Other modes of transmission include unprotected penetrative sex between men, injecting drug use and unsafe blood transfusions and injections (Parks 2007). According to Doka (1997), when it emerged in the 1970s in Western Europe, North America, Australia, New Zealand, and urban areas of Latin America, the disease primary infected gay men, drug users, and persons infected through blood products. He also mentioned that heterosexual and prenatal transmission represented a small but increasing proportion of those infected. In Sub-Saharan Africa, parts of Latin America, and the Caribbean, HIV was recognized about the same time, but it primarily spread through heterosexual intercourse, use of blood, and unsterile needles (Doka, 1997). Prenatal transmission is more common in Sub-Saharan Africa, Latin America, and the Caribbean

because both genders are affected equally. In the Eastern Europe, the Middle East, North Africa, Asia, and the Pacific the disease is beginning to emerge among those engaged in high-risk behaviors (Doka, 1997). For instance, Ukraine is the country with the hardest hit by HIV/AIDS in the Eastern European region with nearly 1% of the country's population currently living with HIV. Of these, more than 70% are injecting drug users (IDU), but HIV infection is also rising sharply among the general population. Lack of awareness of the right information regarding HIV infection has been observed to be a major contributing factor (Salunke *et al*, 1998).

1.2 HIV/AIDS EPIDEMIC IN AFRICA

The most explosive growth of HIV/AIDS epidemic occurred in mid 1990s, especially in Africa. In 2003, Africa was home to two-thirds of the world's people living with HIV/AIDS, about one in 12 African adults having the disease (Parks 2007). This pandemic has reversed decades of gradual gains in life expectancy in Sub-Saharan Africa, which reached 49.2 years during the late 1980s is projected to drop just under 46 years in the period 2000-2005 (WHO, 2004). Rwanda is one of the ten countries in Africa that have been identified by the WHO as most severely affected by HIV/AIDS with an estimated adult prevalence of between 4-11% among women attending antenatal care services and 3% in the general population (MoH, 2005; WHO, 2005). It is facing a generalized epidemic, which has undermined the QOL of many people who are either infected with HIV or affected by family members who are ill (Uwimana and Struthers, 2007).

In South Africa, the statistics indicated that HIV infections and deaths associated with AIDS have rapidly increased in the past 15 years. According to UNAIDS (2004), that it is estimated that up to 1500 new infections occur in South Africa each day and it is believed that as

many as 600 people die in an AIDS-related illness each day. According to a 2002 national seroprevalence study, the overall HIV prevalence in the South African population was 11%, with the highest rate (21%) occurring among people living in townships and informal settlements (Shisana and Simbayi, 2002). This clearly shows the seriousness of the burden of the disease in South Africa.

The infection rate of HIV/AIDS in Tanzania has also been steadily increasing since the first AIDS patient was discovered in 1983. However to cope with this problem, the Tanzanian government announced a National HIV/AIDS Policy in 2003 and requested that not only the healthcare and medical care fields but all fields, including education, agriculture and local administration, get involved and cope with the problem at each level of state, region, district, division and village. As a result of this effort, the estimated HIV/AIDS infection rate in Tanzania has been on a gradual decline from 9.6% in 2002, to 8.8% in 2003; to 7% in 2004 (all are infection rates in 15 – 49-year-old people). The rate, however, is still high and the pandemic is the second highest reason for adult mortality.

The increasing feminization of HIV epidemic in Senegal is evident in the differing prevalence rates between men and women with 0.4% and 0.9%, respectively (CNLS, 2006). Prevalence rates are estimated to be significantly higher among high risk groups, such as sex workers (19 to 29%) and men who have sex with men (22%). Regions marked by sociopolitical strife also tend to have higher HIV prevalence rates. For example, in Kolda and Ziguinchor in the south, the Casamance conflict has led to a breakdown of the health care system, increased poverty, and mass migration of local populations. Those two areas have recorded HIV-prevalence rates of 2.8% and 2.3%, respectively. The disproportionate impact on women is also more marked in these regions. The prevalence rate is 0.8% among men and 3.4% among women

(CNLS, 2004).

1.2.1 THE SITUATION IN NIGERIA

Following the first reported case of HIV infection in Nigeria in 1986 in a 13 year old girl, the country has continually witnessed rising level of prevalence with the spread involving all age group (Nasidi and Harry, 2006). In Nigeria, HIV infection was initially limited to people with risky behavior such as commercial sex workers, adolescents and youths, prisoners, people with multiple sexual partner and among others (Arowojolu *et al*, 2002; Ajuwon *et al*, 2002). However, available evidence suggests that this infection has permeated all the strata of the Nigerian population to the extent that the prevalence is accountable for about 20% of the total disease burden (World AIDS Day 2006).

Nigeria's epidemic is characterized by one of the most rapidly increasing rates of new HIV/AIDS cases in West Africa. Adult HIV prevalence increased from 1.8 percent in 1991 to 5.8 percent in 2001. This infection rate, although lower than that of neighboring African countries, should be considered in the context of Nigeria's relatively large population of approximately 140 million; the Joint United Nations Programme on HIV/AIDS (UNAIDS) estimates that 3.5 million Nigerian adults and children were living with HIV/AIDS by the end of 2001. HIV prevalence among women attending antenatal clinics in 1999 ranged from less than 1 percent to 21 percent. Among sex workers in Lagos, HIV prevalence rose from 2 percent in 1988–89 to 12 percent in 1990–91. By 1995–96, up to 70 percent of sex workers tested positive. Current projections show an increase in the number of new AIDS cases from 250,000 in 2000 to 360,000 by 2010. As a result of the epidemic, the crude death rate in Nigeria was about 20 percent higher in 2000 than in 1990. In 2001 alone, 170,000 adults and children died of AIDS. At the end of 2001, UNAIDS estimated that 1 million children orphaned by AIDS were living in Nigeria

(Sentinel Survey 2005). Results from the sentinel survey also showed that the prevalence of HIV varies with states/region within the country with Ekiti state having the lowest rate of 1.8 percent while Benue state had 10.0 percent prevalence. Kogi state was reported as having a prevalence of 5.5 percent. These results however, have been a subject of controversy amongst researchers both within and outside the country. The main subject of the controversy is that the survey conducted was not representative of the huge burden of the disease (The ENHANSE Project, 2006).

Several factors have contributed to the rapid spread of HIV in Nigeria. These include sexual networking practices such as polygamy, a high prevalence of untreated sexually transmitted infections (STIs), low condom use, poverty, low literacy, and poor health status, low status of women, stigmatization, and denial of HIV infection risk among vulnerable groups. Nigeria is a complex mixture of diverse ethnic groups, languages, cultures, religions, and regional political groupings, all of which are major challenges for HIV prevention programs (Sentinel Survey 2005).

1.3 JUSTIFICATION

The joint United Nations Programme on HIV/AIDS and the World Health Organization (2006) estimates that of the 39.5 million people currently infected with HIV, 28 million live in sub Saharan Africa and as such the increasing pandemic has undermined the quality of life (QoL) of people living with HIV/AIDS in this area. Therefore this research will focus on the quality of life among PLWHA in Kogi state where the prevalence in the general population is 5.7 (FMOH Nigeria; 2003).

1.4 OBJECTIVES OF THE STUDY

1.4.1 GENERAL OBJECTIVE

- To determine the quality of life of PLWHA in Kogi state

1.4.2 SPECIFIC OBJECTIVE

1. To describe the socio demographic characteristics of People Living with HIV/AIDS attending anti retroviral clinics in Kogi state
2. To determine the quality of life of males and females living with HIV/AIDS attending anti retroviral clinics in Kogi state
3. To identify social and economic factors that influences the quality of life of People Living with HIV/AIDS in Kogi state

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

The term quality of life (QOL) is applied in everyday language and in several different areas of knowledge and work although it is a complex concept that is difficult to define and measure. However, various conceptual and operational definitions have been used in QOL (Gill and Feinstein, 1994; Jones, 1991).

2.2 DEFINITIONS OF THE TERM 'QUALITY OF LIFE'

Kohli *et al* (2005) collected several definitions. QOL is a term that is popularly used to convey an overall sense of well being and includes aspects such as happiness and satisfaction with life as a whole. The World Health Organization has also defined QOL as 'individuals' perceptions of their position in life in the context of the culture and value systems in which they live and in relation to their goals, standards, expectations and concerns (WHOQOL, 1998).

Quality of life has recently been scientifically defined and it has been employed as synonymous of health status, functional status, psychological well-being, life happiness, need satisfaction and assessment of one's own life (Elisabete *et al*; 2007). Quality of life relates both to adequacy of material circumstances and to personal feelings about these circumstances. It includes overall subjective feelings of well being that are closely related to morale, happiness and satisfaction. Further as health is generally cited as one of the most important determinants of overall quality of life, it has been suggested that quality of life may be uniquely affected by

specific disease process such as AIDS (Watchel *et al*, 1992; Fanning, 1994).

Studies on people living with HIV/AIDS (PLWHA) have used the term health-related quality of life (HRQOL) to assess the impact of health on social activities and mobility focusing whether there are or not signs and symptoms and effects of new drugs or health interventions (Hulley *et al* 2001; Marins *et al* 2003). Also assessment of QOL in individuals living with HIV/ AIDS is becoming crucial to research and evidence based practice which is currently considered essential for clinical trials in HIV infection, as commonly used end-points (CD4 level, viral load, and opportunistic diseases) are inadequate to catch the Complexity of treatment outcomes.

There is lack of clarity in defining Quality of life and concomitant operational difficulties in it (Cleary *et al*, 1993) but because the patient is the best source of information about his or her HRQOL, many practical tools have been developed that rely on patient self-ratings especially in evaluating the quality of life in HIV infected individual. Since 1989, more than ten health related quality of life (HRQOL) instruments have been used in research with HIV infected individuals (Wolfensberger, 1994) one of which is that which the World Health Organization has developed. It is a standardized set of Instruments used to asses subjective QOL in different medical conditions, including HIV infection. Starace *et al (2002)* have reported evidence for the acceptability, reliability and validity of the Italian version of the WHOQOL-HIV (WHOQOL, 2003).

The WHOQOL-HIVbref is also a standardized set of instruments developed by the World Health Organization which comprises of 31 items whose variables are divided into six domains: Physical Health, Psychological Health, Level of Independence, Social Relationships, Environment and Spirituality/Religion/Personal Beliefs. The physical health domain measures pain and discomfort; energy and fatigue; sleep and rest. The psychological health domain

measures positive feelings; thinking, learning, memory and concentration; self-esteem; bodily image and appearance; negative feelings. The level of independence domain measures mobility; daily life activities; dependence on medications or treatments; and work capacity. The social relationships domain includes personal relationships; social support; and sexual activity. The environment domain measures physical safety and security; home environment; financial resources; health and social care: accessibility and quality, opportunities for acquiring new information and skills; participation in and opportunities for recreation and leisure activities; physical environment (pollution, noise, traffic, climate and transport). The spirituality/religion/personal beliefs domain measures forgiveness and blame, concerns about the future and death and dying (Fleck; 1998).

2.3 QUALITY OF LIFE OF PEOPLE LIVING WITH HIV/AIDS

Assessing individuals living with HIV/AIDS is crucial in determining their quality of life. In a research conducted to explore the quality of life of people living with HIV/AIDS in Sao Paulo, Brazil using the WHOQOL-bref, Elisabete *et al* (2007) observed that People living with HIV/AIDS had quality of life scores in the physical and psychological health domains close to the high level (between 15 and 20) while their scores in the social relationships and environment domains fell in the intermediate level (between 10 and 14.9). Elisabete argued that the social relationships domain could reflect stigmatization and discrimination associated to the difficulties of disclosing their HIV status in social settings (work, family, and friends). Also in a study conducted in Casa da by Fleck *et al* (2000), AIDS patients had better quality of life, i.e., physical and psychological health, but worse quality of life in the social relationships domains. The study findings indicated that distinctive features of people living with HIV/AIDS can negatively affect issues in the social relationships domains (personal relationships, social

support and sexual activity). However in Belo Horizonte and Taiwan (Fang *et al*, 2002; Hsiung *et al*, 2005) studies, lower results were found in the physical and psychological health domains with scores in the intermediate level.

Researchers have suggested the need for empowerment as a strategy for attaining better health and improving the QOL especially among women living with HIV ((Zoerilla and Santiago 1999). A US based study showed that women and HIV-infected individuals reported the poorest QOL scores (Wisniewski *et al* 2005). In another US based study, gender differences in Health Related QOL (HRQOL) were evaluated among participants in a large randomized trial comparing antiretroviral regimens. Nine QOL domains were assessed using the ACTG QOL 601 – 602 Health Survey at 3 points in the trial. At baseline, females reported lower HRQOL scores than males in all the domains except social functioning and overall health (Mrus *et al,* 2005).

2.4 SOCIO – DEMOGRAPHIC CHARACTERISTICS OF PLWHA

Research examining the potential impact of gender and other socio-demographic characteristics on quality of life in HIV/AIDS is limited (Mrus *et al* 2005; Smith *et al* 1997). The National Academy of Sciences recently recommended that studies concerned with health related research include males and females, and that researchers analyze their data for gender differences (IOM, 2000). Among PLWHA, there are gender differences in access to treatment, care, economic, income, and social and personal power. Studies on QOL and gender albeit limited, have shown several commonalities across countries and continents (Zoerilla and Santiago 1999).

In a cohort study conducted by Prabha *et al* (2008) to examine gender differences in Quality of Life (QOL) among people living with HIV/AIDS in South India using the locally validated version of the WHO Quality of Life Instrument for HIV (WHOQOL-HIV 120), 109

Participants were involved. There was no gender difference in CD4 counts or use of antiretroviral therapy. Of the six domains of QOL, men reported better quality of life in the environmental domain while women had higher scores on the spirituality/religion and personal beliefs domain.

In another study conducted in Southwest Ethiopia to determine Predictors of adherence to antiretroviral therapy among HIV-infected persons, Alemayehu *et al* (2008) found that out of the 383 subjects who participated in the study, subjects' age ranged from 19 to 58 years with a median age of 30 years. Most were females which accounted for 239 (59.8%). The majority 389 (97.3%) were from Jimma, were Oromo 161 (40.3%) by Ethnicity and Orthodox 231 (57.8%) by religion. one hundred and eighty (45%) were married, 143 (35.8%) had no job and 148 (37%) of the survey participants had no monthly income.

Adedimeji and Odutolu (2000), in a research conducted in southwest Nigeria on Care support and quality of life outcomes among persons living with HIV accessing HAART, they observed that more females (70%) participated in the study. Respondents' age ranges from 18 to 56 years with those aged between 31-35 years in the majority. 48% reported being self-employed and 32% were unemployed. Although, less than half (46%) were married, one in four reported having biological children.

Lawrence (2004) indicated that marriage in itself does not protect partners from HIV/AIDS infection. According to a study conducted by Mumba (2004) on people living with HIV/AIDS, study showed that 87 (41.6%) of the participants were married and 61 (29.2%) were widowed. The reason explaining this occurrence is that because of the high mortality among people with HIV/AIDS their spouses may be dying due to AIDS.

2.5 SOCIAL AND ECONOMIC FACTORS INFLUENCING THE QUALITY OF LIFE OF PLWHA

Certain factors have been identified to influence the quality of life of people living with HIV/AIDS. Psychosocial and economic factors have been observed to be one of these factors.

Adedimeji and Odutolu (2000) were able to identify and rank issues that they consider most important in terms of improving the quality of life of people living with HIV/AIDS. The issue rated highest was availability of care and social support from family members and close friends (93%). Other highly rated concerns include: financial pressures (89%) stigma and discrimination (87%) health concerns and counseling (85%), access to drugs and treatment (83%), use of ARVs (65%).

According to them, although accurate information on income could not be obtained, most participants involved in the study reported an equivalent income of less than $1 a day. The study findings further confirm earlier studies that psychosocial factors and social support influence health outcomes of HIV infected individuals (Berkman & Syme, 1990; Stanfeld, *et al* 1998). There is evidence that social support affects health outcomes either through its effects on the function of the immune system (Antoni *et al*, 1990) or through its effects on self-care activities and other illness behaviours (Lutgendorf *et al*, 1994). Obtaining social support may however be problematic for some persons because of AIDS-related stigma. The findings about psychosocial effects of testing positive for HIV are important considering that psychological and existential issues impact heavily on QOL of PLWHA. Constant worry, stress and anxiety contribute to poor QOL, but these could also become catalysts for adopting health enhancing behaviour as demonstrated by some participants. Similarly, continued stigma and social isolation still pose

considerable barriers to disclosure of HIV status. It has implications for access to treatment facilities (Carr & Gramling, 2004), compliance with medications (Crosby, Holtgrave *et al*, 2004) and generally hinders prevention efforts directed at HIV/AIDS. Contrastingly, expectations of economic and social benefits considerably influenced individual's willingness to disclose HIV status.

Education and employment status can also be seen as a factor influencing quality of life of people living with HIV/AIDS. This is based on previous studies on quality of life in relation to education and employment. A study conducted to ascertain the employment status, level of income and quality of life of people living with HIV/AIDS which was conducted in Calgary, Alberta reported 91% of participants were male, mean age was 41 years, 59% had attended or completed college/university. 58% were employed while Mean monthly household income was $3,922. The research also showed that Employment appeared to be a stronger predictor of quality of life than either level of household income or objective health measures (Catherine and Hartmut, 2007).

Education is vital in building people's skills and ability to process information for livelihood choices including issues related to HIV/AIDS prevention (The Millennium Development Goals Report, 2003). According to Mumba (2004) in his study, the low level of education among the participants may have led to low employment rates among this group. Most of the respondents in the study (52 %) only attained a primary school education, followed by 72 (34%) participants with a secondary school education. Alemayehu *et al* (2008) also showed that of the 383 subjects who participated in the study to determine Predictors of adherence to antiretroviral therapy among HIV-infected persons, only 50.3% had attended secondary

education a result similar to that which was obtained by Adedimeji and Odutolu (2000) in their study on care support and quality of life outcomes among persons living with HIV accessing HAART in which only 55% had secondary education.

CHAPTER THREE

3.0 METHODOLOGY

3.1 INTRODUCTION

This chapter discusses the research study design, the setting of the study, target population, sample size, the development and pre-test of the instrument and the procedure for data collection.

3.2 STUDY AREA

Kogi is a state in the north-central zone of Nigeria with a population of about 3,595,789 million people. It covers a geographical area of about 29,833km^2 and comprises of 21 local government areas with Lokoja being the capital. The study was carried out in the five healthcare facilities providing anti-retroviral therapy for PLWHA namely; The Federal Medical Centre Lokoja, MTN Foundation PAAC (Partners Against AIDS in the Community), Obangede, St John's Catholic Hospital Kabba, Grimard Hospital Anyigba and the ECWA Hospital Egbe.

3.3 STUDY DESIGN

A descriptive cross-sectional study. This is a study design, in which the investigator selects a single sample of people and assesses the whole cohort for exposure to possible causal factors and for the presence of the outcomes of interest simultaneously (Bamigboye, 2006).

3.4 STUDY POPULATION

Subjects were all consenting individuals living with HIV/AIDS, 18 years or older, attending antiretroviral clinics in Kogi state. Subjects were drawn from the five healthcare facilities providing care for HIV/AIDS patients within the state.

3.5 SAMPLE SIZE

A total of 252 consenting PLWHA registered with the five healthcare facilities were

enrolled in the study. Forty seven PLWHA were from the Federal Medical Centre, 60 from the MTN Foundation PAAC, 56 from St. John's Catholic Hospital, 53 from Grimard Hospital and 36 from the ECWA Hospital Egbe. Informed Consents were sought from these healthcare facilities and each participant.

3.6 PRE-TEST STUDY

A pretest was conducted at the St Camillus Hospital Uromi, Edo state to assess the face validity of the instrument.

3.7 DATA COLLECTION PROCEDURE

Data collection was with the aid of an interviewer-administered questionnaire divided into two sections (sections A and B). Section A comprised of demographic data and information on patient's medication some of which were collected from patient's medical records. The WHOQOL-HIVbref was adapted for section B.

3.8 DATA MANAGEMENT

Data was checked manually to assess data quality and highlighted problems with the data collection. Data entry and statistical Analysis was performed using statistical package for social science (SPSS) software version 14.0.

3.8.1 DATA SCORING

Each item from the domain on medications were scored using the HIV/AIDS Targeted Quality of Life (HATQOL) standards. This domain was scored so that final domain score is transformed to a linear 0-to-100 scale, where 0 is the worst score possible and 100 is the best score possible. Obtaining this final, transformed domain score, was done in three steps:

1. Impute a value for all subject responses, item by item, as noted below with 1 being the lowest score possible and 5 the highest score possible. .

Response Option	Code
a. "All of the time"	1
b. "A lot of the time"	2
c. "Some of the time"	3
d. "A little of the time"	4
e. "None of the time"	5

2. Add the imputed values of all items from the domain to get a total imputed value score for the domain. The total imputed value score for the medication domain will be denoted by the term "MED".
3. Transform each dimension's total imputed value score to the 0-to-100 scale using the following formulae: MED100 = (100 / (25-5)) (MED-5) Where MED is total imputed value score for medication domain.

Section B consists of items from the six domains of the WHOQOL-HIV bref. Individual items was rated on a 5 point Likert scale where 1 indicates low, negative perceptions and 5 indicates high, positive perceptions. Domain and facet scores were scaled in a positive direction where higher scores denote higher quality of life. Some facets (Pain and Discomfort, Negative Feelings, Dependence on Medication, Death and Dying) were not scaled in a positive direction, meaning that for these facets higher scores do not denote higher quality of life. These were recoded so that high scores reflected better quality of life. This was done by reversing the scale for the 6 negatively phrased items i.e. questions 3,4,5,8,9,10 and 31 to (1=5) (2=4) (3=3) (4=2) (5=1). This transforms negatively framed questions to positively framed questions. Mean scores were then calculated. The mean score of items within each domain was used to calculate the domain score. Mean scores were then multiplied by 4 so that scores range between 4 and 20 i.e.

1 Domain 1 = (Q3 + Q4 + Q14 + Q21)/4 * 4

2 Domain 2 = (Q6 + Q11 + Q15 + Q24 + Q31)/5 *4

3 Domain 3 = (Q5 + Q22 + Q23 + Q20)/4 * 4

4 Domain 4 = (Q27 +Q26 + Q25 + Q17)/4*4

5 Domain 5 = (Q12 + Q13 + Q16 + Q18 + Q19 + Q28 + Q29 + Q30)/8 *4

6 Domain6 = (Q7 + Q8 + Q9+ Q10)/4 *4

3.8.2 DATA ANALYSIS

Descriptive statistics such as mean and standard deviation was used to summarize the scores of quality of life. For the analysis of potential differences between mean scores of quality of life of men and women, t-Student test was used. Further more, in other to determine some factors that were significantly associated with the quality of life of respondents F-test, T-student test and multiple linear regression were used. For the sake of interpretation of quality of life results in section B, scores between 4 and 10 was considered as low level; between 10 and 14.9 as intermediate level; and between 15 and 20 as high level.

3.9 LIMITATIONS OF THE STUDY

Having sought informed consent from the participants, most of them still were inaccessible as they insisted they had other engagements which affected the initial sample size of our study. However, a few cooperated but demanded for incentives. To have this issue addressed, participants were addressed on the likely benefits they would gain from the findings of this research. Incentives were given in form of food materials.

CHAPTER FOUR

4.0 RESULTS

4.1 INTRODUCTION

This chapter presents the findings of the study. The first section outlines the socio - demographic and descriptive characteristics of the respondents. This is followed by section B which presents the findings on quality of life, social and economic factors influencing quality of life of PLWHA.

SECTION A

4.2 SOCIO-DEMOGRAPHIC AND DESCRIPTIVE CHARACTERISTICS OF THE RESPONDENTS

A total of 252 people living with HIV/AIDS participated in this study, out of which 62.7% were females and 37.3% were males. The ethnicity of the respondents cut across Yoruba (23.8%), Ebira (25.8%), Igala (25.8%), Bassa (5.2%) and other tribes (19.4%). The married ones (51.6%) constituted about half of the entire sample size, while the singles were about 24%.

The highest educational status attained by majority (38.9%) of the patients was secondary school education, while 17.5% of them never had any formal education. Majority (53.1%) of the patients were Christians, out of which 20.6% were catholic and 32.5% were Protestants; while the Muslims among them were about 45.5% (Table 1).

Table 1. Socio-demographic status of the patients

Variables	Categories	N	%
Gender (n=252)	Male	94	37.3
	Female	158	62.7
Tribe (n=252)	Yoruba	60	23.8
	Ebira	65	25.8
	Igala	65	25.8
	Bassa	13	5.2
	others	49	19.4
Marital status (n=252)	Married	130	51.6
	Single	60	23.8
	Widowed	26	10.3
	Divorced	16	6.3
	Separated	12	4.8
	Co-habitation	8	3.2
Educational status (n=252)	Primary	72	28.6
	Secondary	98	38.9
	Tertiary	38	15.1
	Not at all	44	17.5
Religion (n=252)	Roman catholic	52	20.6
	Protestant	82	32.5
	Islam	114	45.2
	Traditional	2	0.8
	Others	2	0.3

The socio-economic status of the patients as assessed based on occupation and income is shown in the table below. With respect to occupation, majority (39.7%) of the patients were traders, while very few (5.6%) were farmers. Only 216 patients gave information about their income status, out of which 90 (41.7%) had income and the rest had no income. Among the 90 patients who having income, few (11.1%) earned less than ₦1000, while those who earned above ₦5000 had similar proportion (44.4%) with those who earned between ₦ 1000 and ₦ 5000 (Table 2).

Table 2. Socio-economic status of the patients

Variable	Categories	N	%
Occupation	Teaching	16	6.3
(n=252)	Civil service	24	9.5
	Trading	100	39.7
	Farming	14	5.6
	Housewife	28	11.1
	Students	34	13.5
	Others	36	14.3
Individual income	Income	90	41.7
(n=216)	No income	126	58.3
MM income earned	<1000	10	11.1
(Naira) (n=90)	1000-5000	40	44.4
	>5000	40	44.4

MM: Minimum Monthly Income

The medication status and the clinical infections status of the patients are described in the table below. Out of the 252 patients who responded, 214 (84.9%) were still on medication, while the other 38 patients (15.1%) were not on medication; and majority (66.3%)of the patients reported to have been on the medication for between one and two years.

With respect to the patients' clinical infections status, majority (41.0%) of the patients described their status as being symptomatic, while 22.1% did not even know what their clinical infections status was. Therefore the $CD4^+$ cells/mm^3 counts of more than half (52.8%) of the patients were found to be between 200 and 250 (Table 3).

Table 3. Medication and Clinical infections status of the patients

Variable	Categories	N	%
Medication (n=252)	On medication	214	84.9
	Off medication	38	15.1
Medication Length (n=196)	<1years	54	27.6
	1-2years	130	66.3
	>2years	12	6.1
Clinical infections status (n=244)	Asymptomatic	90	36.9
	Symptomatic	100	41.0
	Don't know	54	22.1
$CD4^+$ Cells/mm^3 (n=178)	<200	44	24.7
	200-250	94	52.8
	>350	40	22.5

Table 4. Distribution of means, standard deviations and range according to respondents' descriptive characteristics.

Characteristics	N	Mean(SD)	Median	Minimum – Maximum
Age (in years)	248	34.80 (9.1)	35.00	18.00 – 58.00
Weight (kilograms)	240	60.40 (9.4)	60.00	41.80 – 80.00
Height (meters)	162	1.64 (0.10)	1.61	1.50 – 01.98
BMI (kg/m^2)	160	22.27 (4.06)	22.50	0.00 – 29.30
$CD4^+$ Count ($cells/mm^3$)	178	306.60 (149.1)	292.00	73.00 – 840.00
Number of children	164	3.40 (1.81)	3.00	1.00 – 7.00

SD: Standard Deviation

Mean age of the 252 interviewees was 34.8 years (SD = 9.1 years), with the ages ranging from 18 years to 58 years. The mean weight and height of the study sample were 60.40kg and 1.64m respectively. On the other hand, the mean BMI of the respondents was 22.27kgm^{-2} (4.06)

Although not all the respondents that participated in the study offered to disclose their CD4 count, the mean CD4+ cell count was 306.6 cells/mm^3, with a minimum of 73.0 cells/mm^3 and maximum 840.0 cells/mm^3.

With respect to the number of children, 65.1% (164) reported having at least a child. Mean number of children was 3.40 (SD= 1.81), with a minimum of 1 child and a maximum of 7 children.

SECTION B

4.3 FINDINGS ON QUALITY OF LIFE

Table 5 shows scores of quality of life domains. It can be noted that mean scores in Physical Health, Psychological health, Social Relationships Environment, Spirituality/Religion/Beliefs domains were similar.

Table 5. Distribution of means, standard deviations and range of raw scores obtained from the quality of life questionnaire (WHOQOL-HIV bref) by domain.

Domain	Mean (SD)	Minimum – Maximum
1. Physical Health	15.2 (2.5)	9.0 – 20.00
2. Psychological health	15.0 (2.8)	8.0 – 20.00
3. Level of Independence	14.2 (1.9)	9.0 – 19.00
4. Social Relationships	13.2 (2.5)	7.0 – 19.00
5. Environment	13.1 (1.9)	8.0 – 17.50
6. Spirituality/Religion/Beliefs	15.7 (3.4)	4.0 – 20.00

Raw score ranging from 4 to 20

SD: Standard Deviation

4.3.1 FACTORS ASSOCIATED WITH THE QUALITY OF LIFE OF PEOPLE LIVING WITH HIV/AIDS

Socio-demographic factors

The gender status of the people living with HIV/AIDS in this study was found to be significantly associated ($p<0.05$) only with their level of independence (Table 6).

Table 6. Gender influence on Quality of Life

Domain	Male mean±std	Female mean±std	P value
Physical health	15.2±2.7	15.2±2.5	0.834
Psychological	14.7±2.8	15.2±2.7	0.204
Level of independence	13.9±1.7	14.4±1.9	0.028
Social relationship	13.0±2.5	13.2±2.6	0.354
Environmental	13.0±1.9	13.2±1.9	0.383
Spiritual	16.1±3.1	15.4±3.6	0.137

Independent Samples Test

Using the Analysis of Variance F test, the tribe of the respondents was significantly associated ($p<0.05$) with five out of the six domains (dimensions) of the quality of life i.e. their physical health, psychological health, level of independence, social relationship and spiritual health (Table 7).

Table 7. Tribal influence on Quality of Life

Domain	Yoruba mean±sd	Ebira mean±sd	Igala mean±sd	Bassa mean±sd	Others mean±sd	P value
Physical health	14.5±2.2	16.5±2.3	14.6±2.6	15.7±3.4	15.0±2.3	0.000
Psychological	14.2±2.4	16.6±2.1	14.2±2.8	14.5±3.3	15.0±2.8	0.000
Level of independence	13.6±1.8	14.8±1.6	14.4±2.2	13.8±1.8	14.2±1.6	0.012
Social relationship	12.9±2.2	14.1±2.3	12.1±2.4	13.4±3.2	12.7±2.1	0.018
Environmental	13.1±1.7	13.4±1.8	13.1±2.0	13.3±1.6	12.8±2.0	0.582
Spiritual	15.2±3.4	17.9±2.5	13.9±3.5	15.5±4.0	15.6±2.8	0.000

Analysis of Variance

Also, the results of the ANOVA test showed that the educational status of the respondents was significantly ($p<0.05$) associated with three of the dimensions of the respondents' quality of life i.e. their physical health, psychological health and social relationship (Table 8).

Table 8. Influence of education on Quality of Life

Domain	Informal mean±sd	Primary mean±sd	Secondary mean±sd	Tertiary mean±sd	P value
Physical health	15.7±2.6	15.6±2.6	15.3±2.4	13.5±2.0	0.000
Psychological	14.9±2.3	15.3±3.0	15.3±2.8	13.8±2.4	0.027
Level of independence	14.3±1.9	14.5±2.1	14.1±1.8	13.8±1.4	0.241
Social relationship	12.2±2.0	13.5±3.1	13.3±2.0	13.3±2.8	0.045
Environmental	12.8±1.5	13.2±2.0	13.2±1.8	13.2±2.1	0.561
Spiritual	15.7±4.0	16.1±3.6	15.4±3.3	15.4±2.8	0.519

Analysis of Variance

With the exception of environmental dimension of the quality of life, the respondents' religious status was significantly ($p<0.005$) associated with their physical health, psychological health, independence level and spiritual health status (Table 9).

Table 9. Association between the respondents' religion and their Quality of Life

Domain	Catholic mean±sd	Protestants mean±sd	Muslims mean±sd	Traditional mean±sd	Others mean±sd	P value
Physical health	14.4±2.0	14.7±2.7	15.8±2.4	18.0±0.0	20.0±0.0	0.000
Psychological	14.5±2.7	14.3±3.3	15.7±2.2	16.8±0.0	16.8±0.0	0.004
Level of independence	14.2±1.7	13.5±1.8	14.7±1.8	14.0±0.0	17.0±0.0	0.000
Social relationship	12.4±2.6	12.9±2.5	13.7±2.4	16.0±0.0	14.0±0.0	0.009
Environmental	13.0±2.2	12.8±1.8	13.4±1.7	14.0±0.0	13.5±0.0	0.191
Spiritual	14.9±2.9	15.2±3.4	16.3±3.6	20.0±0.0	16.0±0.0	0.033

Analysis of Variance

Socioeconomic factors

The association between the respondents' occupation and their quality of life was tested with ANOVA, the results obtained showed that with exception of spiritual health domain, the occupational status of the respondents was significantly associated ($p<0.05$) with all the other dimensions of quality of life (Table 10).

Table 10. Association between the respondents' occupation and their Quality of Life

Domain	Teaching mean±sd	Civil service mean±sd	Trading mean±sd	Farming mean±sd	Housewife mean±sd	Student mean±sd	Others mean±sd	P value
Physical health	13.5±1.2	15.0±2.5	15.7±2.4	14.9±2.7	16.5±2.7	16.5±2.7	13.7±1.8	0.000
Psychological	13.2±2.0	14.7±2.3	15.8±2.9	14.2±1.5	16.6±1.8	16.6±1.8	13.7±2.6	0.000
Level of independence	13.3±1.4	14.0±1.4	14.6±2.0	14.2±1.5	14.3±1.2	14.3±1.2	13.3±1.6	0.003
Social relationship	12.5±2.9	13.5±2.3	13.5±2.8	13.2±2.0	14.0±1.6	14.1±1.6	11.8±2.0	0.005
Environmental	11.9±1.9	13.8±1.8	13.3±2.0	12.9±2.0	13.9±0.8	13.9±0.8	12.5±1.4	0.000
Spiritual	15.7±2.5	16.6±2.0	15.8±3.6	14.6±3.7	16.5±4.0	16.5±4.0	14.7±2.4	0.142

Analysis of Variance

The association between the respondents' income and their quality of life was significant ($p<0.05$) for five (physical health, psychological health, independence level, social relationship and spiritual health) out of the six domains, leaving out the environmental domain (Table 11).

Table 11. Association between the respondents' income status and their quality of life

Domain	Below N1000	N1000-N5000	Above N5000	
	mean±sd	mean±sd	mean±sd	P value
Physical health	17.4±1.7	16.0±2.2	13.4±2.2	0.000
Psychological	17.8±0.8	15.2±2.8	13.6±3.0	0.000
Level of independence	15.2±2.4	13.9±1.7	13.1±1.5	0.001
Social relationship	14.6±2.2	13.2±2.3	12.2±2.1	0.005
Environmental	13.4±1.3	12.8±2.0	12.8±2.0	0.732
Spiritual	19.6±0.5	17.0±3.0	14.5±3.8	0.000

Analysis of Variance

Medication and Clinical infections status

The association between the respondents' medication status and their quality of life was only significant ($p<0.05$) for the psychological health of the respondents, while other domains were not significantly associated with the repondents' medication status.

Table 12. Association between the respondents' medication status and their quality of life

Domain	On medication mean±sd	Off medication mean±sd	P value
Physical health	15.2±2.5	15.4±2.5	0.544
Psychological	14.9±2.8	15.8±2.4	0.045
Level of independence	14.2±2.0	14.5±1.3	0.235
Social relationship	13.2±2.5	13.1±2.6	0.728
Environmental	13.1±1.9	13.3±1.8	0.643
Spiritual	15.7±3.3	15.3±3.9	0.483

Independent Samples Test

Among the six dimensions measuring the quality of health, the psychological health and the level of independence of the respondents were significantly associated ($p<0.05$) with the length of time the respondents have been on medication.

Table 13. Association between the respondents' length of medication and their quality of life

Domain	Less than 1year	1-2years	Above 2 years	
	mean±sd	mean±sd	mean±sd	P value
Physical health	15.4±2.5	15.0±2.5	14.8±3.6	0.372
Psychological	16.0±2.5	14.5±2.9	14.8±2.8	0.004
Level of independence	15.3±1.7	13.8±1.9	13.5±1.6	0.000
Social relationship	13.9±2.4	13.0±2.6	12.7±1.6	0.069
Environmental	13.6±2.0	12.9±1.8	13.6±2.0	0.065
Spiritual	15.2±3.6	15.9±3.3	16.0±3.7	0.446

Analysis of Variance

The $CD4^+$ counts of the respondent was also significantly associated ($p<0.05$) with all of the dimensions of quality of life with the exception of the physical health domain (Table 14).

Table 14. Association between the respondents' $CD4^+$ Count and their quality of life

Domain	Less than 1year mean±sd	1-2years mean±sd	Above 2 years mean±sd	P value
Physical health	14.6±2.1	15.0±2.8	14.9±2.5	0.618
Psychological	13.5±2.6	15.1±2.7	14.8±2.9	0.005
Level of independence	13.0±2.4	14.4±1.6	14.6±1.5	0.000
Social relationship	11.6±2.2	13.5±3.4	12.9±1.4	0.000
Environmental	12.4±1.9	13.6±1.7	12.5±1.8	0.000
Spiritual	14.5±3.1	16.1±3.0	14.9±3.9	0.015

Analysis of Variance

The clinical infections status of the respondents was significantly associated ($p<0.05$) with the quality of life of the respondents in the areas of physical health, psychological health, social relationship and spiritual health (Table 15).

Table 15. Association between the respondents' clinical infections status and their quality of life

Domain	Asymptomatic mean±sd	Symptomatic mean±sd	Do not know mean±sd	P value
Physical health	14.3±2.4	15.0±2.3	16.9±2.5	0.000
Psychological	14.0±3.0	15.1±2.6	16.3±2.2	0.000
Level of independence	14.3±2.0	13.9±1.9	14.6±1.6	0.085
Social relationship	12.5±2.2	13.4±2.5	14.2±2.6	0.000
Environmental	13.1±1.7	13.0±2.0	13.4±1.9	0.399
Spiritual	14.5±3.4	15.3±3.2	17.8±3.0	0.000

Analysis of Variance

Social factors

As shown in the table below, the ANOVA results showed that the frequency of social support received by the respondents from friends and family members was found to have a significant association with the physical health, the level of independence, the social relationship and the environmental health of the respondents ($p<0.05$).

Table 16. Association between the respondents' frequency of social support and their quality of life

Domain	None of the time mean±sd	Some of the time mean±sd	A lot of the time mean±sd	All of the time mean±sd	P value
Physical health	15.1±3.0	15.3±2.5	12.9±1.4	16.0±2.1	0.001
Psychological	14.6±1.8	15.0±2.7	13.8±2.6	16.3±3.8	0.064
Level of independence	15.2±1.9	14.1±1.8	13.3±1.2	15.7±1.5	0.000
Social relationship	13.6±3.5	13.0±2.3	12.8±2.1	15.4±3.4	0.001
Environmental	12.8±2.2	13.0±1.8	13.4±1.3	14.7±2.3	0.002
Spiritual	15.6±3.5	15.8±3.6	14.8±2.3	15.0±1.7	0.565

Analysis of Variance

Discrimination played a significant role on the quality of life of the respondents, as it was significantly associated ($p<0.05$) with all the six domains measuring the quality of life of the respondents (Table 17).

Table 17. Influence of discrimination on the respondents' quality of life

Domain	Discriminated	Never discriminated	
	mean±sd	mean±sd	P value
Physical health	14.3±2.4	16.0±2.5	0.000
Psychological	13.9±2.6	15.9±2.7	0.000
Level of independence	13.5±1.8	14.8±1.7	0.000
Social relationship	12.2±2.0	14.0±2.6	0.000
Environmental	12.6±1.5	13.6±2.1	0.000
Spiritual	15.1±3.2	16.1±3.6	0.035

Independent Samples Test

4.4 FINDINGS ON THE SOCIAL AND ECONOMIC FACTORS INFLUENCING QUALITY OF LIFE.

Multivariate analysis of the associated with the quality of life of the respondents

Each of the six domains measuring the quality of life of the respondents was subjected to a multivariate analysis using the multiple linear regression analysis to actually determine the factors that were significantly associated with quality of life of the respondents.

The multiple linear regression correlation co-efficient for the model on physical health was 0.679, while the adjusted R^2 was 0.386 indicating that 39% of the variance in the model could be predicted from the independent variables in the model shown in the table below. The combination of the independent variables in the table below significantly ($p<0.05$) predicted the physical health of the respondents. Therefore, factors that were then significantly associated ($p<0.05$) with the respondents' physical health were discrimination, tribe, religion, education, occupation, and frequency of social support received by the respondents from friends and family members.

Table 18. Factors associated with the respondents' physical health

Variable	Categories	Unstandardised coefficients		Standardised coefficients	T	P value
		B	Std error	Beta		
Constant		13.65	0.56		24.59	0.000
Marital status	Single	0.18	0.57	0.03	0.32	0.748
	Married	-1.46	0.83	-0.10	-1.75	0.082
	Co-habitation	0.41	0.71	0.04	0.57	0.566
	Divorced	1.12	0.60	0.11	1.86	0.065
	Widowed	0.21	0.49	0.03	0.43	0.666
Discrimination	No	0.74	0.34	0.14	2.18	0.031
Tribe	Yoruba	0.64	0.42	0.11	1.53	0.128
	Ebira	1.37	0.42	0.23	3.28	0.001
	Bassa	1.21	0.67	0.10	1.68	0.095
	Others	0.59	0.44	0.09	1.34	0.182
Religion	Catholic	-0.10	0.43	-0.02	-0.23	0.821
	Muslim	0.80	0.35	0.15	2.28	0.024
	Traditional	3.51	1.69	0.12	2.08	0.039
	Others	2.80	1.55	0.10	1.81	0.071
Clinical infections	Symptomatic	-0.14	0.36	-0.30	-0.39	0.699
	Don't know	0.90	0.48	0.14	1.89	0.061
Education	None at all	0.46	0.47	0.07	1.00	0.319
	Primary	0.50	0.38	0.08	1.31	0.191
	Tertiary	-1.27	0.55	-0.08	-2.30	0.022
Occupation	Others	-1.18	0.48	-0.17	-2.45	0.015
	Teaching	-0.17	0.89	-0.15	-0.19	0.846
	Civil service	-0.28	0.55	-0.02	-0.51	0.613
	Farmer	-0.91	0.69	-0.08	-1.32	0.118
	Housewife	-0.42	0.51	-0.05	-0.83	0.405
	Student	1.04	0.66	0.13	1.58	0.116

Frequency of social support	None of the time	0.02	0.58	0.00	0.03	0.976
	A lot of the time	-2.09	0.66	-0.18	-3.19	0.002
	All of the time	0.73	0.64	0.07	1.14	0.255

The multiple linear regression correlation co-efficient for the model on psychological health was 0.799, while the adjusted R^2 was 0.532 indicating that 53% of the variance in the model could be predicted from the independent variables in the model shown in the table below. The combination of the independent variables in the table below significantly ($p<0.05$) predicted the psychological health of the respondents.

In this model for psychological health, factors such as discrimination, tribe, religion, educational and occupational status were significantly associated with the psychological health of the respondents ($p<0.05$).

Table 19. Factors associated with the respondents' psychological health

Variable	Categories	Unstandardised coefficients		Standardised coefficients	T	P value
		B	Std error	Beta		
Constant		13.83	1.28		10.84	0.000
Marital status	Married	-0.93	1.14	-0.15	-0.82	0.417
	Co-habitation	-2.58	1.62	-0.15	-1.62	0.109
	Separated	1.66	1.58	-0.10	-1.06	0.293
	Divorced	0.18	1.41	0.02	0.13	0.899
	Widowed	-1.47	1.28	0.15	-1.14	0.255
Discrimination	No	1.25	0.51	0.22	2.44	0.016
Tribe	Ebira	1.16	0.60	0.16	1.94	0.055
	Igala	-1.61	0.58	-0.23	-2.78	0.006
	Bassa	-0.78	0.92	0.06	-0.85	0.396
	Others	0.05	0.63	0.01	0.08	0.936
Religion	Catholic	1.95	0.61	0.29	3.19	0.002
	Muslim	2.02	0.60	0.33	3.36	0.001
	Traditional	8.08	2.12	0.34	3.81	0.000
	Others	-1.59	1.71	-0.07	-0.93	0.353
Clinical infections	Asymptomatic	0.17	0.54	0.03	0.32	0.753
	Don't know	0.40	0.65	0.05	0.61	0.544
Education	None at all	-1.39	0.80	-0.17	-1.75	0.084
	Primary	-0.25	0.61	0.04	-0.40	0.690
	Tertiary	-2.30	0.92	-0.29	-2.50	0.014
Occupation	Others	-1.02	0.65	-0.13	-1.60	0.119
	Teaching	0.69	1.50	-0.06	0.50	0.637
	Civil service	-1.20	0.74	-0.14	-1.60	0.120
	Farmer	-4.40	1.22	-0.32	-3.60	0.000
	Housewife	-1.54	0.67	-0.18	-2.31	0.023
	Student	2.56	1.48	0.24	1.73	0.087
CD4 count	200-350	0.58	0.60	0.09	1.06	0.293
	Above 350	0.70	0.84	0.07	0.79	0.432

Medication length	Less than 1year	0.50	0.59	0.07	0.90	0.397
	Above 2years	1.22	1.03	0.09	1.18	0.242

The multiple linear regression correlation co-efficient for the model on level of independence was 0.846, while the adjusted R^2 was 0.638 indicating that 64% of the variance in the model could be predicted from the independent variables in the model shown in the table below. The combination of the independent variables in the table below significantly ($p<0.05$) predicted the level of independence level of the respondents.

Similar to the physical and the psychological models, factors such as discrimination, religion, occupational status, CD4[+] counts, and frequency of social support received from friends and family members were significantly associated with the level of independence of the respondents ($p<0.05$).

Table 20. Factors associated with the respondents' level of independence

Variable	Categories	Unstandardised coefficients		Standardised coefficients	T	P value
		B	Std error	Beta		
Constant		13.32	0.46		29.28	0.000
Marital status	Single	1.20	0.70	0.19	1.79	0.077
	Co-habitation	-0.50	0.70	-0.04	-0.67	0.507
	Separated	-0.37	0.70	-0.03	-0.52	0.603
	Divorced	-0.20	0.54	-0.02	-0.35	0.725
	Widowed	0.77	0.50	0.11	-1.70	0.092
Discrimination	No	0.70	0.28	0.18	2.50	0.015
Tribe	Ebira	-0.02	0.33	-0.01	-0.07	0.946
	Igala	-0.31	0.35	-0.07	-0.90	0.380
	Bassa	0.28	0.60	0.03	0.51	0.615
	Others	0.04	0.36	0.01	0.12	0.909
Religion	Catholic	0.35	0.40	0.08	0.99	0.326
	Muslim	1.71	0.40	0.42	4.87	0.000
	Traditional	1.60	1.14	0.10	1.39	0.169
	Others	3.40	0.10	0.21	3.40	0.001
Frequency of Social support	None of the time	1.41	0.50	0.20	2.84	0.005
	A lot of the time	-1.24	0.54	-0.15	-2.30	0.025
	All of the time	1.30	0.61	0.14	2.09	0.039
Occupation	Others	-1.12	0.36	-0.21	-3.10	0.003
	Teaching	-2.70	0.53	-0.40	-5.10	0.000
	Civil service	-0.16	0.40	-0.30	-0.41	0.682
	Farmer	-1.43	0.70	-0.15	-2.04	0.044
	Housewife	-1.10	0.40	-0.20	-2.80	0.006
	Student	-1.41	0.83	-0.20	-1.70	0.092
CD4 count	200-350	-0.80	0.32	-0.20	-2.40	0.019
	Above 350	1.74	0.50	0.26	3.70	0.000

Medication length	Less than 1 year	0.56	0.36	0.12	1.60	0.123
	Above 2years	0.09	0.57	0.01	0.15	0.878

The multiple linear regression correlation co-efficient for the model on social relationship was 0.820, while the adjusted R^2 was 0.597 indicating that 60% of the variance in the model could be predicted from the independent variables in the model shown in the table below. The combination of the independent variables in the table below significantly ($p<0.05$) predicted the social relationship of the respondents.

In this model, the factors that were significantly associated with the level of social relationship of the respondents ($p<0.05$) included marital status, discrimination, religion, educational and occupational status, $CD4^+$ counts, Clinical infections status and frequency of social support received from friends and family members were.

Table 21. Factors associated with the respondents' social relationship

Variable	Categories	Unstandardised coefficients		Standardised coefficients	T	P value
		B	Std error	Beta		
Constant		14.30	0.49		29.17	0.000
Marital status	Single	-2.87	0.70	-0.50	-4.13	0.000
	Co-habitation	-2.35	0.69	-0.20	-3.41	0.001
	Separated	-1.30	0.60	-0.14	-2.14	0.034
	Divorced	-1.04	0.63	-0.10	-1.70	0.099
	Widowed	-1.97	0.47	-0.27	-4.20	0.000
Discrimination	No	0.61	0.30	0.13	2.04	0.043
Tribe	Ebira	0.40	0.40	0.10	1.10	0.287
	Igala	-0.82	0.36	-0.20	-2.30	0.024
	Bassa	0.93	0.60	0.09	1.60	0.124
	Others	-0.60	0.40	-0.10	-1.60	0.124
Religion	Catholic	-0.84	0.37	-0.16	-2.30	0.023
	Protestant	-1.40	0.33	-0.30	-4.13	0.000
	Traditional	4.62	1.34	0.23	3.44	0.001
	Others	-1.71	-0.12	-0.10	-1.45	0.150
Frequency of Social support	None of the time	0.36	0.53	0.04	0.68	0.501
	A lot of the time	-0.10	0.48	-0.01	-0.20	0.879
	All of the time	3.24	0.65	0.31	5.02	0.000
Occupation	Others	-1.84	0.42	-0.30	-4.43	0.000
	Teaching	-2.33	0.85	-0.30	-2.80	0.007
	Civil service	-0.90	0.44	-0.13	-2.01	0.047
	Farmer	-2.70	0.70	-0.26	-3.81	0.000
	Housewife	-0.71	0.43	-0.10	-1.64	0.104
	Student	-2.21	0.80	0.31	3.00	0.004
CD4 count	200-350	-0.20	0.35	-0.04	-0.55	0.584

	Above 350	0.90	0.40	0.20	2.18	0.031
Clinical infections	Symptomatic	0.10	0.32	0.02	0.23	0.820
	Don't know	0.70	0.50	0.30	3.61	0.000
Education	None at all	-0.68	0.46	-0.11	-1.50	0.143
	Primary	0.02	0.40	0.00	0.10	0.954
	Tertiary	0.80	0.60	0.12	1.34	0.183

The multiple linear regression correlation co-efficient for the model on environmental health was 0.585, while the adjusted R^2 was 0.268 indicating that 27% of the variance in the model were predicted from the independent variables in the model shown in the table below. The combination of the independent variables in the table below significantly ($p<0.05$) predicted the environmental health of the respondents.

In this model, the factors that were significantly associated with the environmental health of the respondents ($p<0.05$) included discrimination, occupational status, $CD4^+$ counts, and frequency of social support received from friends and family members were.

Table 22. Factors associated with the respondents' environmental health

Variable	Categories	Unstandardised coefficients		Standardised coefficients	T	P value
		B	Std error	Beta		
Constant		13.22	0.36		36.85	0.000
Marital status	Single	-0.30	0.64	-0.10	-4.13	0.000
	Co-habitation	-0.53	0.72	-0.10	-3.41	0.001
	Separated	0.26	0.60	0.03	-2.14	0.034
	Divorced	0.53	0.64	0.10	-1.70	0.099
	Widowed	0.30	0.50	0.05	-4.20	0.000
Discrimination	No	0.78	0.27	0.21	2.04	0.043
Frequency of	None of the time	-0.52	0.51	-0.10	-1.01	0.315
Social support	A lot of the time	0.21	0.50	0.03	0.41	0.680
	All of the time	1.70	0.65	0.20	2.63	0.009
Occupation	Others	-0.70	0.41	-0.13	-1.65	0.102
	Teaching	-1.21	0.55	-0.17	-2.22	0.028
	Civil service	0.16	0.43	-0.03	0.36	0.717
	Farmer	-2.01	0.64	-0.23	-3.12	0.002
	Housewife	-0.10	0.50	-0.17	-2.21	0.029
	Student	0.78	0.68	-0.14	1.20	0.252
CD4 count	Below 200	-0.80	0.33	-0.18	-2.30	0.023
	Above 350	-0.63	0.35	-0.14	-1.81	0.072

The multiple linear regression correlation co-efficient for the model on spiritual health was 0.639, while the adjusted R^2 was 0.334 indicating that 33% of the variance in the model were predicted from the independent variables in the model shown in the table below. The combination of the independent variables in the table below significantly ($p<0.05$) predicted the spiritual health of the respondents.

In this model, the factors that were significantly associated with the spiritual health of the respondents ($p<0.05$) included their marital status, tribe, Clinical infections status, and religion.

Table 23. Factors associated with the respondents' spiritual/religion/personal beliefs

Variable	Categories	Unstandardised coefficients		Standardised coefficients	T	P value
		B	Std error	Beta		
Constant		15.21	0.70		22.67	0.000
Marital status	Single	-0.23	0.72	-0.03	-0.32	0.752
	Co-habitation	-0.31	1.23	-0.02	-0.26	0.799
	Separated	2.13	1.05	-0.15	2.04	0.044
	Divorced	-0.46	1.11	-0.03	-0.41	0.680
	Widowed	-0.69	0.80	-0.10	-0.92	0.361
Discrimination	No	-0.17	0.54	-0.03	-0.31	0.757
Tribe	Ebira	1.50	0.66	0.20	2.33	0.021
	Igala	-1.33	0.65	-0.17	-2.04	0.048
	Bassa	0.42	1.10	0.03	0.40	0.696
	Others	-0.20	0.69	-0.02	-0.28	0.781
Religion	Catholic	0.60	0.61	-0.10	-0.94	0.348
	Protestant	-1.20	0.58	-0.17	-2.01	0.047
	Traditional	3.78	2.04	0.12	1.85	0.067
	Others	-3.09	2.20	-0.10	-1.43	0.154
CD4 count	Below 200	-0.63	0.59	-0.08	-1.10	0.287
	Above 350	-0.92	0.62	-0.11	-1.48	0.142
Clinical infections	Symptomatic	1.10	0.54	0.20	1.10	0.048
	Don't know	4.17	0.80	0.50	5.34	0.000

CHAPTER FIVE

DISCUSSION

The present study showed that there were more female participants than male, with the female constituting 62.7%. This result is in conformity with what Adedimeji and Odutolu (2000) reported in their study on Care support and quality of life outcomes among persons living with HIV accessing HAART in Ibadan and Ilesha in which 70% of the participants where females. Again the present study on gender participation, is further backed by findings of Alemayehu *et al* (2008) who found that out of the 383 subjects who participated in the study, females accounted for 239 (59.8%). According to the United Nation report (2001), HIV infection rate among females has steadily increased exceeding the rate in males. The UN (2001) highlights that this increase is attributed to the vulnerabilities of women and girls. In particular cultural practices such as polygamy, sexual coercion and gender violence heighten their risk to HIV/AIDS infection. In addition, social norms that deny women sexual health knowledge and practices to control their bodies (e.g. sexual negotiation) and which offer limited access to economic opportunities, all enhance their vulnerability (UN, 2001). Behavioral factors did not explain the susceptibility of these women to HIV infection however one would suggest that the effect of STIs could have accounted for the increase in HIV transmission among the women. (Population Council Epidemiology, 2002). Several other causes can also explain the reasons for susceptibility of women to HIV transmission, the aspect of gender inequality in sexual negotiation, men marrying younger girls when they have had several sexual partners and cultural perceptions of sex include reasons why this group is at a greater risk for being infected with HIV. (Garbus, 2003).

Although HIV/AIDS affects all age groups, those in the reproductive age seem to be most vulnerable. A study in Southwest Ethiopia on Predictors of adherence to antiretroviral therapy among HIV-infected persons, (Alemayehu *et al*, 2008) indicated that the prevalence of HIV infection was more widespread in both men and women in the 19-58 year age group with the median age of 30 years, a finding that is similar to the results of the present study. In the present study the highest number of respondents was in the 18-58 years age group and with median age of 35 years. This is also similar to the findings of Adedimeji and Odutolu (2000) in which respondents' age ranged from 18 to 56 years with those aged between 31-35 years in the majority.

The present study revealed that 51.6% of the participants were married. This is seen to be slightly different from the results obtained by Alemayehu *et al* in which 45% of the participants were married and from those of Adedimeji and Odutolu (46%) and Mumba (41.6%). These observed differences could be attributed to traditional practice of polygamy in some parts of the state a perceived reason that perpetuate HIV/AIDS infection in marriage (Lawrence, 200). This study also revealed that 10.3% of those that participated were widowed.

This study conducted to assess the quality of life of people living with HIV/AIDS Kogi state, showed that People living with HIV/AIDS had quality of life scores in the physical and psychological health domains close to the high level (15.2 and 15.0 respectively) also the Spirituality/Religion/Beliefs domain showed a high level (15.7). However, their scores in the social relationships and environment domains fell in the intermediate level (between 10 and 14.9) with the social relationships domain showing 13.2 and the environment domain showing 13.1. This results show some similarity with the findings of Elisabete *et al* (2008) in which

quality of life scores in the physical and psychological health domains were 14.6 and 14.9 while that of the social relationships and environment domains were 14.2 and 13.5. The resulting low level quality of life in the social relationships domain could reflect stigmatization and discrimination faced by the participants. Also distinctive features of people living with HIV/AIDS such as personal relationships, social support and sexual activity can negatively affect issues in the social relationships domains. In this present study, women showed a higher quality of life scores when compared to men in all domain except the spirituality/religion/belief domain. This contradicts reports from earlier studies by Wisniewski *et al* (2005) and Mrus *et al*, (2005) which indicated lower quality of life scores for women. The reason for this could be due to differences in the study location and the environment in which the study was conducted. Also upon diagnosis, infected individuals tend to establish a closer relationship with God.

Some factors were identified as having significant association with the quality of life of people living with HIV/AIDS. These factors include: tribe, marital status, religion, occupation, education, $CD4^+$ count, social support and discrimination. However, some of these factors (employment, education status, income, social status and discrimination) have also been observed by some other authors as factors affecting quality of life of PLWHA.

The three factors of employment, education and income are interconnected in some way and can not be disassociated from each other. As will be observed, when people have less education, their employment status can be affected, ultimately affecting their incomes. This has its own implications when people are living with HIV/AIDS. When people have AIDS, depending on the stage, they may have difficulty keeping a job because of the recurrence of opportunistic infections. These opportunistic infections may at times require hospitalization for

extended periods of time, which may jeopardize the ability to hold a job, particularly low income employment. This could eventually lead to unemployment and no income or benefits for survival for PLWHA. The Millennium Development Goals Report (2003) illustrates that almost three quarters of Nigeria's population live below the poverty line of US$1.00 a day. This may explain why employment is seen to have a significant effect on the quality of life among the participants of this study.

The low level of education among the participants may equally lead to low employment rates among the group in the present study. Most of the respondents in the study (38.9 %) only attained a secondary school education, followed by 72 (28.6%) participants with a primary school education. This study show a similar result with that obtained by Mumba (2004) in which only 34% of participants had a secondary school education. This study also showed that education had an effect on the general quality of life of people living with HIV/AIDS.

In this study, social factors such as support from family and friends, and discrimination were seen to be significantly related to quality of life of PLWHA. This result is in line with that obtained in a study done by Adedimeji and Odutolu (2000) who were able to identify and rank issues that they consider most important in terms of improving the quality of life of people living with HIV/AIDS of which stigma and discrimination. According to them, the study findings further confirm earlier studies that psychosocial factors and social support influence health outcomes of HIV infected individuals (Berkman & Syme, 1990; Stanfeld, *et al* 1998).

CONCLUSION

The study aimed at investigating the quality of life of people living with HIV/AIDS in Kogi state. Quality of life was measured using the WHOQOL-HIVbref. The study identified that

the participants had a high level quality of life scores in the physical and psychological health domains close to the high level (between 15 and 20) while their scores in the social relationships and environment domains fell in the intermediate level (between 10 and 14.9).

There were statistically significant differences in mean scores for the level of independence domain according to gender, with males having lower scores (13.7). Men also had the lowest scores for the social relationships and environmental domains. Women were seen to have higher overall quality of life in all domains except in the spirituality/religion/belief domain.

This study demonstrates that low level of education among the participants may lead to low employment rates among the group and hence affect their quality of life.

Despite been infected by HIV/AIDS, this study shows based on results interpretation that people living with HIV/AIDS have better quality of life in the physical and psychological health domain but lower quality in social relationships domain. The latter domain could reflect stigmatization and discrimination faced by them.

RECOMMENDATIONS

Based on the findings of this research, it is recommended that future studies should encompass the evaluation of more determinants of QOL in HIV/AIDS especially such determinants as culture, social support and economy. The effects of social and economic determinants on quality of life can be done using this study as comparison group for similar population.

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APPENDIX 1

Department of Epidemiology, Medical Statistics and Environmental Health, College of Medicine Ibadan
Interviewer Administered Questionnaire
Assessment of Quality of Life of People Living with HIV/AIDS in Kogi State.

Dear respondent,

My name is _____ we are conducting a study on the quality of life of people living with HIV/AIDS in Kogi state and what your opinion is as regards this. Kindly participate in this study by filling the questionnaire attached. Participation in this study is voluntary though we hope that you participate since your contributions are important. Feel free to respond to the questions as your answers will be treated with strict confidentiality

Can I go ahead with the questions? _____ Respondent's signature _____

Thank you for your cooperation.

Client's Hosp. No: _____

Section A: About You

Before you begin we would like to ask you to answer a few general questions about yourself: by ticking the correct answer or by filling in the space provided.

Sex; 1 Male 2 Female ☐

Age; _____ (Age in Years)

Weight (In Kilogram); _____

Height (In Meters); _____

Residential address; _____

_____

Tribe; 1 Yoruba (Okun) 2 Ebira ☐ 3 Igala 4 Bassa 5 Others (Specify)

Marital Status;

1 Single 2 Married

3 Living as Married 4 Separated ☐

5 Divorced 6 Widowed

Highest level of education received

1 None at All 2 Primary

3 Secondary 4 Tertiary ☐

Occupation;

1 Teaching 2 Civil Servants

3 Trader 4 Farmer ☐

5 Housewife 6 Student

7 Other (Specify)

Religion;

1 Roman Catholic 2 Protestant

3 Muslim 4 Traditional ☐

5 Other (Specify)

What are your total monthly minimum wage/ income?_____

- How is your health?

1 Very Poor 2 Poor

3 Neither Poor nor Good 4 Good ☐

5 Very Good

Do you consider yourself currently ill? Yes / No

If there is something wrong with you what do you think it is?_____

ease respond to the following questions if they are applicable to you:

at is your HIV serostatus?

1 Asymptomatic 2 Symptomatic

3 AIDS converted 4 HIV negative ☐

5 Don't know

al load _____

D4 count _____

what year did you first **test positive** for HIV? _____

what year do you think you were infected? _____

ow do you believe you were **infected with HIV?** (Tick one only)

1 Sex with a Man 2 Sex with a Woman

3 Injecting Drugs 4 Blood Products ☐

5 Other (Specify)

what year were you enrolled in to this programme? _____

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The following questions ask about your medication in the last two weeks.

Are you currently on HIV medications? Yes / No

How long have you been on HIV medications? _____

Have you taken HIV medications in the last 2 weeks? Yes / No **(If No go to section B)**

	All of the time	A lot of the time	Some of the time	A little of the time	None of the time
In the last two weeks, taking my medicine has been a burden	1	2	3	4	5
In the last two weeks, taking my medicine has made it hard to live a normal life	1	2	3	4	5
In the last two weeks, taking my medicine has caused unpleasant side effects	1	2	3	4	5
In the last two weeks, I've been worried about the effects my medicine may have on my body	1	2	3	4	5
In the last two weeks, I've been unsure about why I'm taking medicine	1	2	3	4	5

SECTION B

Instructions

This assessment asks how you feel about your quality of life, health, or other areas of your life. **Please answer all the questions.** If you are unsure about which response to give to a question, **please choose the one** that appears most appropriate. This can often be your first response. Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last two weeks.**

Please read each question, assess your feelings, and circle the number on the scale for each question that gives the best answer for you.

		Very poor	Poor	Neither poor nor good	Good	Very good
1	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last two weeks

		Not at all	A little	A moderate amount	Very much	An extreme Amount
3	To what extent do you feel that physical pain prevents you from doing what you need to do?	1	2	3	4	5
4	How much are you bothered by any physical problems related to your HIV infection?	1	2	3	4	5
5	How much do you need any medical treatment to function in your daily life?	1	2	3	4	5
6	How much do you enjoy life?	1	2	3	4	5
7	To what extent do you feel your life to be meaningful?	1	2	3	4	5
8	To what extent are you bothered by people blaming you for your HIV status	1	2	3	4	5
9	How much do you fear the future?	1	2	3	4	5
10	How much do you worry about death?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
11	How well are you able to concentrate?	1	2	3	4	5
12	How safe do you feel in your daily life?	1	2	3	4	5
13	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about **how completely** you experience or were able to do certain things in the last two weeks

		Not at all	A little	Moderately	Mostly	Completely
14	Do you have enough energy for everyday life?	1	2	3	4	5
15	Are you able to accept your bodily appearance?	1	2	3	4	5
16	Have you enough money to meet your needs?	1	2	3	4	5
17	To what extent do you feel accepted by the people you know?	1	2	3	4	5
18	How available to you is the information that you need in your day-to-day life?	1	2	3	4	5
19	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither poor nor good	Good	Very good
20	How well are you able to get around?	1	2	3	4	5

The following questions ask you how **good or satisfied** you have felt about various aspects of your life over the last twoweeks.

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very Satisfied
21	How satisfied are you with your sleep?	1	2	3	4	5
22	How satisfied are you with your ability toperform your daily living activities?	1	2	3	4	5
23	How satisfied are you with your capacity for work?	1	2	3	4	5
24	How satisfied are you with yourself?	1	2	3	4	5
25	How satisfied are you with your personal relationships?	1	2	3	4	5

26	How satisfied are you with your sex life?	1	2	3	4	5
27	How satisfied are you with the support you get from your friends?	1	2	3	4	5
28	How satisfied are you with the conditions of your living place?	1	2	3	4	5
29	How satisfied are you with your access to health services?	1	2	3	4	5
30	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to **how often** you have felt or experienced certain things in the last two weeks

		Never	Seldom	Quite often	Very often	Always
31	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	1	2	3	4	5

Did someone help you to fill out this form? _____

How long did it take to fill this form out? _____

Do you have any comments about the assessment? _____

_____

_____

THANK YOU FOR YOUR HELP