HEALTH-RELATED QUALITY OF LIFE, RELIGIOUS COPING AND PERCEIVED SOCIAL SUPPORT AMONG PEOPLE LIVING WITH HIV/AIDS: A STUDY AMONG MIZO

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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Certificate

This is to certify that the present piece of Thesis titled, '**Health-related Quality of Life, Religious Coping and Perceived Social Support among People Living with HIV/AIDS: A Study Among Mizo**' is the bonafide research conducted by C. Lalnunpuii under my supervision. She worked methodologically for her dissertation which is submitted for the Doctor of Philosophy in Psychology under Mizoram University.

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DECLARATION

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JUNE, 2024

I **C. LALNUNPUII**, hereby declare that the subject matter of this Thesis is the record of work done by me, that the contents of this thesis did not form basis of the award of any previous degree to me or to do the best of my knowledge to anybody else, and that the thesis has not been submitted be me for any research degree in any other University or Institute.

This is being submitted to the Mizoram University for the Degree of **Doctor of Philosophy in Psychology.**

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Abbreviations

AIDS	-	Acquired Immuno-Deficiency virus
APA	-	American Psychological Association
ART	-	Anti Retroviral Therapy
CD4	-	Clusters of Differentiation 4
HIV	-	Human Immunodeficiency Virus
HRQoL	-	Health-related Quality of Life
ICTC Centre	-	Integrated Counselling and Testing
MSACS	-	Mizoram State AIDS Control Society
NACO	-	National AIDS Control Organization
Non-PLWHA	-	Non-Positive Living with HIV/AIDS
NGO	-	Non-Government Organization
PLWHA	-	Positive Living with HIV/AIDS
PSS	-	Perceived Social Support
RCOPE	-	Religious Coping
UNAIDS	-	United Nations Programme on HIV/AIDS
WHO	-	World Health Organization

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CHAPTER – I

INTRODUCTION

INTRODUCTION

Health is defined by World Health Organization (WHO) as 'a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity' (WHO, 1948). WHO made further clarifications on the definition in 1986 as follows, "A resource for everyday life, not the objective of living, health is a positive concept emphasizing social and personal resources, as well as physical capacities," this means that health is a resource to support an individual's function in wider society, rather than an end in itself. A healthful lifestyle provides the means to lead a full life with meaning and purpose (WHO, 1986). When it comes to health, there is more to consider than just physical well-being. The World Health Organization (WHO) recognizes several dimensions of health, extending beyond mere absence of disease. The different types of health are categorized as the following (i)physical health which refers to the state of physical body and how well it operates. it encompasses aspects like physical activity, nutrition, rest, and medical self-care. (ii)Mental health which means health which goes beyond the absence of mental disorders. It's about psychological well-being and emotional adjustment and good mental health involves having a sense of purpose, coping with stress, forming relationships, and being in touch with your thoughts and emotions. (iii)Emotional health relating to managing emotion as effectively and involves recognizing and expressing feelings, coping with stress, and maintaining emotional balance. (iv)Social health which revolves around relationships and interactions, it includes having a supportive social network, effective communication, and a sense of belonging. (v) Environmental health focusing on the impact of the environment on well-being encompassing factors like air quality, water safety, and exposure to toxins. (vi)Spiritual health which involves finding meaning and purpose in life, and about connecting with something greater than oneself, whether through religion, nature, or personal beliefs. Additionally, there are other specialized types of health which includes family health concerns about well-being of family members and their interactions, sexual health and reproductive health which addresses sexual well-being, family planning, and reproductive rights, occupational health relates to health

and safety in the workplace and public health which focuses on community health and disease prevention.

Human immunodeficiency virus (HIV) and Acquired Immune Disease Syndrome (AIDS) have been of a great concern to the global community in the last three decades. It is estimated that over 34 million people are infected worldwide (http://www.unaids.org/) and this group of people continue to suffer from the disease with deterioration on their quality of life (QOL).Acquired Immune Deficiency Syndrome (AIDS) was first recognized as a new disease in 1981 when an increasing number of young homosexual men succumbed to unusual opportunistic infections and rare malignancies (CDC 1981; Greene, 2007). A retrovirus, now termed Human Immunodeficiency Virus Type 1 (HIV-1), was subsequently identified as the causative agent of what has since become one of the most devastating infectious diseases to have emerged in recent history (Barre-Sinoussi et al., 1983; Gallo et al., 1984). Since its first identification almost three decades ago, the pandemic form of HIV-1, also called the main (M) group, has infected at least 60 million people and caused more than 25 million deaths (Merson, O'Malley, Serwadda & Apisuk, 2008). Developing countries have experienced the greatest HIV/AIDS morbidity and mortality, with the highest prevalence rates recorded in young adults in sub-Saharan Africa (http://www.unaids.org/). WHO defines quality of life as 'individual perceptions of his/her position in life in the context of the culture and value system in which he/she lives and in relation to his/her goals, expectations, standards and concerns.' It is also said to be the perceived physical and mental health over time (Power, 1998).

Human immunodeficiency virus (HIV) is an infection that attacks the body's immune system and Acquired Immune-Deficiency Syndrome (AIDS) is the most advanced stage of the disease. HIV targets the body's white blood cells, weakening the immune system. This makes it easier to get sick with diseases like tuberculosis, infections and some cancers. HIV is spread from the body fluids of an infected person, including blood, breast milk, semen and vaginal fluids. It is not spread by kisses, hugs or sharing food and it can also spread from a mother to her baby. WHO gives a diagnosis of Advanced HIV Disease (AHD) in adults and adolescents with

CD4 cell count less than 200cells/mm3 or WHO stage 3 or 4 and children with HIV younger than 5 years of age are considered to have advanced HIV disease (WHO, 2023). Untreated HIV can progress to AIDS, often after many years, but with the development of a combination of medications in 1987, the Antiretroviral Therapy (ART), HIV can be treated and prevented.

AIDS is the late stage of HIV infection that occurs when the body's immune system is badly damaged because of the virus. A person with HIV is considered to have progressed to AIDS when the number of their CD4 cells falls below 200 cells per cubic millimeter of blood (200 cells/mm3) and also, when a patient develop one or more opportunistic infections regardless of their CD4 count the patient can be considered as reaching AIDS stage. Many people with HIV do not develop AIDS as taking ART as prescribed, stops the progression of the disease. Without ART, people with AIDS typically survive about 3 years, and if someone has opportunistic infection, life expectancy without treatment falls to about 1 year, however, ART can still help people at this stage of HIV infection, and it can even be lifesaving. But people who start ART soon after they get infected with HIV experience more benefits (https://www.hiv.gov/).

As early as 1986, the American Psychological Association (APA), recognizing that the epidemic of Acquired Immune Deficiency Syndrome (AIDS) threatens the mental health and civil liberties, as well as physical health, of many people, adopted the AIDS Resolution, which was passed by the APA Council of Representatives (1986). The resolution recognizing the importance of psychosocial and mental health components of AIDS, stressed the treatment, research, and prevention programs, as well as the public health aspects of AIDS, also to make available the necessary mental health services and facilities for persons with AIDS, AIDS-related conditions, or an exaggerated fear about the threat of AIDS. Further, the APA condemned the use of the AIDS epidemic as a vehicle for fostering prejudice or discrimination against any group or individual and Psychologists were urged to combat irrational public fears of AIDS through education and other professional activities including teaching of courses, lectures to the public, counselling and therapy, consultation, and research regarding the fear of AIDS. Since

then, the APA has taken several measures towards the prevention, treatment and research of AIDS. For this purpose, Committee on Psychology and AIDS (COPA) was established by the APA Council of Representatives in 1990. The mission of COPA is to guide the development and implementation of the APA's organizational response to the HIV/AIDS epidemic.

Further, in February, 2012, the APA Council of Representatives, passed a resolution entitled "Combination of Biomedical and Behavioural Approaches to Optimize HIV Prevention." The resolution emphasized the need for prevention research that incorporates strategies to address mental health and substance abuse issues, behaviour change and adherence. Proven behavioural approaches, particularly when combined with biomedical strategies, have been found to: optimize the effectiveness of biomedical interventions; increase access to care; increase retention in care; increase treatment adherence; reduce overall cost of care; reduce the stigma associated with the disease; and address co-morbid mental health and substance abuse issues (APA's Resolution on Combination HIV/AIDS Prevention, 2012). Thus, the APA recommended that the Congress and the Executive Branch should continue to acknowledge the value of behavioural research and combination approaches to HIV prevention and treatment through continued support for a robust HIV/AIDS behavioural prevention research agenda, the integration of biomedical, behavioural and structural approaches through interdisciplinary research and implementation teams, and dissemination of effective strategies to prevent and treat HIV; and prioritization of combination strategies in the National HIV/AIDS Strategy implementation and through U.S. commitments to global AIDS programs.

Recent advances in treatment modalities for HIV/AIDS have led from considering this disease as a death sentence to a life-long chronic disease. As a result of this transition, investigators have turned their attention from assessing outcomes such as mortality and morbidity to quality of life (QOL) and factors that mediate/moderate the relationship between HIV/AIDS and these outcomes. The APA's Resolution on Combination HIV/AIDS Prevention, (2012) makes an important contribution to the re-conceptualization of HIV/AIDS, specifically our

understanding of how QOL and psychosocial factors, particularly spirituality/religion, are associated with this disease.

Health-related Quality of Life (HRQoL) is defined as physical, social, and psychological domains of health that are affected by experiences, beliefs, expectations, and individual perceptions (Testa MA, Simonson DC, 1996). Thus, HRQoL should be evaluated from different physical, mental, and social angles and dimensions. To measure HRQoL, WHO, identified the following parameters, (i) physical functioning which refers to people's physical preconditions to cope with the day-to-day tasks that are important to them. The physiological properties of the body important for physical functioning includes muscular strength and endurance, fitness, joint mobility, control of bodily positions and movements, and the functions of the central nervous system that coordinate these. Despite the acknowledged role of environmental factors and behavioral strategies to compensate for reduced performance capacity or environmental barriers in characterizing physical functioning, most assessments do not take these factors into account (Kristin et al., 2009). (ii)Role limitation due to physical health which refers to the impact of physical health problems on a person's ability to perform their usual roles and activities. It is one of the dimensions assessed in health-related quality of life surveys. This aspect specifically addresses how physical health issues impact an individual's ability to fulfil their roles, whether at work, home, or in social settings. It considers limitations caused by health conditions. (iii) Role limitations due to emotional problems which refers to the issues resulting from one's emotional health that impede a person's ability to complete work and other regular daily activities, such as providing encouragement, upholding parental expectations, concentrating on tasks, visiting friends, and maintaining healthy sleep and eating patterns (Alexopoulos et al., 2005). (iv) Fatigue which often described as a lack of energy and motivation—both physical and emotional. It is different than sleepiness or drowsiness, which describes the need for sleep. Fatigue is also a response to physical and mental activities. (v) Emotional well-being was described by National Centre for Emotional Wellness (NCEW) in United States (2024) as an awareness, understanding, and acceptance of feelings and an ability to manage effectively

through times of change or challenge. Uncomfortable or painful emotions and overwhelming thoughts can affect how well individuals function and may make people feel they are losing control of their lives. According to the National Institutes of Health, emotional well-being is important because it can affect how people function and carry out everyday tasks. It can also affect how well individuals are able to handle stressful situations and challenges, how they adapt to change, and how they respond to difficult life events. (vii) Social Functioning which refers to living up to the expectations that are made of an individual by that person's own self, by the immediate social environment, and by society at large. (viii) Pain which refers to a distressing feeling often caused by intense or damaging stimuli. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage." Pain motivates organisms to withdraw from damaging situations, to protect a damaged body part while it heals, and to avoid similar experiences in the future (Cervero, 2012). (ix) General health which is defined as a state of physical, social, mental, and emotional well-being. It has been defined in different ways, but most definitions focus on the absence of disease or illness. Underlying all aspects of general health is the need for balance among the various components.

Life expectancy and causes of death have traditionally been used as key indicators of population health. While these indicators provide critical information about the health status of populations, they do not offer any information about the quality of the physical, mental, and social domains of life. Increasing life expectancy has also highlighted the need for other measures of health, especially those that capture the quality of the years lived.

When quality of life is considered in the context of health and disease, it is commonly referred to as health-related quality of life (HRQoL) to differentiate it from other aspects of quality of life. In 1995, the WHO recognized the importance of evaluating and improving people’s quality of life. When quality of life is considered in the context of health and disease, it is commonly referred to as health - related quality of life (HRQoL) to differentiate it from other aspects of quality of life. Since

health is a multidimensional concept, HRQoL is also multidimensional and incorporates domains related to physical, mental and emotional, and social functioning. HRQoL goes beyond the direct measures of health and focuses on the quality-of-life consequences of health status. Another related concept to HRQoL is well - being. Measures of well - being typically assess the positive aspects of a person's life such as positive emotions and life satisfaction. Clinicians and public health officials have used HRQoL and well- being to measure the effects of chronic illness, treatments, and short- and long- term disabilities. In addition, institutes in the National Institutes of Health (NIH) – such as the National Cancer Institute (NCI) – and centres within the Centres for Disease Control and Prevention (CDC) – such as the National Centre for Chronic Disease Prevention and Health Promotion (NCCDPHP) – have included the evaluation and improvement of HRQoL and well-being as a public health priority, (*Healthy People 2020*, Foundation Health Measure Report Health-Related Quality of Life and Well-Being).

HIV/AIDS is accompanied by multiple stressors, which include the management of treatment regimens that are complex. Disease management often requires significant lifestyle modifications and adaptation of daily activities to the demands of prescribed treatment regimen. In addition, the long-term benefit of pharmacotherapies remains a source of uncertainty, and adherence to HIV/AIDS treatment is considered to be among the most rigid of any disease given the potential for compromising the future effectiveness of these treatments and the development of resistance to the prescribed medication(s).

In addition to stressful disease-management and treatment adherence issues, persons living with HIV/AIDS experience ongoing psychosocial stressors, both interpersonal and intrapersonal, associated with diagnosis of a life-threatening chronic illness. These multiple, severe, and unrelenting stressors may profoundly affect the individual's QOL and tax existing coping resources. Thus, given the potential impact of HIV/AIDS, understanding the interaction and relationships among biological, psychological, social, and spiritual dimensions is imperative. Models such as those proposed by Szaflarski et al. (2006) help us conceptualize the

impact of HIV/AIDS and can guide interventions to improve outcomes and decrease health risks and costs (Hayden, 2006).

With advances in medical treatment and an increase in the life expectancy of HIV patients, health related quality of life (HRQoL) has been considered an important indicator of the health assessment and treatment in this group of patients (Kemppainen, (2001).). It can be said that HRQoL assessment in patients with acquired immunodeficiency syndrome (AIDS) is a way to get closer to their experience of the different treatments they undergo, and understanding the psychosocial aspects of an illness that needs long-term treatment (Preau et al., 2007).

Religious Coping (RCOPE, Pargament, 1997**)** is a religiously framed cognitive, emotional or behavioural responses to stress, encompassing multiple methods and purposes as well as positive and negative dimensions. Religion and spirituality translate into coping responses to stress in so far as they serve, as available and compelling orienting systems and especially when stressors test "the limits of personal powers." Religion can provide a framework for understanding emotional and physical suffering and can facilitate perseverance or acceptance in the face of stressors (Pargament, 1997).

Spirituality/religiousness is a way to cope and re-frame one's life and bring a sense of meaning and purpose to one's life in the face of a disease such as HIV/AIDS. The central role of spirituality in chronic illnesses has been examined in several studies and many of the current studies encompassed in this supplement do as well. Investigators examining cultural differences and the contributing etiological factors for HIV/AIDS and other chronic diseases have reported that individuals often attribute their illness to spiritual distress and beliefs (Kudel et al., 2006). While results indicate the importance of spirituality/religion, prior research examining spirituality and religion among individuals with HIV/AIDS has been limited by small samples, lack of coherent measures of spirituality, cross-section designs, and single site studies. Some of the more interesting findings are that spirituality/religion is relatively constant over short periods of time and the multidimensional aspects of this concept, and a useful technique that can be used to examine the

multidimensional aspects of the construct spirituality/religion is latent profile analysis (Kudel et al., 2006).

Researchers have identified significant associations between spiritual or religious coping and a variety of health outcomes, including psychological health, physical HRQoL in People Living with HIV/AIDS (PLWHA). The quality of life (QoL) literature highlights significant positive associations between spirituality/religiousness and overall QoL or HRQoL. However, only few studies specifically examined the association between religious coping and HRQoL among PLWHA. Additionally, only few studies have examined differences in HRQoL between groups based on religious factors in PLWHA. Cross-sectional and longitudinal studies by Tsevat et al. (1999) reported that spiritual well-being and religious coping significantly improved the QoL of PLWHA. These associations are also supported by additional longitudinal studies. Mrus et al. (2006) studied 450 PLWH over a 12 to 18-month period and found that levels of spirituality/religiosity were associated with all baseline and follow-up HRQoL outcomes (except for "symptom bother" at baseline). They found that positive religious coping scores were positively related to overall HRQoL function, organized religious activity was positively related to higher health ratings and intrinsic religious coping was inversely related to overall HRQoL function. Change in positive religious coping and religious activity were also shown to relate to HRQoL outcomes at follow-up. Likewise, in a 24-month prospective study of 226 men with HIV from the South-eastern U.S, Frame. et al. (2005) found that spiritual coping was not related to any mental HRQoL, but spiritual growth was associated with and significantly predicted all HRQoL outcomes at both time points. After controlling for covariates (race, education, age, marital status and CD4 cell counts), a 1 unit increase of spiritual growth was associated with a 4.74 unit increase in overall QoL ($p < .0001$), a 6.4 unit increase in role functioning ($p= .0215$), a 12.38 unit increase in emotional well-being ($p < .0001$), and a 9.49 unit increase in energy scores ($p< .0001$), at each time point. (Dalmida S.G., Koenig H.G., McDonnell Holstad M and Thomas T.L. (2015).

Many (85%) patients in the United States (U.S.) who are infected with the human immunodeficiency virus (HIV) affirm the importance of spirituality in their

lives, in dealing with family, work-related, or personal issues (Lorenz et al., 2005) and in enhancing their QOL (Grimsley, 2006; Sowell et al., 2001). Since HIV is a chronic and life-threatening disease which requires life-long therapy and complex management it may often be difficult for individuals with HIV to make the lifestyle changes and commitments necessary to survive and maintain a good QOL. Spirituality may be an important resource that can be used to adjust to the demands of living with HIV in addition to the help received from mental health counselling, support groups, family and friends (Dalmida, 2006). Therefore, as healthcare continues to focus on the client as a whole, it is imperative to consider clients' spirituality and spiritual well-being and the possible influence on health outcomes such as QOL, especially among the growing number of HIV-positive women (Como, 2007; Dossey and Dossey, 1998; King, 2006).

Although several researchers have identified a relationship between spiritual/religious variables, such as religious coping (Pargament, 1997), and HRQoL, Weaver et al. (2004) found that religious coping was not related to HRQoL in a sample of HIV-positive women. As such, the findings in this area remain mixed. Overall, the relationships between religiousness/spirituality and HRQoL outcomes may be partially explained by the use of religious and spiritual coping strategies, but more research is needed to specifically examine the effect of religious coping on HRQoL outcomes among PLWHA and to investigate mediators of this relationship and mean differences in HRQoL outcomes based on socio-demographic and religious factors.

Persons' degree or level of religiousness and frequency of religious practices may affect their decisions to engage (or not engage) in religious forms of coping and may also impact their reported HRQoL. Studies show that people report a significant increase in religiousness or spirituality after an HIV diagnosis. This increase may reflect an effort to cope with the physiological and psychological demands of living with HIV disease. PLWHA face many stressors related directly to HIV symptoms, as well as, psycho-social stressors, such as stigma and disclosure. A number of studies have found that religious and spiritual coping are important ways of dealing with

HIV-related stress and spiritual perspective is an important correlate and predictor of mastery over stress in PLWHA.

Levels of spirituality/religiosity are not uniform among PLWHA across demographic variables. Two of the most common demographic trends among PLWHA are that woman more than man and people of colour more than Whites are more spiritual/religious and use more spiritual and religious coping (Pargament, 1997). For example, a national, longitudinal study of 2266 PLWHA, found that non-White patients reported significantly higher religiousness and spirituality than White patients. Residence in the South was also associated with higher spirituality and patients with a high school or college degree reported higher religiousness than those who did not graduate from high school. Grimsley also found a significant relationship between ethnicity and spirituality such that average spirituality scores were higher for black patients than for white patients, but he found no significant differences in spirituality between men and women.

Many researchers have examined differences in spiritual coping practices among PLWHA. Researchers also found that ethnic minorities more than whites use religion and spirituality to cope with HIV disease. Tarakeshwar et al. (2005) found that greater spiritual coping was associated with being female, being an ethnic minority, having less education, earning lower income, and being heterosexual. PLWHA often use religious and spiritual beliefs and practices to help them cope with their situation. In one study of 80 women with HIV, researchers found that high social support and having a spiritual perspective (frequency of spiritual attendance/activities, forgiveness and importance of spirituality) were significant predictors of mastery over stress. One randomized controlled trial of a spiritual mantram (a word or phrase with spiritual associations) repetition intervention among PLWHA demonstrated that certain spiritual practices seem to have some HRQoL benefits. Borman et al. (2009) found that, the mantram group improved more in HRQoL during group meetings, but the control group improved more at 22-weeks. Although no mantram group effects were noted, quality of life, total existential spiritual well-being and mean peace scores were all positively related to mantram practice by self-report or by using counters.

Perceived Social Support (PSS) refers to the subjective evaluation of how individuals perceive friends, family members, and others as available to provide material, psychological, and overall support during times of need (Grey et al., 2020). In other words, it is the confidence that we will be supported by a network of individuals who care about us when we face challenges or difficulties in life. This sense of support can significantly impact quality of life, achievement, and overall health. When people feel valued, respected, cared about, and loved by those around them, it contributes to their well-being and ability to cope with stressors. Social support plays a crucial role in our lives, providing emotional and practical assistance during both positive and challenging times (McLean et al., 2022).

Nowadays, it has been recognized that in addition to medical therapy, different psychosocial factors such as social support can also be effective in the treatment process of AIDS (Kemppainen JK, 2001). Various studies have shown that social support, as a critical factor, may have an important role in treatment and health outcomes, and consequently, in the HRQoL of people with chronic diseases, including HIV patients (Hough ES, 2005). Though social support theories emphasize the role of actual and perceived support, evidence has shown that the positive effects of social support on one's health have been based on scales that have examined people's perceptions, and their satisfaction with the available or perceived support they have received (Lakey & Cassady, 1990). Individual cognitive evaluation of family support and perceived support is the most important dimension of social support that causes a person to connect to another (Ashton et al., 2005).

Individuals who were more satisfied with social support were likelier to report lower HIV-related health symptoms, suggesting that social support is a robust predictor of health outcomes over time, independent of coping styles and baseline medical status. AIDS and HIV infection can cause stress in a person's social network structure, which results in dissolution of social relations, thus reducing social support for HIV patients. People with HIV experience adverse social and physical consequences when others learn they are infected. These conditions have been found to dampen social support and lead to psychological distress, and deterioration of their QOL and life satisfaction (Turner et al., 2002).

We identified several areas related to the need of family support for PLWHA. First, the whole family experiences shame both within and outside the family when one member is HIV-positive. Most families were afraid of being discovered and discriminated against. In order to keep the secret within the family, the family usually made a collective effort to face outside pressure. In some cases, family members who knew the situation also kept it a secret from other family members. Consequently, family relations changed, causing family members to feel isolated and/or restricted when they interacted. According to Li et al., 2006, some PLHA demanded to use their own set of eating utensils and put their food in separate bowls. Family support included financial assistance, support in the disclosure process, daily routine activities, medical assistance, or psychological support. This study illustrates that the support provided by family makes positive impact on health-related quality of life among people living with HIV/AIDS, suggesting the importance of including families in HIV/AIDS interventions (Li et al.,2006). Previous studies have demonstrated that when one member of the family has HIV/AIDS, the whole family feels the impact (Bor et al., 1993; Pequegnat *et al.*, 2001; Rotheram-Borus and Lightfoot, 2000). The impact usually shows in many different aspects. First, economic hardships associated with HIV/AIDS can be devastating (U.N. General Assembly, 2005). Previous studies in China showed that companies fired employees because they tested HIV-positive (Cao et al., 2005). The combination of the increasing cost of healthcare for PLHA and decreasing family income caused by unemployment may even hinder access to basic goods such as food, housing, medication, and education for children (China Nanfang Zhoumo News, 2004; Li, 2002).

REVIEW OF LITERATURE

This chapter discussed previous studies on health-related quality of life, religious coping and perceived social support among PLWHA. The literature has revealed that lower health-related quality of life is linked with HIV infection and religious coping, perceived social support and demographic variables (e.g., education, marital status, employment status, family income, substance use etc) play a significant role in the perception of health-related quality of life.

Health-related Quality of Life and HIV/AIDS: The World Health Organisation (WHO) defines quality of life (QoL) as an 'individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns' (Guyatt, Feeny & Patrick, 1993). The all-encompassing concept takes into consideration an individual's overall biopsychosocial health, and the role of salient features in the environment (Vahedi, 2010).

How well one functions in life relative to one's health or disease status or the QoL that impacts well-being, are some of the ways in which health-related QoL (HRQoL) has been defined (Karimi & Brazier, 2016). Understanding the HRQoL for persons living with human immunodeficiency virus (PLHIV) is important given the chronic nature of HIV infection, and the multifaceted impacts of HIV on physical, psychological, and social well-being.

According to a study conducted by Miners et al., 2014, people living with HIV have significantly lower HRQoL than do the general population, despite most HIV positive individuals in that study being virologically and immunologically stable. Although that difference could in part be due to factors other than HIV, this study provides additional evidence of the loss of health that can be avoided through prevention of further HIV infections. This study is one of the largest cross-sectional studies to compare a standardised measure of HRQoL in people living with HIV in the era of ART directly with the general population, in a setting with universal access

to health care, with the ability to simultaneously adjust for multiple potential confounders. Several multivariable models were constructed with different categorisations of HIV status, but they consistently showed that people diagnosed with HIV had reduced HRQoL compared with the general population, across all ART, CD4, and viral load categories. In particular, the difference was apparent even in people who were virally suppressed on ART. Although anxiety/depression levels were the most noticeably affected, all five EQ-5D-3L domains were reduced suggesting that HIV infection continues to have systemic health implications. This effect was greatest in those people diagnosed for the longest time. Despite the overall impact of HIV, the study did not find any evidence that the difference in HRQoL between those people living with HIV and the general population sample was greater with older age.

In a study conducted by Hays et al. (2004) in United States of America, 2,864 HIV-infected adults were studied who were participating in the HIV Cost and Services Utilization Study, a probability sample of adults with HIV receiving health care in the contiguous United States (excluding military hospitals, prisons, or emergency rooms). A battery of 28 items covering eight domains of health (physical functioning, emotional well-being, role functioning, pain, general health perceptions, social functioning, energy, disability days) was administered. The eight domains were combined into physical and mental health summary scores. SF-36 physical functioning and emotional well-being scales were compared with the US general population and patients with other chronic diseases on a 0 to 100 scale. The result showed that Physical functioning was about the same for adults with asymptomatic HIV disease as for the US population [mean (± SD) of 92 ± 16 versus 90 ± 17) but was much worse for those with symptomatic HIV disease (76 ± 28) or who met criteria for the acquired immunodeficiency syndrome (AIDS; 58 ± 31). Patients with AIDS had worse physical functioning than those with other chronic diseases (epilepsy, gastroesophageal reflux disease, clinically localized prostate cancer, clinical depression, diabetes) for which comparable data were available. Emotional well-being was comparable among patients with various stages of HIV disease (asymptomatic, 62 ± 9; symptomatic, 59 ± 11; AIDS, 59 ± 11), but was significantly

worse than the general population and patients with other chronic diseases except depression. In multivariate analyses, HIV-related symptoms were strongly associated with physical and mental health, whereas race, sex, health insurance status, disease stage, and CD4 count were at most weakly associated with physical and mental health.

PLHIV often have lower QoL compared to the general population due to the longevity of the infection and chronic disease aspects (Seguiti et al., 2022). HRQoL in PLHIV has been shown to be predicted by old age, presence of comorbidities, unavailability of food, limited social support and psychological factors (Degroote, Vogelaers & Vandijck, 2014; Mannheimer et al., 2005; Ruiz Perez et al., 2005; Imam et al., 2011; Mrus et al., 2005). In 2017, a meta-analysis of the prevalence of depression in PLHIV in sub-Saharan Africa (SSA) found that the prevalence of depression ranged from 9% to 32% (Bernard, Dabis, de Rekeneire, 2017) and its correlates were low socio-economic status, female sex, and old age. In Ethiopia, for example a study on the relationship between food insecurity, poor mental health and QoL in PLHIV found that food insecurity and poor mental health correlated well with low QoL (Tesfaye et al., 2016).

Evidence suggests that people diagnosed with HIV in resource-rich countries have a life expectancy that is almost equivalent to that in people without HIV if they receive appropriate treatment with combination antiretroviral treatment (Nakagawa et al., 2012). However, despite substantial improvements in clinical prognosis, much less is known about the health-related quality-of-life (HRQoL) of individuals with HIV compared with that in the general population (Hays et al., 2012; Miners et al., 2001; Do et al., 2014). For example, although evidence from studies from the USA show that people with HIV have higher rates of depression than do people without HIV, the effect of HIV status on other domains and overall HRQoL is less clear (Do et al., 2014). HRQoL is a multidimensional concept that incorporates factors such as physical, cognitive, emotional, and social functioning. Insight into HRQoL is essential to understand the effects of HIV as a chronic disease. Moreover, when measured with so-called utility-based instruments, the information can be used in

economic evaluations to help to generate quality-adjusted life-years (QALYs), in which one QALY is equivalent to a year of perfect health (Drummond et al., 2011).

In a study conducted by Safren et al., in 2012 by using medical data which were collected from 1,563 of the 1,571 participants at entry into a randomized clinical trial of ART conducted in the U.S. (n = 203) and 8 resource-limited countries (n = 1,360) in the Caribbean, South America, Asia, and Africa. Quality of life domains varied significantly by country; rankings of quality-of-life domains by country and significant differences between countries were analysed. For general health perceptions, India's and South Africa's mean scores were significantly higher than 6 other countries. Haiti's mean general health perception was significantly lower than the 3 top-ranked countries, and Malawi's mean was significantly lower than all countries in the top 5. In the domain of physical functioning, Peru's and India's mean scores were highest, while Brazil and the U.S. ranked significantly lower than all 5 of the top-ranked countries. For role functioning, Zimbabwe's, Thailand's, and India's mean scores were highest, while Peru had significantly lower role functioning scores than all other countries. For pain, Zimbabwe's mean score was highest (least pain) while Peru, India, South Africa, Haiti, and Thailand also scored significantly higher (less pain) than the countries with the lowest-ranked mean scores. In the domain of social functioning, India, Zimbabwe, and South Africa ranked significantly higher than the four lowest-rated countries, while the U.S. ranked significantly lower than every other country. In terms of mental health, Zimbabwe, South Africa, India, Thailand, and Malawi ranked significantly higher than the four countries with the lowest-ranked mean scores. For energy, Zimbabwe's and Thailand's means were highest; the U.S. had significantly lower energy scores than every other country. Finally, for cognitive functioning, India, South Africa, and Zimbabwe ranked significantly higher than the four lowest-ranked countries. In addition, Haiti and Peru had significantly higher scores than the lowest-ranked country, the U.S.

The study conducted by Engelhard et al. (2018) showed that health-related quality of life (HRQOL) of people with HIV is lower than in the general population and likely to have a poor mental HRQOL than patients with other chronic conditions.

Addressing mental health should be an integral part of outpatient HIV care but it is unknown how it compares to that of persons with other chronic medical conditions. The study compared HRQOL in HIV with HRQOL in diabetes mellitus (DM) type 1, DM type 2 and rheumatoid arthritis (RA). Additionally, the study investigated factors associated with HRQOL in HIV. The study was conducted with cross-sectional study and HRQOL was measured with the Medical Outcomes Study Short Form 36-item health survey (SF-36) in a nationwide sample of people with HIV in care in the Netherlands and on cART ≥ 6 months. The study added data from studies in Diabetes Mellitus (DM) types 1 and 2, and Rheumatoid Arthritis (RA). Logistic regression analysis was used to examine: 1) the association between disease group and a poor HRQOL and 2) patient factors associated with poor HRQOL in HIV. The results showed the odds of a poor physical HRQOL in the HIV group were comparable to the odds in DM types 1 and 2, but lower than in RA patients. The odds of a poor mental HRQOL in HIV were higher than in the other groups. In HIV, a history of AIDS, longer duration of cART and severe comorbidity were associated with a poor physical HRQOL. Sub-Saharan African descent, and CD4 count <350 cells/mm were associated with poor mental HRQOL.

Health-related Quality of Life and Religious Coping among PLWHA: Although numerous studies have examined quality of life, in particular, health-related quality of life, in patients with HIV (Grossman, Sullivan & Wu, 2003; Clayson et al., 2006) only a few have examined the role that spirituality plays in quality of life in HIV (Tsevat et al., 1999; Guillory et al., 1997; Grimsley, 2006). Mrus et al. (2006) suggested that a number of correlates of health-related quality of life, such as symptom bother, spirituality/religiosity, and depressive symptoms, could be fruitful potential targets for interventions to improve health-related quality of life.

Many studies have showed that greater levels of spirituality were associated with health outcomes such as fewer mental health problems, fewer reported HIV-related symptoms, and better overall HRQoL in people with HIV/AIDS (Pargamen, McCarthy & Shah, 2004; Tuck, McCain & Elswick, 2001; Coleman, 2003; Coleman C, Holzemer, 1999; Ironson et al.,2002). Previous studies have found that people with HIV/AIDS often use religious coping (defined as how a person uses their

spirituality/religion to manage a difficult situation) to find a sense of meaning/purpose in life, to cope with issues of guilt and shame, and to deal with grief and bereavement associated with the disease (Schwartzberg, 1993; Hall, 1998; Pargament et al.,2004; Richards, Acree & Folkman, 1999; Prado et al., 2004). Positive religious coping strategies (e.g., seeking spiritual support) have been associated with better perceived outcomes, such as improvements in life satisfaction, self-rated health, and positive affect in patients with chronic illnesses, as opposed to negative religious coping (e.g., feeling that one's illness is a punishment from God) (Pargament et al., 1998; Pargament, Koenig & Perez, 2000; Pargament et al., 2001; Koenig et al., 1995).

The paper by Szaflarski et al., 2006 reported that one-third of patients with HIV/AIDS believed that their life is better now than it was before they were diagnosed with HIV; several factors, among them spirituality, are associated with believing that life has improved, and Szaflarski and colleagues use path analysis to examine the conceptual model of how spirituality/religion is related to quality of life. They show that spirituality/religion has both direct and indirect effects on patients' perceptions of living with HIV/AIDS, second in influence only to healthy beliefs.

It is believed that PLWHA who are coping well with their condition may achieve a balance of longevity and HRQOL, religion being a useful coping resource. Religious coping and social support played important roles in reducing depressive symptoms and improving the psychological well-being of the participants in the study (Dalmida et al., 2013). It has been indicated that whereas negative religious coping (NRC) was associated with low levels of QOL while controlling for socio-demographic and clinical variables, positive religious coping (PRC) was associated with positive domains of outcome measures, positive affect and life satisfaction (Lee, Nezu & Nezu, 2014).

A study was conducted by Dalmida et al.,2013, which examined correlates of depressive symptoms, particularly the role of religious coping (RCOPE), among people living with HIV/AIDS (PLWHA). The study also examined social support as a possible mediator of the proposed association between religious coping and

depressive symptoms and the impact of depressive symptomatology on health outcomes such as HIV medication adherence, immune function, and health-related quality of life (HRQOL) among PLWHA. A convenience sample of 292 PLWHA were recruited from an out-patient infectious disease clinic and AIDS-service organizations in the South eastern United States. 56.7% reported depressive symptoms. PLWHA with depressive symptomatology reported significantly poorer health outcomes, including poorer HIV medication adherence, lower CD4 cell count, and poorer HRQOL. The odds of being depressed was significantly associated with birth sex (female: OR = 0.43, 95% CI = .23-.80), sexual orientation (gay/bisexual: OR = 1.95, 95% CI = 1.04-3.65), marital status (single: OR = .52, 95% CI = .27-.99), social support satisfaction (OR = 0.65, 95% CI = .49-.86), and negative RCOPE (OR = 1.22, 95% CI = 1.14-1.31). Social support partially mediated the relationship between religious coping and depressive symptoms. In conclusion of the study high rates of depressive symptoms are present in PLWHA, which negatively impact health outcomes. Religious coping, perceived stress, and social support satisfaction serve an important role in depressive symptomatology among PLWHA. These findings underscore the need for healthcare providers to regularly screen PLWHA for and adequately treat depression and collaborate with mental health providers, social workers, and pastoral care counselors to address PLWHA's mental, social, and spiritual needs and optimize their HIV-related outcomes.

Since a majority of HIV-positive people, use Spirituality/Religiosity to cope with their illness (Cotton et al., 2006) and 85 % consider spirituality to be important to them (Lorenz et al., 2005). In addition, individuals living with HIV have exceptionally stressful lives to cope with, and, as reviewed in Ironson and Kramer (2011), the use of spirituality to cope might reduce the felt harm of the stressor (for example, believing that there is a divine purpose in what happened), as well as enhance the ability of a person to handle the situation (for example, by believing that God is with you, or maintaining calm even in the face of stress through spiritual practices). In the two prior studies on spirituality and HIV survival, spiritual coping measurements were limited. One study ($N = 907$) found that engagement in spiritual activities predicted 1-year survival (HR = 0.4), independent of baseline disease stage,

alcohol/nicotine use, and income; but only among those not on medication. Another study ($N = 147$) found that individuals with prior Spiritual Transformation were 5.35 times more likely to survive 3 to 5 years past assessment, controlling for baseline disease stage, substance use, socio-demographics, and medication adherence (Ironson & Kramer, 2009).

A study conducted by Dalmida et al. (2015) examined the effects of religious coping, religiosity, depressive symptoms, medication adherence, and social support satisfaction in various dimensions of Health- Related Quality of Life (HRQoL) in a sample of 292 PLWH. Majority of participants were African-American (90.1%) and 56.2% were male. Mean age was 45 years and, on average, participants lived with HIV for nearly 11 years. Descriptive statistics, correlations, Analysis of Variance (ANOVA), and hierarchical multiple linear regression were used to analyze the data. Income, sex (β= .14), age (β= -.14), depressive symptoms (β= -.27), and social support satisfaction (β= .17) significantly predicted physical HRQoL. Results indicate that income (β= .13), sex (β= .14), medication adherence (β= .13), negative religious coping (β= -.18), religious attendance (β= .13), religiousness (β= .16), and social support satisfaction (β= .27) significantly predicted mental HRQoL. Depressive symptoms (β= -.38), positive religious coping (β= .24), and social support satisfaction (β= .16) significantly predicted general HRQoL. Participants, who were female, prayed less than daily, attended religious services less than weekly or who were non/less religious had significantly poorer HRQoL. The findings confirm the importance of religion, mental health, medication adherence and social support in the HRQoL of PLWH, which should all be routinely assessed by clinicians.

Ironson et al. (2006) examined the relationship between changes in spirituality/religion post-HIV diagnosis versus disease progression, as measured by changes in CD4 count and viral load. Nearly half of the patients' report increases in spirituality/religion following diagnosis and, in multivariable analysis, a change in the level of spirituality/religion over 4 years is favourably associated with disease progression. As such, their findings corroborate and expand upon those of Cotton and Szaflarski and their colleagues, confirming that patients become more

spiritual/religious after diagnosis and introducing (although not proving) another potential salutary effect, this one biological.

Health-related quality of Life and Perceived Social Support among PLWHA: Mengistu et al. (2022) found out that strong perceived social support was significantly associated with higher levels of subjectively perceived HRQOL. PLWHA who were on ART and had good social support were four times more likely to report higher HRQOL when compared to their counterparts. A study conducted by Mengistu et al. (2022) in Ethiopia showed that a substantial number of PLWHA had poor HRQOL in Ethiopia. Social support was significantly associated with HRQOL among people living with HIV/AIDS. Hence, it was recommended to encourage suitable intervention at every follow-up visit, and psycho-social support is also warranted to improve the quality of life.

A cross-sectional study was carried out by Sushil Yadav in 2010, among a sample of 160 HIV-infected persons receiving treatment, care, and support from eight community-based NGOs. QOL was assessed using the WHO (QOL)-26 tool, and social support was assessed by use of a modified Sarason's Social Support Questionnaire. A Hope Assessment Scale was also developed. The non-family support network was greater than family support network. Overall satisfaction from social support and hope was significantly correlated with QOL; the greatest effect of social support was on environmental functioning, and the lowest was on social relationships, emotional support was less a predictor of social relationship than other types of supports. In conclusion of the study, the researcher found out that the effect of perceived satisfaction from social support was through the mediation variable hope. As it has widely been recognized that community-based support is vital for issues of quality of life, strategies to improve social support and hope intervention programs are strongly encouraged. The results of the study have implications for providing care, treatment, and psycho-social support to maintain or enhance quality of life of PLWHA.

A study was conducted by Bastardo and Kimberlin in 2000 to analyse the relationship between quality of life, social support and disease-related factors in

HIV-infected persons in Venezuela. This study examines the relationships among health-related quality of life (HRQL), social support, sociodemographic factors and disease-related factors in persons infected with the human immunodeficiency virus (HIV) living in Venezuela. A sample of 118 HIV-infected persons living in Caracas, Venezuela, was surveyed using a written questionnaire that included a Spanish translation of the Interpersonal Support Evaluation List (ISEL) developed for this study, the Medical Outcomes Study Short Form-36 (SF-36) and a symptom inventory. All three instruments showed good internal consistency reliability. Multiple regression analyses were used to model SF-36 sub-scale scores as a function of symptoms, social support, HIV-status and use of antiretroviral drugs. The models explained between 16 and 39% of the variance in the different HRQL domains. Controlling for other variables in the model, level of symptomatology was significantly associated with all HRQL domains except social functioning and role-emotional scores. Social support was significantly associated with all HRQL domains except physical functioning and bodily pain. The use of antiretroviral drugs was significantly associated with social functioning. The study indicates the importance of social support to the quality of life of HIV-infected individuals in that culture (Bastardo & Kimberlin, 2000).

Ichikawa and Natpratan (2006) felt that efforts were made to improve the social environment of people living with HIV/AIDS (PLWHA) in Thailand but had not been assessed in terms of their quality of life (QOL). So, they carried out a study titled ‘Perceived social environment and quality of life among people living with HIV/AIDS in northern Thailand’. In that study, researchers preliminarily examined the relationship between PLWHA's perception of social environment and QOL. The participants of this study were 200 PLWHA who belonged to the self-help groups in Chiang Mai province, northern Thailand. researchers collected data in face-to-face interviews using a structured questionnaire. The QOL was measured using a Thai version of the Medical Outcomes Study HIV Health Survey. Those who perceived themselves as well accepted by the community, perceived health services accessible or someone's help available, tended to have better QOL in terms of mental health. Community acceptance was most significantly related to QOL. Stratified analyses

revealed similar relationships between perceived social environment and QOL among symptomatic and non-symptomatic participants but the relationships appeared weaker among men than women. In summary, that preliminary findings suggest that supportive social environment, especially community acceptance, is important for mental aspects of PLWHA's QOL irrespective of the disease stages and for women who usually take on multiple roles in the Thai traditional family (Ichikawa & Natpratan, 2006).

A study was conducted by Nunes et al., in 1995. The purpose of this study was to examine the relationship between social support and quality of life in individuals with HIV. Using a descriptive, correlational design, data were collected from 50 HIV-positive individuals who were: (a) participants in support groups at a behavioral medicine unit, (b) inpatient or respite care patients with HIV, or (c) respondents to advertisements at AIDS service organizations. Instruments used for data collection were the Personal Resource Questionnaire 85-Part 2 (Weinert, 1987), measuring perceived social support, and the Quality of Life Index (QLI) (Ferrans & Powers, 1985), measuring the sense of well-being in life including the satisfaction with and importance of life domains with four subscales: health and functioning, socioeconomic, psychological/spiritual, and family. The results of the study indicated that social support was significantly correlated with quality of life ($r = 0.81$, $p < 0.0001$). Further, HIV status (a symptomatic HIV symptomatic HIV, AIDS) was significantly related to quality of life ($p < 0.01$). However, HIV status was not significantly related to social support. No significant relationship was found between CD4 counts and HIV status, CD4 counts and social support, or CD4 counts and perceived health status. However, CD4 counts were significantly correlated with scores on the QLI. The findings of the study indicated that social support and quality of life are significantly intercorrelated and that higher CD4 counts are related to quality of life in that sample of persons living with HIV. Further areas for research include evaluation of quality of life over the span of HIV disease and interventions aimed at enhancing or maintaining quality of life in persons across the spectrum of HIV disease (Nunes et al., 1995).

A cross-sectional study was conducted by Remor (2002), with an objective to verify the relationship between social support and health related quality of life (HRQoL), specifically if a low level of social support implies in worse results in the HRQoL, and to establish the relative weight of the social support in the prediction of the HRQoL in a sample of patient with HIV infection. 100 patients were evaluated draw from the HIV Unit of the university hospital, by self-report questionnaires. Social support questionnaire Duke-UNC-11, HRQoL questionnaire MOS-SF30 was used and the result showed significant differences in the QoL of people with HIV infection according to the level of social support that they presented; in short, those with a low level of social support had presented a worse perceived health, more pain, a worse physical functioning, more difficulties in the daily activities, higher health related distress, worse cognitive functioning and they experienced worse physical and emotional health that in the previous month. Overall, most of the studies indicated that the HRQoL was worse in those subjects with a low level of social support. (Remor, 2002).

People living with HIV/AIDS in developing countries tend to have a lower quality of life and less social support compared with those in developed countries (Moreno-Montoya et al., 2018). A study was conducted by Moreno-Montoya et al. (2018) with an objective to explore the association between affective social support or social support generating confidence and each dimension of the quality of life related to health among people with HIV/AIDS from Bogotá. A cross-sectional study was done in people living with HIV/AIDS using convenience sampling of a care program in a hospital network in Bogotá. The quality of life questionnaire SF36 and the generic social support questionnaire Duke-UNC-11 were used, along with linear regression models for the analyses. The result of the study showed that there was a direct relationship between the emotional well-being dimension of quality of life and the social support systems of affectivity (ß =7.36;95% CI: 1.04; 13.68) and those generating confidence (ß =11.63;95% CI: 5.30; 17.96). There was a correlation between the dimensions of physical function, emotional performance, pain, and perceived affective social support. Likewise, relations between the perception of social support generating confidence and the dimensions of vitality and social

function was reported. On the contrary, the researchers found an inverse relationship between the averages of the dimension of emotional performance and the perceived affective social support, as well as between the dimension of physical performance and general health with social support generating confidence. In conclusion of the study, subjects with higher levels of social support had higher levels of quality of life related to health. This finding offers an opportunity for the design and implementation of healthcare plans that incorporate clinical, para-clinical and environmental variables of the patient (Moreno-Montoya et al., 2018).

Ma et al., (2007) conducted a study in China to explore the quality of life and related social support among people living with HIV/AIDS with related factors. 331 people living with HIV/AIDS and 148 of their family members were selected using a typical sampling method. Questionnaires on general conditions, tables on history of infection, generic quality of life inventory-74 (GQOLI-74) and social support scale (SSS) were used. The result of data from one-way analysis suggested that people living with HIV/AIDS and their family members with the different sexs, different villages and different cultural backgrounds had differences in GQOLI-74 scores ($P < 0.05$) while people living with HIV/AIDS with the different villages had differences in SSS scores ($P < 0.05$). Results from Multiple linear regression analysis revealed that being elderly and negative life events were negatively associated with social support ($P < 0.05$), while factors as more advanced educational background, harmonious neighborhood relationship and having bother pouring nature were the predictive factors ($P < 0$. In conclusion of the study, many factors might affect dimensions of quality of life among people living with HIV/AIDS and their family members in rural areas of northern Anhui which may be due to that community care and social support of HIV/AIDS is still greatly enhanced in the countryside of China. A community care mode based on family and neighborhood was expected to be developed (Ma et al., 2007).

A non-randomised controlled community intervention study was conducted by Li et al., (2017) in China with an objective to further investigate the model of social support and care for People Living with HIV/AIDS(PLHA) and to explore their role in People Living with AIDS's quality of life (QOL) as reference for

improving nursing policies for AIDS. The participants diagnosed as People Living with HIV/AIDS at Beijing You An Hospital received a comprehensive social support care from December 2013 to December 2014. To evaluate the impact of social support and care model on People Living with HIV/AIDS, the study analysed the different dimension scores of social support scale and quality of life before and after the intervention. Correlation between the net benefit value of social support and that of QOL from various dimensions were analysed. The results of the study showed that there were significant differences in the score of objective support and usage of support (all $p = 0{\cdot}02$) for social support. Net values of objective support score and usage of support were 0·25 and 0·19, respectively, after intervention. There were significant differences in physiological function, role physical, general health, vitality, social function, mental health, health transition and total score of quality of life (all $p < 0{\cdot}05$). The canonical correlation analysis of net values of social support and QOL indicated that the first and second canonical correlation were statistically significant, with correlation coefficients of 0·53 ($p = 0{\cdot}00$) and 0·21 ($p = 0{\cdot}04$). In conclusion, social support and care intervention model can effectively improve perceived subjective feeling on social support and QOL condition for People Living with HIV/AID and strategies to improve social support and care intervention programmes are strongly encouraged (Li et al., 2017).

A study was conducted by George et al., in 2016 in Irish community with a purpose to assess the HRQoL and its association with sociodemographic, behavioural, clinical, nutrition-related factors and social support in an Irish HIV cohort. The study incorporated a cross-sectional, prospective study using the Medical Outcomes Study HIV Health survey assessed the 10 dimensions of HRQoL and summarised as Physical Health Summary (PHS) and Mental Health Summary (MHS) scores. Participants were categorised as having good or poor PHS and MHS using the standardised mean score of 50. The variables independently associated with PHS and MHS were identified using multivariable logistic regression models. The result showed that overall, 521 participants completed the HRQoL questionnaire. The median (IQR) PHS and MHS scores were 56 (47-60) and 51 (41-58) respectively. All the covariate groups had lower MHS than PHS. Participants with

symptoms of HIV reported the lowest median (IQR) PHS score 44.7 (32.-54.5) and MHS score 36.1 (28.6-48.4). Of the 10 dimensions of HRQoL, the lowest scores were for the energy level and general health. Symptoms of HIV, co-morbidities, social support, employment and ethnicity had independent association with both PHS and MHS. Gender, education, alcohol intake and HIV-complications were associated with PHS. Age, illicit drugs, BMI and malnutrition were associated with MHS. However, CD4 count and viral load were not independently associated with PHS and MHS in multivariable regression models. In conclusion of the study, HIV-infected people in this cohort had an average level of HRQoL. However, it was impaired in people with symptoms and co-morbidities, and not independently associated with CD4 and viral load. Alleviating HIV symptoms and preventing co-morbidities are important in managing HIV. Providing psychosocial supports for behaviour modification and return to work or exploring new opportunities will help to improve HRQoL. Healthcare providers and policy makers need to plan and implement programs to routinely assess the HRQoL in a systematic method to facilitate a holistic management of HIV (George et al., 2016).

A cross-sectional study was conducted by Legesse et al. (2019) in Southern Ethiopia, 391 participants were randomly selected from PLWH who were attending Highly Active Anti-Retroviral Therapy (HAART). A systematic random sampling technique was used to select participants in public health facilities of Arba Minch town from February 16 to April 26, 2019. The interviewers administered a structured questionnaire consisting of the WHOQOL-HIV BREF tool to measure the quality of life. Socio-demographic variables of study participants were collected, together with variables related to their clinical status extracted from their clinical records. Percentage mean scores were calculated and the mean of percentage mean scores was taken as the cutoff to categorize participants into two groups representing poor and good quality of life. Simple binary logistic regression and multivariable logistic regression analyses were used to determine significant variables. All variables with p-value ≤ 0.25 in simple binary logistic regression were considered as eligible variables for multivariable logistic regression. Variables with p-value ≤ 0.05 in multivariable logistic regression were considered as predictor variables. The result

showed that out of the 391 enrolled adult PLWH, 184 of them (47.1%) had poor of overall quality of life status, as estimated by the WHOQOL-HIV BREF tool. Good quality of life was positively associated with recent CD4 count greater than or equal to 500 cell/mm3 (AOR=1.96, 95% CI; 1.18–3.27), absence of depression (AOR=10.59, 95% CI; 6.16–18.21), normal body mass index (AOR=2.66, 95% CI; 1.18–3.27), social support (AOR= 6.18, 95% CI; 3.56–10.75) and no perceived stigma (AOR=2.75, 95% CI; 1.62–4.67). In conclusion of the study, nearly half of the adult PLWH receiving HAART at Arba Minch town had poor quality of life. High CD4 count, lack of social support, depression, and perceived stigma were associated with poor quality of life of PLWH. PLWH should be encouraged to be part of structured social support systems, such as associations of people living with HIV and mother support groups, in order to improve their social and psychological health. The health system should give attention to counseling on chronic care adherence and nutritional support to improve the quality of life of PLWH receiving HAART (Legesse et al., 2019).

Universal access to Antiretroviral Treatment (ART) has transformed HIV/AIDS into a chronic disease and issues like social support and Quality of life (QOL) have emerged as important components of care. Perceived social support influences QOL in People Living with HIV (PLHIV), though this has not been studied well in India (Subramanian et al., 2021). In a study conducted by Subramanian et al., 2021, PLHIV were assessed for Social Support using the Multidimensional Scale of Perceived Social Support (MSPSS) and QOL was assessed with the Medical Outcomes Study HIV Health Survey (MOS-HIV) questionnaire. The factors impacting social support and its effect of on QOL were analysed. Amongst the 109 study subjects, 62 (56.9%) were men, 47 (43.1%) were women, mean age was 35 ± 7.5 years, 85.3% had WHO stage 1 disease and 80 (73.4%) were receiving ART. Only 43.1% subjects perceived high overall social support. Social support (from family/friends/others) was associated positively with physical functioning ($p = 0.001$), social and cognitive functioning ($p = 0.000$) and significantly inversely associated with depression ($p = 0.002$). Higher perceived social support was seen to correlate with higher CD4 count (Peak, Nadir and Current;

$p < 0.05$) and better adherence ($p = 0.003$). It is concluded that social support, including support from beyond family, have a significant impact on clinical endpoints and QOL in PLHIV.

Gender and HRQoL: When it comes to gender differences in HRQoL among PLWH, the majority of existing studies show a rather consistent trend, i.e., a lower level of HRQoL among HIV-infected women compared to HIV-infected men (Campsmith et al. 2003; Chandra et al. 2009; Mrus et al. 2005; Solomon et al. 2008).

It must be mentioned that some authors observed poorer HRQoL among HIV-infected men (Peltzer and Phaswana-Mafuya 2008) or no gender differences in respect to HRQoL in this patient group (Ruiz-Perez et al. 2009). Various explanations for the poorer HRQoL among HIV-infected women were suggested, including unequal access to antiretroviral treatment (ART) in some countries for HIV-infected women (Penniman et al. 2007), a higher rate of physical and emotional abuse and mental disorders among HIV-infected women (Machtinger et al. 2012), especially the heightened HIV-related stigma among HIV-infected women (Geary et al. 2014) which prevents them from disclosing their HIV+ status and seeking medical care (Campbell et al. 2006).

Studies exploring gender differences in health-related quality of life (HRQOL) of people living with HIV/AIDS (PLWHA) are scarce and contradictory. The study conducted by Fumaz et al. (2019) in Spain evaluated gender differences in HRQOL of 744 PLWHA with median (IQR) age 44 (37-48) years and HIV infection diagnosed 12 (5-20) years earlier. Results showed important differences between genders ($p < .05$). Better male physical health was related to being employed, not having economic worries, not receiving psychological support, not having injected drugs in past, low negative mood HIV-related, low HIV illness representation and internalized stigma, and high body image satisfaction and health behavior. For women, variables were fewer years since HIV diagnosis and low enacted stigma-personal experience of rejection. Mentally, variables in men were being employed, not having injected drugs, having a stable partner, high health behavior, use of problem-solving coping, personal autonomy and personal meaning. In women, better

mental health was related to high CD4 cells, self-esteem and body image satisfaction, and negative mood HIV-related. Men and women coincided in absence of past opportunistic infections being related to better physical and mental health, and absence of side effects for physical health and low HIV-related stress and HIV illness representation for mental health. Reports of several studies highlight the need for detailed study of gender differences that identify the bio-psycho-socio inequalities that affect HRQOL (Fumaz et al., 2019).

A comparative cross-sectional study was conducted by Gebremichael et al. (2018) among 520 HIV/AIDS patients on anti-retroviral therapy in public health facilities in West Shoa Zone, Western Ethiopia from April to May, 2016. Participants were selected using simple random sampling method. Quality of life was measured using WHOQOL-HIV BREF and depression was assessed using Beck Depression Inventory, Second Edition (BDI-II). Data were analyzed using SPSS version 22. An independent sample t-test was used to compare quality of life domains between men and women and logistic regression analysis was used to determine independent predictors. The result showed females had significantly lower quality of life in physical, psychological, independence and environmental domains as compared with males except social relationship and spiritual domains. Depressed HIV patients had significantly lower quality of life in all domains as compared with HIV infected patients without depression in both genders. Malnutrition and anaemia were significantly associated with poor physical, psychological, independence and environmental domains. Anaemic women had 1.9 times lower independence quality of life compared with women who had no anaemia (AOR = 1.9, 95%CI: 1.4, 3.5). Tuberculosis was also predictor of physical, psychological, independence and social domains in both genders. TB/HIV co-infected females had 2.0 times poorer environmental health compared to only HIV infected females (AOR = 2.0, 95%CI: 1.2, 3.5). Family support, education and occupation were also independent significant predictors of QOL domains in both genders. In females, residence was significantly associated with independence (AOR = 1.8, 95%CI: 1.2–3.8) and environmental (AOR = 1.5, 95%CI: 1.1–3.2) domains. In conclusion of the study, females had significantly lower quality of life compared with males. The findings

indicted poor socio-economic status and co-infections significantly associated with poor quality of life among HIV/AIDS patients. So, due emphasis should be given to improve socio-economic status and enhance integrated early detection and management of malnutrition, depression, tuberculosis and anaemia among HIV/AIDS patients in Ethiopia.

A study was conducted by O'Connell, Skevington & Saxena (2003) for the development and preliminary assessment of the WHOQOL-HIV pilot instrument that is designed for use with the WHOQOL-100 for persons living with HIV and AIDS (PLWHA). In this study, 900 people with a mean age of 32 from six culturally diverse sites completed the WHOQOL-100 along with 115 HIV specific items. Respondents were HIV asymptomatic (23%), HIV symptomatic (23%), had AIDS (20%) or were well (34%). Analyses to select the best items from the piloted instrument resulted in the inclusion of 33 items covering 12 new facets for a field trial version of the WHOQOL-HIV instrument - symptoms of HIV, body image, social inclusion, death and dying, and forgiveness. The results indicate excellent internal consistency for the scale (alpha=0.98) and its domains (alpha=0.87-0.94). For PLWHA, pain and discomfort, positive feelings, dependence on medication, sexual activity, financial resources and spiritual connection were particularly poor, indicating that the severest impact of HIV extends beyond physical well-being to the psycho-social-spiritual and environmental areas of QoL. Comparisons using ANOVA showed that persons who are at later stages of HIV infection, or are currently ill report poorer QoL than those that were well ($p<0.01$). Women report poorer QoL than men for almost every facet ($p<0.01$) and older persons (>30) reported lower negative feelings, and better social inclusion, spiritual connection, forgiveness and spiritual experience than younger persons. Finally, those with no education, or only primary education showed some of the poorest means. It is concluded that these new items and facets add value for measurement of QoL in PLWHA.

A study conducted by Mrus et al. (2005) where 202 females and 976 males were randomized to one of two treatment arms. Female participants were more likely to be black or Hispanic and tended to be younger. The result showed that females

reported lower HRQoL scores than males in all of the domains except social functioning, and at week 40, women scored lower in all of the domains except overall health. In repeated measures models, women were found to score lower in all HRQoL domains except overall health, with significant differences of 3.5-6.7 points in 3 of the 9 quality of life domains: physical functioning, pain, and energy/fatigue. HRQoL scores improved for participants in the study over time and in response to potent treatment, and the improvements were similar for men and women. In conclusion of the study, women with HIV/AIDS report substantially poorer HRQoL than men with HIV/AIDS in several HRQoL domains. However, changes in domain scores over time and in response to treatment do not differ significantly by gender, implying that changes in domain scores may be better HRQoL outcomes to compare between HIV-infected men and women in clinical trials than mean domain scores.

A comparative cross-sectional study was conducted by Tesfay et al., (2015) among 494 adult people living with HIV taking ART services. Quality of life was measured using WHOQOL-HIV BREF. The result of the study showed there was a statistically significant gender difference ($P < 0.05$) in HRQOL among PLHIV on HAART. Females had low score in all HRQOL domains. High perceived stigma was strongly associated with poor psychological quality of domain among both female and male groups with (AOR = 2.89).

A study conducted by Valdelamar-Jiménez, et al. (2023) which aimed to compare HRQOL in women and men with HIV in Brazil and identify factors associated with their physical and mental health used 218 men and 101 women with HIV who completed a sociodemographic and clinical questionnaire, the 36-item Short Form Health Survey (SF-36v2), the HIV/AIDS-Targeted Quality of Life (HAT-QOL), and the WHOQOL-HIV BREF. HRQOL scores were compared with the Mann-Whitney U test, and multiple linear regression analyses were used to identify factors related to Physical and Mental Health (PCS and MCS of SF-36v2). The result showed women had worse HRQOL than men in all three instruments. Models for Physical Health (Women: $R^2 = 0.56$, $p < .001$; Men: $R^2 = 0.552$, $p < .001$) and Mental Health (Women: $R^2 = 0.602$, $p < .001$; Men: $R^2 = 0.600$, $p < .001$) showed gender-related differences. Overall Function (Women: $Beta = 0.496$;

Men: *Beta* = 0.387) and Level of Independence (Women: *Beta* = 0.375; Men: *Beta* = 0.305) were the domains that best predicted Physical Health in both genders. Environment in women (*Beta* = − 0.289) and Psychological in men (*Beta* = 0.372) were the domains that best predicted Mental Health. Significant HRQOL and physical and mental health differences were associated with gender in PLWHA in Brazil (Valdelamar-Jiménez, et al., 2023).

However, in some studies which were conducted in western countries gender showed no major impact on QOL (Kemmler et al., 2003; Starace et al., 2002). A study was conducted by Kemmler et al., (2002) in which two-hundred and seven outpatients with HIV/AIDS were interviewed with the German version of the MQOL-HIV; 109 patients were interviewed a second time approximately 2 weeks later. Patients also completed the Beck Depression Inventory (BDI) and the World Health Organization Disability Assessment Schedule II (WHODAS II). The result showed the German version of the MQOL-HIV showed satisfactory internal consistency (r: 0.74-0.85, sexual functioning: r = 0.61) and test-retest reliability in most subscales (r: 0.74-0.89, medical care: r = 0.67). Convergent validity with WHO-DAS II and BDI was satisfactory for most domains. Exploratory factor analysis yielded a seven-factor solution with separate factors for physical, emotional, cognitive, social and financial aspects, sexual functioning and medical care. CD4 count and source of infection were associated with most QOL domains, whereas age and gender showed no major impact on QOL.

Gender and Religious Coping: Research has shown that the vulnerability to the impacts of HIV/AIDS differ by gender, with women being physiologically, socially and economically more vulnerable (Hayden, 2006). Therefore, some studies found gender differences exists among coping strategies, with men being more likely to use problem-solving coping and women more emotion-focused coping (Tarakeshwar, Hansen, Kochman, & Sikkema, 2005). The findings in global literature are mixed, however, because some other studies found no significant differences between HIV positive men and women in coping strategies (Olley, Seedat, & Stein, 2006).

Tarakeshwar et al. (2005) examined the influence of gender and ethnicity on coping strategies of 252 bereaved, HIV-positive individuals (65.1% male; 71% ethnic minorities [African-American and Hispanic]). Factor analyses of the Ways of Coping Questionnaire and Coping with Illness Scale yielded five coping subscales: Active, Avoidant, Social Support, Self-destructive, and Spiritual. Multivariate analyses of covariance revealed significant gender and ethnic group effects on spiritual coping, after controlling for social support, education, and sexual orientation. Of all subscales, only spiritual coping was not influenced by perceived social support. Women and ethnic minorities reported greater use of spiritual coping while White men reported the least use of spiritual coping. White women reported significantly greater use of avoidant coping than White men. Further, the relationship between spiritual coping and grief varied across gender and ethnicity. These results highlight the influence of gender and ethnicity in the use of spiritual coping and the importance of integrating spirituality in psychosocial interventions.

A study was conducted by Hvidtjørn et al., (2014) in which they organized a study among 3000 Danish men and women and organized religiousness in three dimensions: Cognition, Practice and Importance, and they assessed religious coping using the brief RCOPE questionnaire. And, they found substantial gender differences in both religiousness and religious coping. Nearly, 60 % of the women believed in some sort of spirit or in God compared to 40 % of the men. Women are found to be more religious than men and more likely to use religious coping. Only few studies have explored religious gender differences in more secular societies. Significant gender difference was also obtained between male and female participants on non-Positive Living with HIV/AIDS (non-PLWHA) (Hvidtjørn et al., 2014).

Gender and Perceived Social Support: A study by Osman et. al. (2014) & Semple er. Al. (1996), showed that compared to females, males perceive to have less social support and are less satisfied with their social support.

The study examined the trajectories of health-related quality of life (HRQoL) and perceived social support (PSS) among people living with HIV (PLWH), with a special focus on gender differences was conducted by Gruszczyńska & Rzeszutek

(2019). The participants included 252 PLWH (18% female) undergoing antiretroviral therapy. HRQoL (WHO Quality of Life-BREF; WHOQOL Group, 1998) and PSS (Berlin Social Support Scales; Schulz and Schwarzer, 2003) were measured three times at six-month intervals. Using a univariate approach, three trajectories of HRQoL and four trajectories of PSS were identified. Gender and relationship status were significant covariates for PSS only, with overrepresentation of single women in the increasing trajectory. The dual trajectory approach revealed a match in the decrease of HRQoL and PSS, but only for 31% of the sample. In fact, decreasing PSS co-occurred with increasing as well as stable HRQoL. There was no significant gender effect in this regard. Although a clear correspondence for decreasing trajectories exists, the findings also highlight a discrepancy between HRQoL and PSS changes that are unrelated to gender.

Health-related Quality of Life and Demographic Variables: Factors such as socio-demographic characteristics and clinical outcomes could influence the HRQoL. Also, behavioral factors, such as alcohol use, drug consumption, smoking or risky sexual behavior have also been reported to be associated with HRQOL (Wilson & Cleary, 1995; Bajunirwe, Bangsberg & Sethi, 2013).

A study was conducted by Algaralleh, Altwalbeh & Al-Tarawneh in 2020, 'Health-Related Quality of Life Among Persons Living with HIV/AIDS in Jordan: An Exploratory Study'. In this study, the results exhibited that unemployment, low income, non-disclosure status, single status (separated, divorced, or widowed), and having comorbidities related to poor HRQoL. It is not surprising that PLWHA who are unemployed or had low income reported a low quality of life. Research papers from other countries showed similar findings.17,20,45 Having a job and adequate income can enhance their socioeconomic status and facilitate for them social integration at the same time it gives them better opportunities for health protection and promotion (Algaralleh, Altwalbeh & Al-Tarawneh, 2020).

Other study was conducted by Yaya et al., in 2019, the objective of this study was to assess the quality of life and to identify factors associated with good global quality of life among people living with HIV/AIDS (PLWHA) in Togo. In total, 880

PLWHA with mean age (standard deviation) of 39.6 (10.1) years, were interviewed. Most of them (78.4%) were female. The result showed that the global score of quality of life was ranged from 42.6 to 112, with a mean (standard deviation) estimated at 86.3 ± (13.3). More than the three-quarters (76.2%) of the participants had a good global quality of life. In multivariate analysis, secondary education level or higher (adjusted odds ratio = 1.78, 95% confident interval (CI) [1.10–2.85]), living in Kara health region (adjusted odds ratio = 4.39, 95% CI [2.94–6.57]), being on antiretroviral therapy (adjusted odds ratio = 6.99, 95% CI [4.11–11.9]) and HIV sero-status disclosure (adjusted odds ratio = 1.83, 95% CI [1.28–2.61]) were associated with a better overall quality of life (score ≥ 77.3).

A study conducted by George et al., in 2016, in the Irish community with a purpose to assess the HRQoL and its association with sociodemographic, behavioural, clinical, nutrition-related factors and social support in an Irish HIV cohort, incorporated a cross-sectional, prospective study using the Medical Outcomes Study HIV Health survey assessed the 10 dimensions of HRQoL and summarised as Physical Health Summary (PHS) and Mental Health Summary (MHS) scores. Participants were categorised as having good or poor PHS and MHS using the standardised mean score of 50. The variables independently associated with PHS and MHS were identified using multivariable logistic regression models. The result showed that overall, 521 participants completed the HRQoL questionnaire. The median (IQR) PHS and MHS scores were 56 (47-60) and 51 (41-58) respectively. All the covariate groups had lower MHS than PHS. Participants with symptoms of HIV reported the lowest median (IQR) PHS score 44.7 (32.-54.5) and MHS score 36.1 (28.6-48.4). Of the 10 dimensions of HRQoL, the lowest scores were for the energy level and general health. Symptoms of HIV, co-morbidities, social support, employment and ethnicity had independent association with both PHS and MHS. Gender, education, alcohol intake and HIV-complications were associated with PHS. Age, illicit drugs, BMI and malnutrition were associated with MHS. However, CD4 count and viral load were not independently associated with PHS and MHS in multivariable regression models. In conclusion of the study, HIV-infected people in this cohort had an average level of HRQoL. However, it was impaired in people with

symptoms and co-morbidities, and not independently associated with CD4 and viral load. Alleviating HIV symptoms and preventing co-morbidities are important in managing HIV. Providing psychosocial supports for behaviour modification and return to work or exploring new opportunities will help to improve HRQoL. Healthcare providers and policy makers need to plan and implement programs to routinely assess the HRQoL in a systematic method to facilitate a holistic management of HIV (George et al., 2016).

*The statement of the problem of the present study is presented in the next chapter,Chapter II-**Statement of the Problem***

CHAPTER – II

STATEMENT OF THE PROBLEM

STATEMENT OF THE PROBLEM

Quality of life (QOL), considered in the context of health and disease, is commonly referred to as health - related quality of life (HRQoL) to differentiate it from other aspects of quality of life. Since health is a multidimensional concept, HRQoL is also multidimensional and incorporates domains related to physical, mental and emotional, and social functioning. HRQoL goes beyond the direct measures of health and focuses on the quality-of-life consequences of health status. Another related concept to HRQoL is well – being, which typically, assess the positive aspects of a person's life such as positive emotions and life satisfaction. HRQoL is concerned with the impact of health on an individual's perception of their wellbeing and level of functioning in important areas of their life. However, there is a lack of consensus regarding the specific dimensions of quality of life. The constitution of the World Health Organisation (WHO), adopted in 1946, states that "Health is a state of complete physical, mental and social well-being" and in reflection, health related quality of life comprises of an individual's perception of his/her physical, mental and social well-being for a certain period of time. Concepts such as independence, spirituality and environmental factors are also considered relevant.

Quality of life and individual's lifestyles have been changed by HIV/AIDS, which leads to physiological, physical, psychological, and sociocultural problems that are caused by many factors such as symptoms of the virus, side effects of ART, and opportunistic infections (Albera et al., 2010). Studies have shown that HIV/AIDS has multidimensional consequences: personal suffering such as discomfort associated with the disease's progression, the social impact of the diagnosis, the emotional consequences of dealing with the diagnosis, and related stigma (Buseh et al., 2008). Studies have also identified disease-related factors such as CD4 count, viral burden, HIV disease stage, infections and psychosocial factors like social support, coping, and disclosure as predictors of quality of life among people living with HIV/AIDS. Depression has been associated with changes in

general health perceptions, emotional well-being and QOL domains in PLWHA, (Timilsina & Regmi, 2014) Additionally, several socio-demographic characteristics such as age, gender, education and employment were also factors associated with lower QOL (Venter et al., 2009; O'connel et al., 2003). The information on gender-specific differences in QOL outcomes has been controversial, studies have shown that females had significantly lower quality of life compared with males (O'connel, 2003; Tran et al., 2012) On the other hand, studies conducted in western countries on gender showed no major impact on QOL (Kemmler et al., 2003; Starace, 2001).

Antiretroviral therapy (ART) has changed HIV from a terminal disease to a chronic condition in countries where treatment is widely available. With appropriate treatment, people with HIV can now have a near-normal life-expectancy (Fumiyo Nakagawa et al., 2012). However, people with HIV continue to have substantially lower health-related quality of life (HRQoL) than the general population, even where the majority of those living with HIV have virological control and are immunologically stable (Alec Miners et al., 2014). Evidence suggests that in addition to the underlying infection, social circumstances, relationship issues, comorbidities and stigma may impact on HRQoL in people with HIV (Drewes et al., 2013).

The American Psychological Association (APA) passed a Resolution on Combination HIV/AIDS Prevention (2012) which emphasized the need for prevention research that incorporates strategies to address mental health and substance abuse issues, behaviour change and adherence on HIV/AIDS. Proven behavioural approaches, particularly when combined with biomedical strategies, have been found to- optimize the effectiveness of biomedical interventions; increase access to care; increase retention in care; increase treatment adherence; reduce overall cost of care; reduce the stigma associated with the disease; and address co-morbid mental health and substance abuse issues .Thus, the APA recommended that the Congress and the Executive Branch should continue to acknowledge the value of behavioural research and combination approaches to HIV prevention and treatment through continued support for a robust HIV/AIDS behavioural prevention research agenda, the integration of biomedical, behavioural and structural approaches through interdisciplinary research and implementation teams, and dissemination of effective

strategies to prevent and treat HIV; and prioritization of combination strategies in the National HIV/AIDS Strategy implementation.

People Living with HIV/AIDS (PLWHA) often report poorer Health-Related Quality of Life (HRQoL) than that of the general population, especially after the diagnosis of HIV. Numerous studies have reported that being diagnosed with HIV/AIDS and experiencing disease-related symptoms is associated with lower HRQoL (Hays et al., 2000; Cunningham et al., 1998; Scott-Sheldon et al., 2008). Furthermore, HRQoL is directly associated with clinically relevant outcomes in HIV positive patient Numerous studies have reported that being diagnosed with HIV/AIDS and experiencing disease-related symptoms is associated with lower HRQoL (Hays et al., 2000; Cunningham et al., 1998; Scott-Sheldon et al., 2008). Furthermore, HRQoL is directly associated with clinically relevant outcomes in HIV positive patients, such as treatment adherence and viral suppression (Call et al., 2000; Penedo et al., 2003). This may be related to the psychological and physiological demands of HIV disease, social stressors, or demographic factors. Improving quality of life is central to the care and support of people with HIV. Evaluations of new treatments and interventions to improve healthcare require the measurement of HRQoL as well as clinical endpoints (CD4 count, viral load, progression to AIDS). Valid, reliable and responsive tools are required to evaluate the impact of these interventions on HRQoL. To date there have been a number of reviews conducted to identify and assess measures of HRQoL in people with HIV, but these reviews have had diverse aims (Cooper et al., 2017). With the advancement of biomedicine, antiretroviral therapy (ART) has changed HIV from a terminal disease to a chronic condition in countries where treatment is widely available. With appropriate treatment, people with HIV can now have a normal life-expectancy. However, people with HIV continue to have substantially lower health-related quality of life (HRQoL) than the general population, even where the majority of those living with HIV have virological control and are immunologically stable. Evidence suggests that in addition to the underlying infection, social circumstances, relationship issues, comorbidities and stigma may impact on HRQoL in people with HIV.

Religion and spirituality are important social determinants of health and public health, they serve as central guiding forces in the daily life of many people, including People Living with HIV/ADS (PLWHA). Growing evidence supports an association between spirituality or religiousness and better health or better quality of life. Mueller et al. (2001) review of existing literature indicates significant associations between spirituality/religiousness and better health outcomes, including better coping skills and better health-related quality of life (even during terminal illness). The association between spirituality or religiousness and health outcomes may be explained by a number of variables, including coping style, psychological factors and social support. especially in the context of HIV/AIDS and may be used by PLWHA to cope and improve their HRQoL. However, more research in this area and among PLWHA is necessary. This is particularly important since HIV is a chronic, highly stigmatized disease and requires significant lifestyle adjustments in order for PLWHA to survive and lead relatively healthy, quality lives. Religious coping plays an important role in the life of PLWH as Haddad (2011) advocated that they play an essential role in mitigating the epidemic. PLWHs have to deal with their condition each day as well as social pressure like stigmatization and discrimination. Coping with religions seemed to be able to encourage healthy habits and also promotes QoL (Oman & Thoresen, 2002). Apparently, consistent findings across studies were not strong enough to establish the link between religious coping and physical health outcome among PLWHs. Some suggested that it is associated with slower disease progression but some suggested no relationship with immune status (Ironson et al., 2002; Ironson, Stuetzle, & Fletcher, 2006; Kudel, Cotton, Szaflarski, Holmes, & Tsevat, 2011). Despite the fact that findings are not consistent just like what was reported in Cotton et al., (2006) and other studies like Pargament et al., (2003) and Ironson et al., (2002), it was reported by Cotton et al., (2006) and Lorenz et al., (2005) that approximately more than half to 80% of the PLWHs in their studies becoming more religious and spiritual and acknowledged the importance of religiosity and spirituality in their lives since their diagnosis. In addition, it is always useful and significant to examine the relationship between religious elements and psychological factors in different context due to the differences across cultures

especially studies based on religious coping theories have been largely done in the Western and Christian context (Pargament et al., 2011).

People living with HIV/AIDS (PLWHA) are frequently confronted with severe social issues such as rejection, abandonment, criticism, and stigma. Some investigations have showed the importance of the relationship between social support and HRQoL in men and women living with HIV. Although social support and HRQoL are important factors that affect the health of HIV patients, few studies have been done in these fields. Since most of the research has been conducted in developed countries, there is no guarantee that these results can be generalized to the populations of developing countries. Social support and HRQoL of people in these countries can vary from what people in developed countries are facing, this would negatively affect their quality of life. Strong perceived social support was significantly associated with higher levels of subjectively perceived HRQOL. PLWHA who were on ART and had good social support were four times more likely to report higher HRQOL when compared to their counterparts (Mengistu et al., 2022), the study reported that social support was significantly associated with HRQOL among people living with HIV/AIDS. The study also reported that HRQoL was worse in those subjects with a low level of social support which showed that the level of social support was predictor of the HRQoL (Remor, 2002). People living with HIV/AIDS in developing countries tend to have a lower quality of life and less social support compared with those in developed countries (Moreno-Montoya et al., 2018). Hence, finding ways of mitigating these factors and consequences makes quality of life (QOL) in PLWHA a relevant issue of health care (James Shifman, 2006).

Although the incidence of HIV infection trend is declining globally, it has been increasing in Mizoram, reaching approximately 29,514 as on September, 2023. Among those infected persons 21,303 individuals have already started Anti-Retroviral Therapy (ART) and since the detection of its first case in 1990, 4,703 infected patients have died in the state (MSACS, 2023). At present Mizoram holds the status of the highest prevalence rate of HIV infection in the country followed by Nagaland (NACO, 2019). As per the report of Mizoram State AIDS Control Society

(MSACS), the number of blood test conducted between October, 1990 and September, 2023 was 4,64,442 (cumulative) and the number of HIV positive cases is 29,514 (cumulative) and the age group between 35 to 49 contributes the highest infected age group across the age groups which reached up to 26.86% of the overall infection rate (MizoramSACS.org).

As per details from Census 2011, Mizoram has population of 10.97 Lakhs, an increase from figure of 8.89 Lakh in the 2001 census. Total population of Mizoram as per latest census data is 1,097,206 of which male and female are 555,339 and 541,867 respectively. The population of Mizoram forms 0.09 percent of India in 2011 (www.census2011.co.in). According to Unique Identification Aadhar India updated on 31st May 2023, Mizoram population is projected to be 12.38 Lakhs (www.populationu.com/in/mizoram-population) and is the second smallest state in India.

Mizoram has the highest prevalence of HIV/AIDS in India (29,514 till September 2023). The first case of HIV infection in Mizoram was detected in an Injecting Drug User (IDU) in October 1990. In 1998, the HIV epidemic took off quickly among the state's injecting drug users, with some drug clinics registering HIV rates of more than 70% among their patients. However, the mode of transmission changed and according to NACO (2007) report, HIV prevalence at antenatal clinics was 0.75%. Today, the mode of transmission of HIV/AIDS virus in the state is sex (67.21%), followed by intravenous drug users (28.12%).

HIV/AIDS has become one of the terminal illnesses of concern in the state. The MSACS has made tremendous effort to curb the disease by implementing HIV/AIDS program in the state through Mizoram State AIDS Control Society (MSACS), under the aegis of the National AIDS Control Organization (NACO). Today, MSACS is implementing seven services such as (1) Basic service, (2) Care, support and treatment (3) Blood transfusion service (4) Targeted intervention (5) Information, education and communication (6) STI/RTI (Suraksha clinic) and (7) Lab services.

A few studies focusing on HIVAIDS in Mizoram have been conducted by research scholars from Mizoram University -'HIV/AIDS and Reproductive Health in Mizoram' by Elizabeth Niang Tawi Mang(2015), 'Quality of life, Social Support and Counselling Services of PLWHA in Mizoram' by Ch. Lalhmingliani (2015), 'Internalized HIV Stigma, Mental Health, Coping and Perceived Social Support of PLWHA in Aizawl' by Mary Ann Halliday(2016) and 'Psychosocial Aspect and Quality of life of PLWHA in Aizawl' by C. Lalremruati(2018). While the number of PLWHA has been increasing day by day in Mizoram, more research in this field is urgently necessary for policy and development of intervention strategies on HIV/AIDS.

In view of the theoretical foundations and empirical findings pertaining to psychosocial aspects and health related quality of life of people living with HIV/AIDS (PLWHA), the present study aims to explore and examine the psychosocial aspects and health related quality of life of the people living with HIV/AIDS (PLWHA), population in Mizoram for development of intervention strategies and to develop The overall consideration would not only help satisfy to achieve the theoretical and methodological considerations but would provide foundations for policy, development of behavioural intervention programs and further extended studies.

Objectives:

Given the theoretical and methodological foundations pertaining to the research problem, the present study has put forward the following objectives:

1. To determine the levels of Health-Related Quality of life (HRQoL) in PLWHA and non-PLWHA.
2. To explore the relationship between HRQoL and Religious Coping among PLWHA.
3. To examine the relationship between HRQoL and PSS among PLWHA.
4. To highlight gender differences in PLWHA and between PLWHA and non-PLWHA on the variables under study.

5. To elucidate the relationship between HRQoL, Religious Coping and PSS among PLWHA and non-PLWHA.
6. To study the relationship between the socio-demographic variables and HRQoL among PLWHA.

Hypotheses:

Following the review of literature pertaining to Health-related quality of Life, Religious Coping and Perceived Social Support of PLWHA and the research objectives put forward, it is hypothesized that: -

1. The level of HRQoL of PLWHA will be low as compared to non-PLWHA.
2. There will be a significant positive correlation between HRQoL and religious coping among PLWHA.
3. There will be a significant positive correlation between HRQoL and PSS among PLWHA.
4. There will be significant gender differences in PLWHA and between PLWHA & non-PLWHA on the variables under study.
5. There will be significant differences between PLWHA and non-PLWHA on HRQoL, Religious Coping and PSS.
6. The socio-demographic variables may account for differences in HRQoL in PLWHA.

The methods and procedures that were aimed to be incorporated to achieve the objectives of the study are outlined in the next chapter in ***Chapter III- Methods and Procedure***

CHAPTER – III

METHODS AND PROCEDURE

METHODS AND PROCEDURES

Sample:

Purposive random sampling procedure was employed for the present study. 200 PLWHA and 200 non- PLWHA (400), young adults between the ages of 20 to 40 (Sandrock, 2013) who were willing to participate were selected to serve as subjects for the study. 200 PLWHA represented the experimental group while 200 non-PLWHA represented the control group for the present study. The levels of Health-related Quality of Life, Religious Coping and Perceived Social Support were examined and their correlations were analysed. The study was carried out in agencies such as ART Plus Centre, Community Care Centre, Integrated Counselling and Testing Centre (ICTC), Care and Support Centre and NGOs in Aizawl.

Inclusion criteria:

1. PLWHA who were availing services in ART Plus Centre, Community Care Centre, Integrated Counselling and Testing Centre (ICTC), Care and Support Centre and NGOs.
2. Non-PLWHA were included for control group.
3. PLWHA and non-PLWHA between the ages of 20 to 40 years.
4. Individuals who were willing to participate and cooperate.

Exclusion criteria:

1. PLWHA who were not availing services in ART Plus Centre, Community Care Centre, Integrated Counselling and Testing Centre (ICTC), Care and Support Centre and NGOs.
2. PLWHA and non-PLWHA who were younger than 20 years and older than 40 years of age.
3. Individuals who were not willing to participate and not cooperate.

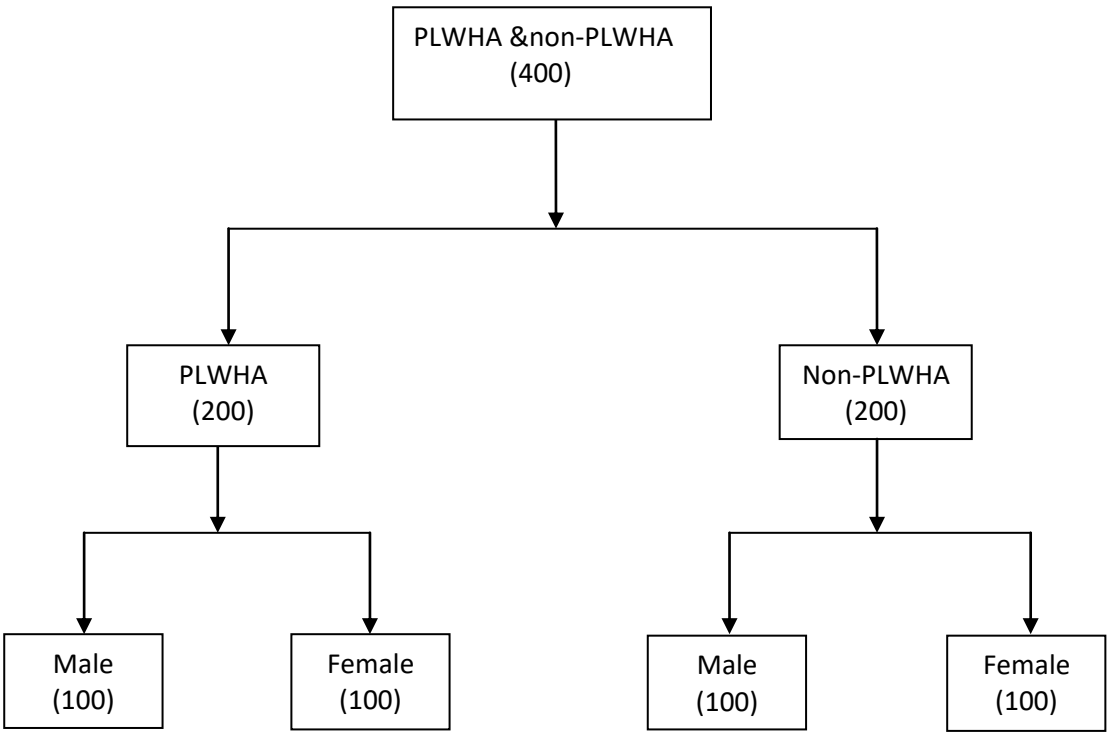
All PLWHA who were the beneficiaries of these agencies constituted the universe of this study. The non – PLWHA sample was randomly selected based on representativeness to the target population. The sample for the study was collected from these agencies mainly on the following criteria:

- Agencies providing support to PLWHA,
- Environment for establishing good rapport to conduct interview in the agency.
- Agencies giving permission for data collection.

Design of the Study:

To achieve the objectives, the study incorporated 2X2 factorial design as depicted below such as 'Status of Participant' (PLWHA and non-PLWHA) and 'Gender' (Male and Female) to elucidate the level and the relationship of Health-related quality of Life, Religious Coping and Perceived Social Support.

The sample characteristic table is as follows:



Psychological Tools Used:

- 36 Item Short Form Survey (Ware and Sherbourne 1992): SF 36 consist of 36 items. measuring physical and mental health status in relation to eight health concepts such as: physical functioning, role limitations due to physical health, bodily pain, general health perceptions, vitality (energy/fatigue), social functioning, role limitations due to emotional health, general mental health (psychological distress/wellbeing). Responses to each of the SF-36 items are scored and summed according to a standardised scoring protocol (Ware et al., 1993), and expressed as a score on a 0–100 scale for each of the eight health concepts. Higher scores represent better self-perceived health. Five of the scales are 'unipolar' (Physical Functioning, Role Physical, Bodily Pain, Social Functioning, and Role Emotional), meaning that they define health status in terms of the absence of disability. The maximum score of 100 is therefore achieved when no disability is reported. The other scales (General Health, Vitality and Mental Health) are 'bipolar' scales, covering both positive and negative health states. The maximum of 100 on these bipolar scales therefore indicates not just the absence of disability, but the presence of a positive state of health.
- Brief RCOPE (Pargament, 1998): The Brief RCOPE is a 14-item measure of religious coping with major life stressors. As the most commonly used measure of religious coping in the literature, it has helped contribute to the growth of knowledge about the roles religion serves in the process of dealing with crisis, trauma, and transition. The scale developed out of Pargament's (1997) program of theory and research on religious coping. The items themselves were generated through interviews with people experiencing major life stressors. Two overarching forms of religious coping, positive and negative, were articulated through factor analysis of the full RCOPE. Positive religious coping methods reflect a secure relationship with a transcendent force, a sense of spiritual connectedness with others, and a benevolent world view. Negative religious coping methods reflect underlying spiritual tensions and struggles within oneself, with others, and with the divine. Researchers

can tailor the Brief RCOPE to a specific life stressor or to life events in general. To tailor the Brief RCOPE to a specific life stressor, individuals indicate the extent to which they use specific methods of s/r coping in dealing with a critical life event using a four-point Likert scale ranging from 0 ("not at all") to 3 ("a great deal").

- The Multidimensional Scale of Perceived Social Support (Zimet et al., 1988): This 12-item scale measures perceived social support from family, friends and significant other. Respondents will use ratings along a 7-point scale, from 1 (very strongly disagree) to 7 (very strongly agree) to indicate how they feel about each statement. Total scores can range from 12 to 84, with total scores of 69-84 indicative of high acuity, 49-68 indicative of moderate acuity and 12 to 48 indicatives of low acuity.
- The demographic details of the participants such as family income, education, occupation, marital status and substance use status were recorded to meet the objectives of the study.

Procedure:

The primary data for the study was collected in face-to-face interactions between the participants and the researcher in an optimum environmental setting after informed consent from all participants and formation of good rapport. The researcher took care to see that the respondents provide honest and independent answers to all the questions presented. The anonymity, confidentiality and ethics as cited/formulated by APA, 2003 (American Psychiatric Association) was followed.

In order to determine the level of HRQoL in PLWHA, 36 Item Short Form Survey (Ware and Sherbourne 1992) was used and their health status were highlighted, according to a scoring manual, scores for the different domains are converted and pooled using a scoring key, for a total score indicating a range of low to high QOL (httpswww.physio-pedia.com/36-Item_Short_Form_Survey_(SF-36)). Further, the religious coping status of PLWHA was examined using Brief RCOPE (Pargament 1998) and their perceived social support was assessed by Multidimensional Scale of Perceived Social Support (Zimet et al., 1988). A pilot

study was conducted to ensure participant comprehension and check for any discrepancies.

Data Collection:

Each participant received a booklet containing the demographic information (age, educational qualification, and socioeconomic status, number of children, family size, family type, duration of knowledge of HIV infection etc.), Inform consent form,36 Item Short Form Survey (Ware and Sherbourne, 1992), Brief RCOPE (Pargament, 1998) and Multidimensional Scale of Perceived Social Support (Zimet et al., 1988). The booklets were completed in the presence and under the supervision of the researcher.

Statistical Analysis:

Data analysis was done with the help of SPSS 26. Parametric statistics was employed for the analysis of data. For the analysis of data, suitable statistical techniques were used for the present study:

1. Cronbach's Alpha and Pearson Co-efficient of Correlation were employed to analyse internal consistency reliability of scale and inter-scale correlation respectively.
2. Descriptive Statistics, Levene's Test and ANOVA were employed to ascertain differences in HRQoL based on the socio-demographic variables like gender, age, education, marital status, type of family, occupation, family monthly income and status of using intoxicating substances.
3. Descriptive statistics was employed to assess the Mean rank in HRQoL, Religious Coping and Perceived Social Support among PLWHA and non-PLWHA.
4. Independent t-test was employed to assess the differences between PLWHA and non-PLWHA in HRQoL, Religious Coping and Perceived Social Support.

5. Pearson Correlation Co-Efficient Test was used to assess the correlation between HRQoL and Religious Coping, HRQoL and Perceived Social Support and Religious Coping and Perceived Social Support among PLWHA
6. Independent t-test was again utilised to assess gender differences between the two groups on the variables under study.

The results of the present study were presented in the next chapter Chapter IV- ***Results and Discussion***

CHAPTER- IV

RESULTS AND DISCUSSION

RESULTS AND DISCUSSION

RESULTS

Psychometric properties of the Scales:

The reliability and predictive validity of the scales were ascertained to ensure the psychometric adequacy of the scales used for the study. Reliability (internal consistency) was estimated for each of the scales used in the study using Cronbach's alpha (Cronbach, 1951)

Table 1.1: *Mean, Standard Deviation (SD) and Reliability of Scales and Sub-scales used for the present study.*

Scales/Subscales	**No. of Items**	**M**	**SD**	**Cronbach's Alpha**
36 Item Short Form Survey	36	2263.06	628.68	0.92
Physical Functioning	10	696.75	220.79	0.90
Role Functioning/Physical	4	241.75	156.82	0.81
Role Functioning/emotional	3	168.50	128.44	0.83
Energy/Fatigue	4	232.80	77.51	0.71
Emotional Well-being	5	310.65	94.30	0.78
Social Functioning	2	140.48	42.44	0.58
Pain	2	142.46	47.49	0.81
General Health	6	329.88	119.71	0.81
Brief RCOPE	14	37.66	7.21	0.79
Positive Coping	7	20.90	4.97	0.87
Negative Coping	7	16.76	4.81	0.80
Perceived Social Support	12	59.86	16.16	0.95
Significant Others	4	19.98	5.92	0.88
Family	4	20.50	5.82	0.92
Friends	4	19.39	5.84	0.92

Table 1.1 shows the reliability of the scales and subscales (including no. of items, Mean and SD) used for the present study. The internal consistency of the scales was calculated using Cronbach's Alpha and all the scales and sub-scales were found to be highly reliable (table 1.1). The 36 Item Short Form (SF 36) consists of 36 items (α= .92), SF 36 sub-scales consist of eight items. Physical Functioning consists of 10 items (α= .90), Role Functioning/Physical consists of 4 items (α= .81), Role Functioning/Emotional consists of 3 items (α=.83), Energy/Fatigue consists of 4 items (α= .71), Emotional Well-being consists of 5 items (α=.78), Social Functioning consists of 2 items (α= .58), Pain consists of 2 items (α=.81). Brief RCOPE(RCOPE) consists of 14 items (α=.79) and it has two sub-scales. Positive Coping consists of 7 items (α= .87) and Negative Coping consists of 7 items (α= .80). multi-dimensional Perceived Social Support (PSS) consists of 12 items (α= .95) and it has three sub-scales. Significant others consist of 4 items (α= .88), Family consists of 4 items (α= .92) and Friends consists of 4 items (α= .92)

Table 1.2: *Correlations of Health-related Quality of Life (SF 36), Brief Religious Coping (RCOPE) and Multi-dimensional Perceived Social Support (PSS) and their Sub-scales.*

	SF 36	PF	RF/P	RF/E	E/F	EWB	SF	P	GH	RCOPE	PC	NC	PSS	SO	Fa	Fr
SF 36	1	.73**	.24**	.70**	.71**	.63**	.56**	.67**	.74**	.05	.22**	-.15**	.28**	.20**	.32**	.25**
PF		1	-.00	.28**	.38**	.30**	.41**	.54**	.41**	.01	.09*	-.08	.17**	.16**	.26**	.12*
RF/P			1	.32**	.19**	.15**	.10*	.07	.23**	.03	.10*	-.05	.07	.05	.07	.09
RF/E				1	.39**	.36**	.25**	.27**	.42**	.01	.11*	-.08	.04	.11*	.03	.10*
E/F					1	.68**	.52**	.55**	.54**	.15**	.30**	-.08	.35**	.27**	.37**	.32**
EWB						1	.55**	.41**	.47**	.03	.21**	-.17**	.21**	.15**	.25**	.20**
SF							1	.55**	.42**	.04	.27**	-.21**	.32**	.26**	.36**	.28**
P								1	.54**	.16**	.36**	-.13**	.44**	.40**	.43**	.39**
GH									1	.24**	.14**	-.13**	.29**	.24**	.29**	.27**
RCOPE										1	.74**	.72**	.28**	.41**	.39**	.42**
PC											1	.08	.44**	.41**	.39**	.42**
NC												1	.31**	.03	-.05	.03
PSS													1	.92**	.91**	.91**
SO														1	.77**	.77**
Fa															1	.75**
Fr																1

****p<.01,*p<.05**

SF36-Short Form 36, PF-Physical Functioning, RF/P-Role Functioning/Physical, RF/E-Role Functioning/Emotional, E/F-Energy/Fatigue, EWB-Emotional Wellbeing, SF-Social Functioning, P-Pain, GH-General Health, RCOPE-Religious Coping, PC-Positive Coping, NC-Negative Coping, PSS-Perceived Social Support, SO-Significant Others, Fa-Family, Fr-Friends

Table 1.2, Pearson Coefficient of Correlation was employed to elucidate the correlation between each of the scales and sub-scales.

The table shows that there were significant positive correlations between SF 36 and Physical Functioning (0.73, $p<0.01$), Role Functioning/Physical (0.24, $p<0.01$), Role Functioning/Emotional (0.70, $p<0.01$), Energy/Fatigue (0.71, $p<0.01$), Emotional well-being (0.63, $p<0.01$), Social Functioning (0.56, $p<0.01$), Pain (0.67, $p<0.01$), General Health (0.74, $p<0.01$), Positive Coping (0.22, $p<0.01$), Negative Coping (-0.15, $p<0.01$), PSS (0.28, $P<0.01$), Significant Others (0.20, $p<0.01$), Family (0.32, $p<0.01$) and Friends (0.25, $p<0.01$). However, there was no significant correlation between SF 36 and RCOPE.

The table further shows that Physical Functioning had significant positive correlations with Role Functioning/emotional (0.28, $p<0.01$), Energy/Fatigue (0.38, $p<0.01$), Emotional Well-being (0.30, $p<0.01$), Social Functioning (0.41, $p<0.01$), Pain (0.54, $p<0.01$), General Health (0.41, $p<0.01$), PSS (0.17, $p<0.01$), Signinficant Others (0.16, $p<0.01$), Family (0.26, $p<0.01$) and Friends (0.12, $p<0.05$). However, there was no significant correlation with RCOPE.

Significant positive correlations were obtained between Role Functioning/Physical and Role Functioning/emotional (0.32, $p<0.01$), Energy/Fatigue (0.19, $p<0.01$), Emotional Well-being (0.15, $p<0.01$), Social Functioning (0.10, $p<0.05$), General Health (0.23, $p<0.01$) and Positive Coping (0.10, $p<0.05$). But significant correlations were not obtained with Pain, RCOPE, Negative Coping, PSS, Significant Others, Family and Friends.

There were significant positive correlations between Role Functioning/Emotional and Energy/Fatigue (0.39, $p<0.01$), Emotional Well-being (0.36, $p<0.01$), Social Functioning (0.25, $p<0.01$), Pain (0.27, $p<0.01$), General Health (0.42, $p<0.01$), Positive Coping (0.11, p,0.05), Significant Others (0.11, $p<0.05$) and Friends (0.10, $p<0.05$). However, there were no significant correlations with RCOPE, PSS and Family.

Significant positive correlations were further seen from Energy/Fatigue and Emotional Well-being (0.68, p<0.01), Social Functioning (0.52, p<0.01), Pain (0.55, P<0.01) General Health (0.54, p<0.01), RCOPE (0.15, p<0.01), Positive Coping (0.30, p<0.01), PSS (0.35, p<0.01), Significant Others (0.27, p<0.01), Family (0.37, p<0.01) and Friends (0.32, p<0.01). but significant correlation was not seen with Negative Coping.

Then, significant positive correlations were obtained between Emotional Well-being and Social Functioning (0.55, p<0.01), Pain (0.41, p<0.01), General Health (0.47, p<0.01), Positive Coping (0.21, p<0.01), Significant others (0.15, p<0.01), Family (0.25, p<0.01) and Friends (0.20, p<0.01). And, a significant negative correlation was obtained between Emotional Well-being and Negative Coping (-.17, p<0.01). However, a significant correlation was not seen with RCOPE.

Significant positive correlations were drawn between Social Functioning and Pain (0.55, p<0.01), General Health (0.42, p<0.01), Positive Coping (0.27, p<0.01), PSS (0.32, p<0.01), Significant Others (0.26, p<0.01), Family (0.336, p<0.01) and Friends (0.28, p<0.01). However, a significantly negative correlation was drawn between Social Functioning and Negative Coping (0.21, P<0.01). However, there was no significant correlation with RCOPE.

Significant positive correlations were obtained between Pain and General Health (0.54. p<0.01), RCOPE (0.16, p<0.01), Positive Coping (0.36, p<0.01), PSS (0.44, p<0.01), Significant Others (0.40, P<0.01) Family (0.43, p<0.01) and Friends (0.39, p<0.01). And, significant negative correlation was obtained between Pain and Negative Coping. Significant positive correlations were obtained between General Health and RCOPE (0.24, p<0.021), Positive Coping (0.14, p<0.01), PSS (0.29, p<0.01), Significant Others (0.24, p<0.01), Family (0.29, p<0.01) and Friends (0.27, p<0.01). And, significant negative correlation was obtained between General Health and Negative Coping.

RCOPE had significant positive correlations with Positive Coping (0.74, p<0.01), Negative Coping (0.72, p<0.01), PSS (0.28, p<0.01), Significant Others (0.41, p<0.01), Family (0.39, p<0.01) and Friends (0.42, p<0.01). Positive Coping

had positive correlations with Significant Others (0.41, p,0.01), Family (0.39, p<0.01), and Friends (0.42, p<0.01). Positive Coping and Negative Coping had no significant correlation.

PSS had significant positive correlations with Significant Others (0.92, p<0.01), Family (0.91, p<0.01) and Friends (0.91, p<0.01). Significant others had positive correlations with Family (0.77, p<0.01) and Friends (0.77, p<0.01). And, Family had a positive correlation with Friends (0.75, p<0.01).

SF 36 had positive correlations with Physical Functioning, Role Functioning, Role Functioning/Emotional, Energy, Emotional well-being, Social Functioning, Pain, General Health, Positive Coping, Negative Coping, Perceived Social Support, Significant Others, Family and Friends. And, RCOPE had significant positive correlations with Positive Coping, Negative Coping, PSS, Significant Others, and Friends. Finaly, PSS had significant positive correlations with Significant Others, Family and Friends. However, there was no significant correlation between SF 36 and RCOPE. Pearson Co-efficient of Correlation was employed to analyse internal consistency reliability of scale and inter-scale correlation respectively.

Table 2: *Descriptive Statistics on the psychological measures for the whole sample*

Descriptive Statistics	**N**	**Mean**	**Standard Deviation**	**Skewness**		**Kurtosis**	
				Statistics	**Std. Error**	**Statistics**	**Std. Error**
HRQoL	400	2272.35	627.98	-.19	.12	-.74	.24
RCOPE	400	37.66	7.21	.01	.12	-.35	.24
PSS	400	59.86	16.16	.22	.12	-.59	.24

After ascertaining the reliability and correlations of the scales for the present study, the normality and homogeneity of the collected data was ascertained. Table 2 shows the Mean, Standard Deviation, Skewness, and Kurtosis scored by the whole sample in the three variables under study. The Mean score in Health-Related Quality of Life (HRQoL) was found to be 2272.35 out of maximum score of 3600, Standard Deviation was 627.98, Skewness was -.19 with standard error of .12 and Kurtosis

was -.74 with Standard Error of .24. the Mean score in Religious Coping (RCOPE) was found to be 37.66 out of maximum score 56, Standard Deviation was 7.21, Skewness was .010 with Standard Error of .12 and Kurtosis was found to be -.35 with Standard Error of .24. The Mean score in Perceived Social Support Scale was found to be 59.86 out of maximum score 84, Standard Deviation was 16.16, the Skewness was .22 with Standard Error of .12 and Kurtosis was found to be -.59 with Standard Error of .24.

Table 3.1: *Mean and SD in Health-related Quality of Life (HRQoL) of PLWHA and non-PLWHA*

	PLWHA	Non-PLWHA
N	200	200
Mean	2037.55	2488.58
Standard Deviation (SD)	600.81	573.81

Table 3.1 shows the Mean and Standard Deviation in Health-related Quality of Life of PLWHA and non-PLWHA. The PLWHA included 200 participants with Mean 2037.55 and SD 600.81. The non-PLWHA included 200 participants with Mean 2488.58 and SD 573.81.

Table 3.2*: T-test of HRQoL between PLWHA and non-PLWHA.*

Independent Sample Test									
Levene's Test			**t-test for equality of means**						
	F	**Sig.**	**T**	**Df**	**Sig.)2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% confidence interval of the difference**	
								Lower	**Upper**
Equal Variances Assumed	.44	.50	7.67	398	.00	451.02	58.74	335.53	566.51
Equal Variances not Assumed			7.67	397.16	.00	.451.02	.58.74	335.53	566.51

(As Levene's Test was not significant, variables in equal variances assumed were used)

Table 3.2 shows there was significant (.00) difference in HRQoL between PLWHA and non-PLWHA and their mean difference was 451.02. the Mean score of PLWHA was 2037.55 and non-PLWHA Mean score was 2488.58 (table 3.1).

Figure 1.1: *Levels of HRQoL between PLWHA and non-PLWHA*

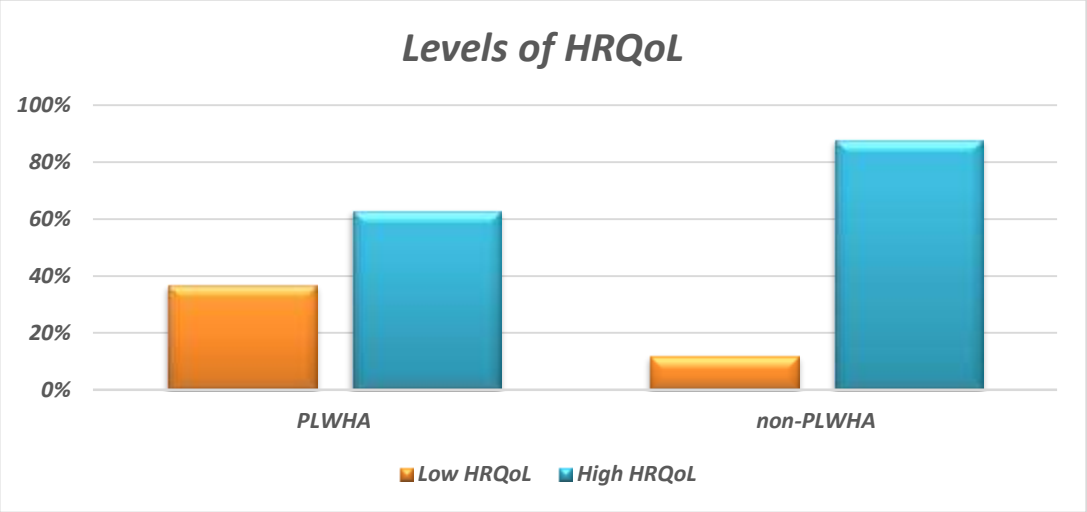


Figure 1.1 shows the levels of HRQOL between PLWHA and non-PLWHA by using percentage comparison. Among PLWHA 37% were in low level of HRQoL and 63% were in high level of HRQoL. Among non-PLWHA, 12% were in low level of HRQoL and 88% were in high level of HRQoL.

Figure 1.2: *Score percentages of HRQoL sub-scales between PLWHA and non-PLWHA*

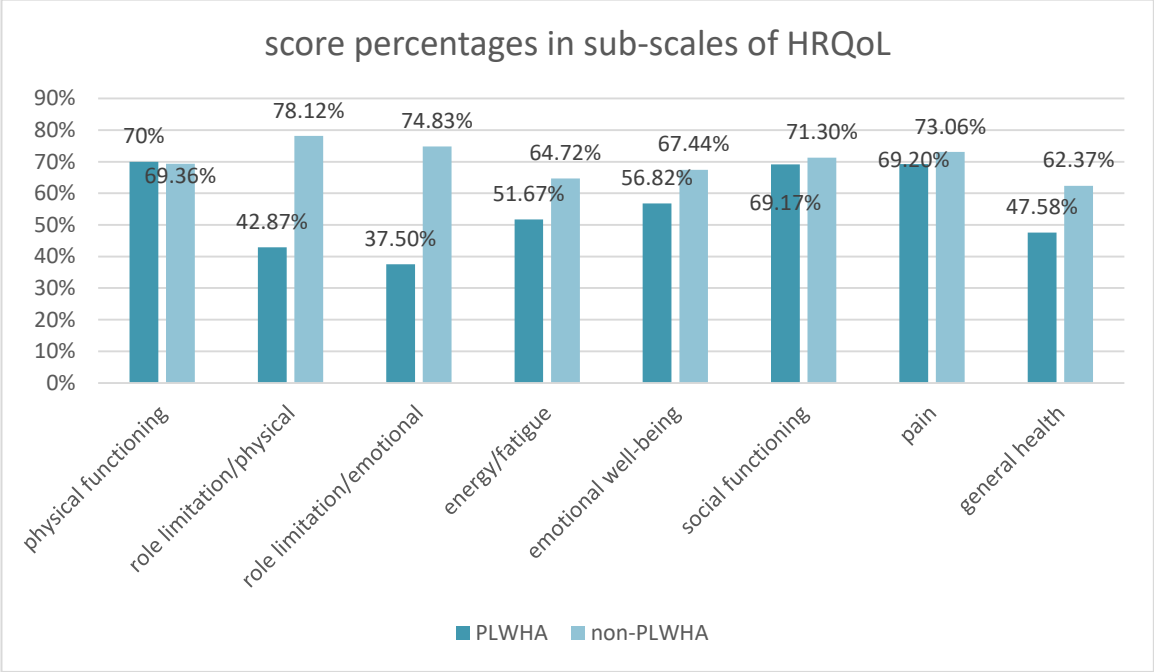


Figure 1.2 shows PLWHA and non-PLWHA score percentage in each of HRQoL sub-scales. PLWHA score percentages were as follows- physical functioning-70%, role limitation due to physical function-42.87%, role limitation due to emotion-37.5%, energy/fatigue- 51.67%, emotional well-being-56.82%, social functioning- 69.17%, pain-69.2% and general health-47.58%. Non-PLWHA score percentages were as follows- physical functioning-69.36%, role limitation due to physical function-78.12%, role limitation due to emotion-74.83%, energy/fatigue-64.72%, emotional well-being- 67.44%, social functioning- 71.3%, pain-73.06% and general health-62.37%.

From the result obtained in figure 1.2, PLWHA slightly score higher than non-PLWHA in physical functioning with 0.64% difference. However, PLWHA were lower in role limitation due to physical functioning, role limitation due to emotional functioning, energy/fatigue, emotional well-being, social functioning, pain and general health.

Table 4.1: *Correlations (Pearson Co-efficient of Correlation) between Health-related Quality of Life (HRQoL) and Religious Coping (RCOPE) in PLWHA*

		PC	NC	RCOPE
PF	Pearson Correlation	.105	-.090	.017
	Sig. (2-tailed)	.140	.207	.815
	N	200	200	200
RL/P	Pearson Correlation	.245**	-.127	.092
	Sig. (2-tailed)	.000	.074	.194
	N	200	200	200
RL/E	Pearson Correlation	.196**	-.202**	.009
	Sig. (2-tailed)	.005	.004	.900
	N	200	200	200
E/F	Pearson Correlation	.330**	-.169*	.126
	Sig. (2-tailed)	.000	.017	.075
	N	200	200	200
EWB	Pearson Correlation	.080	-.385**	-.192**
	Sig. (2-tailed)	.259	.000	.006
	N	200	200	200
SF 36	Pearson Correlation	.166*	-.313**	-.085
	Sig. (2-tailed)	.019	.000	.232
	N	200	200	200
P	Pearson Correlation	.472**	-.186**	.216**
	Sig. (2-tailed)	.000	.008	.002
	N	200	200	200
GH	Pearson Correlation	.227**	-.327**	-.050
	Sig. (2-tailed)	.001	.000	.485

	N	200	200	200
SF 36	Pearson Correlation	.289**	-.271**	.140*
	Sig. (2-tailed)	.000	.000	.000
	N	200	200	200

SF36-Short Form 36, PF-Physical Functioning, RF/P-Role Functioning/Physical, RF/E-Role Functioning/Emotional, E/F-Energy/Fatigue, EWB-Emotional Wellbeing, SF-Social Functioning, P-Pain, GH-General Health, RCOPE-Religious Coping, PC-Positive Coping, NC-Negative Coping, N-Number

Table 4.1 shows the correlation of health-related quality of life and religious coping including their subscales to prove the hypothesis constructed. Pearson coefficient of correlation was employed to examine the correlations.

Health-related quality of life and religious coping had a significant positive correlation at .14 which was significant at 0.05 level (2 tailed). HRQoL had significant positive correlation ($p<0.01$) with Positive Coping and significant negative correlation ($p<0.01$) with Negative Coping. Physical Functioning (HRQoL sub-scale) had no significant correlation with RCOPE, Positive Coping and Negative Coping. Role Limitations due to Physical Function had a significant positive correlation ($p<0.01$) with Positive Coping but, no significant correlation with Negative Coping and RCOPE. Role Limitation due to Emotion had a positive correlation ($p<0.01$) with Positive Coping and significant negative correlation ($p<0.01$) with Negative Coping, but no significant correlation with RCOPE. Energy/Fatigue had a significant positive correlation ($p<0.01$) with Positive Coping and significant negative correlation ($p<0.05$) with Negative Coping, but there was no significant correlation with RCOPE. Emotional Well-being had significant negative correlation ($p<0.01$) with Negative Coping and RCOPE, but there was no significant correlation with Positive Coping. Social Functioning had a significant positive correlation ($p<0.05$) with Positive Coping and significant negative correlation ($p<0.05$) with Negative Coping, but there was no significant correlation with RCOPE. Pain had significant correlations ($p<0.01$) with Positive Coping and RCOPE

and a significant negative correlation (p<0.01) with Negative Coping. General Health had a significant positive correlation (p<0.01) with Positive Coping and a significant negative correlation (p<0.01) with Negative Coping, but there was no significant correlation with RCOPE.

From the result obtained, we can say that there was a significant positive correlation between health-related quality of life and religious coping in PLWHA which can further be explained as a person who scored high in religious coping also scored high in health-related quality of life. Positive correlation was also obtained between role limitations due to physical function and positive coping, role imitations due to emotional functions and positive coping, energy/fatigue and positive coping, social functioning and positive coping, pain and positive coping, pain and religious coping and general health and positive coping. Significant negative correlation was also obtained between role limitation due to emotion and negative coping, energy/fatigue and negative coping, emotional well-being and negative coping, emotional well-being and religious coping, social functioning and negative coping, pain and negative coping, general health and negative coping and health-related quality of life and negative coping.

Table 4.2: *Correlations (Pearson Co-efficient of Correlation) between Health-related Quality of Life (HRQoL) and Perceived Social Support in PLWHA*

		SO	Fa	Fr	PSS
PF	Pearson Correlation	.093	.256**	.053	.146*
	Sig. (2-tailed)	.189	.000	.453	.039
	N	200	200	200	200
RL/P	Pearson Correlation	.197**	.164*	.110	.172*
	Sig. (2-tailed)	.005	.020	.121	.015
	N	200	200	200	200
RL/E	Pearson Correlation	.082	.100	.089	.098
	Sig. (2-tailed)	.248	.160	.212	.166

		N	200	200	200	200
		Pearson Correlation	.355**	.359**	.249**	.351**
	E/F	Sig. (2-tailed)	.000	.000	.000	.000
		N	200	200	200	200
		Pearson Correlation	.118	.098	.027	.089
	EWB	Sig. (2-tailed)	.095	.166	.700	.209
		N	200	200	200	200
		Pearson Correlation	.199**	.203**	.112	.187**
	SF 36	Sig. (2-tailed)	.005	.004	.115	.008
		N	200	200	200	200
		Pearson Correlation	.529**	.483**	.452**	.533**
	P	Sig. (2-tailed)	.000	.000	.000	.000
		N	200	200	200	200
		Pearson Correlation	.306**	.288**	.224**	.298**
	GH	Sig. (2-tailed)	.000	.000	.001	.000
		N	200	200	200	200
		Pearson Correlation	.267**	.341**	.184**	.288**
		Sig. (2-tailed)	.000	.000	.009	.000
	SF 36	N	200	200	200	

SF36-Short Form 36, PF-Physical Functioning, RF/P-Role Functioning/Physical, RF/E-Role Functioning/Emotional, E/F-Energy/Fatigue, EWB-Emotional Wellbeing, SF-Social Functioning, P-Pain, GH-General Health, PSS-Perceived Social Support, SO-Significant Others, Fa-Family, Fr-Friends, N-number

Table 4.2 shows the correlation of health-related quality of life and perceived Social Support including their subscales to prove the hypothesis constructed. Pearson coefficient of correlation was employed to examine the correlations. Health-related Quality of Life (HRQoL) had a significant positive correlation with Perceived Social Support at .28 ($p<0.01$). HRQoL had significant positive correlations ($p<0.01$) with Significant Others, Family and Friends. Physical Functioning had significant positive correlation with Family ($p<0.01$) and Perceived Social Support ($p<0.05$). Role Limitations due to Physical Function had significant positive correlations with Significant Others ($p<0.01$), Family ($p<0.05$) and Perceived Social Support ($p<0.05$). Role Limitations due to Emotional Function had no significant correlation with others. Energy/Fatigue had significant positive correlations ($p<0.01$) with Significant Others, Family, Friends and Perceived Social Support. Emotional Well-being had no significant correlation with others. Social Functioning had significant positive correlations ($p<0.01$) with Significant Others, Family and Perceived Social Support. Pain had significant positive correlations with Significant Others, Family, Friends and Perceived Social Support. General Health had significant positive correlations with Significant Others, Family, Friends and Perceived Social Support.

From the result obtained, we can say that there was a significant positive correlation between health-related quality of life and perceived social support among PLWHA which can further be explained as a person who scored high in perceived social support also scored high in health-related quality of life. Positive correlation was also obtained between HRQoL and significant others, HRQoL and family, HRQoL and friends, physical functioning and family, physical functioning and perceived social support, role limitations due to physical functioning and significant others, role limitations due to physical function and family, role limitations due to physical function and perceived social support, energy/Fatigue and significant others, energy/fatigue and family, energy/fatigue and friends, energy/fatigue and perceived social support, social functioning and significant others, social functioning and family, social functioning and perceived social support, pain and significant others, pain and family, pain and friends, pain and perceived social support, general health

and significant others, general health and family, general health and friends and general health and perceived social support.

Table 4.3: *Correlations (Pearson Co-efficient of Correlation) between Health-related Quality of Life (HRQoL) Religious Coping and Perceives Social Support (PSS) in non-PLWHA*

		PC	NC	RCOPE	SO	Fa	Fr	PSS
PF	Pearson Correlation	.100	-.074	.015	.226**	.274**	.200**	.252**
	Sig. (2-tailed)	.159	.300	.828	.001	.000	.004	.000
	N	200	200	200	200	200	200	200
RL/P	Pearson Correlation	-.190**	.039	-.099	-.048	-.110	-.085	-.087
	Sig. (2-tailed)	.007	.586	.162	.496	.120	.234	.219
	N	200	200	200	200	200	200	200
RL/E	Pearson Correlation	-.054	.014	-.026	-.072	-.083	.003	-.055
	Sig. (2-tailed)	.450	.844	.717	.310	.242	.970	.439
	N	200	200	200	200	200	200	200
E/F	Pearson Correlation	.264**	-.016	.163*	.274**	.392**	.363**	.370**
	Sig. (2-tailed)	.000	.821	.021	.000	.000	.000	.000
	N	200	200	200	200	200	200	200
EWB	Pearson Correlation	.308**	-.045	.172*	.234**	.375**	.289**	.323**
	Sig. (2-tailed)	.000	.523	.015	.001	.000	.000	.000
	N	200	200	200	200	200	200	200
SF	Pearson Correlation	.382**	-.156*	.145*	.323**	.498**	.426**	.448**
	Sig. (2-tailed)	.000	.027	.041	.000	.000	.000	.000
	N	200	200	200	200	200	200	200
P	Pearson Correlation	.224**	-.079	.094	.274**	.371**	.299**	.339**
	Sig. (2-tailed)	.001	.269	.186	.000	.000	.000	.000

	N	200	200	200	200	200	200	200
GH	Pearson Correlation	.006	.035	.028	.260**	.301**	.267**	.297**
	Sig. (2-tailed)	.936	.619	.693	.000	.000	.000	.000
	N	200	200	200	200	200	200	200
SF 36	Pearson Correlation	.117	-.054	.040	.227**	.312**	.266**	.289**
	Sig. (2-tailed)	.099	.452	.570	.001	.000	.000	.000
	N	200	200	200	200	200	200	200

SF36-Short Form 36, PF-Physical Functioning, RF/P-Role Functioning/Physical, RF/E-Role Functioning/Emotional, E/F-Energy/Fatigue, EWB-Emotional Wellbeing, SF-Social Functioning, P-Pain, GH-General Health, RCOPE-Religious Coping, PC-Positive Coping, NC-Negative Coping, PSS-Perceived Social Support, SO-Significant Others, Fa-Family, Fr-Friends, N-Number

Table 4.3 shows the correlations (Pearson Co-efficient of Correlation) between health-related quality of life, religious coping and perceived social support in non-PLWHA. Health-related quality of life and religious coping had a correlation at .04 which was considered not significant. Health-related quality of life and perceived social support had a correlation at .28 which was significant at 0.01 level (2 tailed).

Table 4.3 further shows correlations between sub-scales of HRQoL, RCOPE and PSS. Physical functioning had significant positive correlations ($p<0.01$) with significant others, family, friends and perceived social support. Role limitations due to physical function had significant negative correlation with negative coping ($p<0.01$). Energy/fatigue had significant positive correlation ($p<0.01$) with positive coping, significant others, family, friends and perceived social support and significant positive correlation ($p<0.05$) with religious coping. Emotional well-being had significant positive correlation ($p<0.01$) with positive coping, significant others, family, friends and perceived social support and significant positive correlation

($p<0.05$) with religious coping. Social functioning had significant positive correlation ($p<0.01$) with positive coping, significant others, family, friends and perceived social support and significant positive correlation ($p<0.05$) with religious coping, social functioning also had significant negative correlation with negative coping ($p<0.05$). Pain had significant positive correlation ($p<0.01$) with positive coping, significant others, family, friends and perceived social support. General health had significant positive correlations ($p<0.01$) with significant others, family, friends and perceived social support. Health-related quality of life had significant positive correlations ($p<0.01$) with significant others, family, friends and perceived social support.

From the result obtained, we can say that there was no significant correlation between health-related quality of life and religious coping among non-PLWHA. However, there was significant positive correlation between health-related quality of life and perceived social support among non-PLWHA.

Table 5.1: *Descriptive statistics on psychological measures for male participants of PLWHA*

	N	**Mean**	**Std. Deviation**	**Std. Error**
HRQoL	100	2119.55	535.58	53.55
RCOPE	100	36.26	6.35	.63
PSS	100	61.95	12.93	1.29

Table 5.1 shows number of participants, Mean, Standard Deviation, and Standard Error in the three psychological measures scored by male participants of PLWHA. The Mean score in Health-Related Quality of Life (HRQoL) was 2119.55 with maximum score 3600, Standard Deviation was 535.58 and Standard Error was 53.55. The Mean score in Religious Coping (RCOPE) was 36.26 with maximum score 56, Standard Deviation was 6.35 and standard error was .63. The Mean score in Perceived Social Support was 61.95 with maximum score 84, Standard Deviation was 12.93 and standard error was 1.29.

Table 5.2: *Descriptive statistics on psychological measures for female participants of PLWHA*

	N	Mean	Std. Deviation	Std. Error
HRQoL	100	1955.55	652.04	53.55
RCOPE	100	38.22	7.97	.79
PSS	100	56.48	19.51	1.95

Table 5.2 shows number of participants, Mean, Standard Deviation, and Standard Error in the three psychological measures scored by female participants of PLWHA. The Mean score in Health-Related Quality of Life (HRQoL) was 1955.55 with maximum score 3600, Standard Deviation was 652.04 and Standard Error was 53.55. The Mean score in Religious Coping (RCOPE) was 38.22 with maximum score 56, Standard Deviation was 7.97 and standard error was .79. The Mean score in Perceived Social Support was 56.48 with maximum score 84, Standard Deviation was 19.51 and standard error was 1.95.

Table 5.3: *Gender Comparison (t-test) of PLWHA on HRQoL, RCOPE and PSS*

Independent Sample Test									
	Leven's Test		**t-test for equality of means**						
	F	**Sig.**	**T**	**Df**	**Sig.)2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% confidence interval of the difference**	
								Lower	**Upper**
HRQoL	5.66	.01	1.94	190.80	.05	164.00	84.38	-2.40	330.40
RCOPE	7.95	.00	-1.92	188.63	.05	-1.96	1.02	-3.97	.05
PSS	27.58	.00	2.33	171.90	.02	5.47	2.34	.84	10.09

(As Levene's test were significant, variables in equal variances not assumed were used

Table 5.3 shows there were significant mean differences between male and female participants of PLWHA in HRQoL, RCOPE and PSS by employing t-test and their mean differences were 164.00, -1.96 and 5.47 respectively.

From the result obtained, we can come to the conclusion by saying that there were significant mean differences between male and female participants of PLWHA in health-related quality of life, religious coping and perceived social support.

Figure 2.1: *Gender comparison of PLWHA*

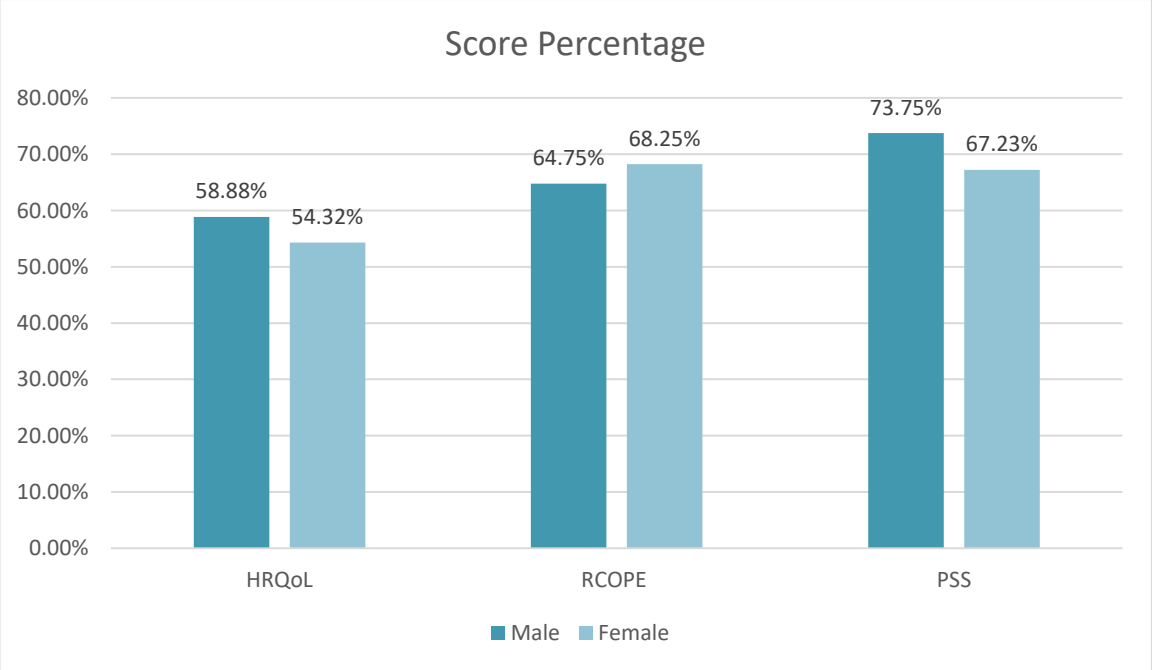


Figure 2.1 shows gender comparison of PLWHA in HRQoL, RCOPE and PSS based on score percentage. In HRQoL, male PLWHA scored 58.88% and female PLWHA scored 54.32%. In RCOPE, male PLWHA scored 64.75% and female PLWHA scored 68.25%. In PSS, male PLWHA scored 73.75% and female PLWHA scored 67.23%.

Table 5.4: *Descriptive statistics on psychological measures for male participants of non-PLWHA*

	N	Mean	Std. Deviation	Std. Error
HRQoL	100	2623.35	488.77	48.8
RCOPE	100	36.5	6.60	.66
PSS	100	62.2	13.53	1.35

Table 5.4 shows number of participants, Mean, Standard Deviation, and Standard Error in the three variables of male participants of non-PLWHA. The Mean score in Health-Related Quality of Life (HRQoL) was 2623.35 with maximum score 3600, Standard Deviation was 488.7 and Standard Error was 48.8. The Mean score in Religious Coping (RCOPE) was 36.5 with maximum score 56, Standard Deviation was 6.60 and standard error was .66. The Mean score in Perceived Social Support was 62.2 with maximum score 84, Standard Deviation was 13.53 and standard error was 1.35.

Table 5.5: *Descriptive statistics on psychological measures for female participants of non-PLWHA*

	N	Mean	Std. Deviation	Std. Error
HRQoL	100	2353.80	621.49	62.15
RCOPE	100	39.63	7.38	.73
PSS	100	58.82	17.29	1.73

Table 5.5 shows number of participants, Mean, Standard Deviation, and Standard Error in the three variables scored by female participants of non-PLWHA. The Mean score in Health-Related Quality of Life (HRQoL) was 2353.80 with maximum score 3600, Standard Deviation was 621.49 and Standard Error was 62.15. The Mean score in Religious Coping (RCOPE) was 39.63 with maximum score 56, Standard Deviation was 7.38 and standard error was .7. The Mean score in Perceived Social Support was 58.82 with maximum score 84, Standard Deviation was 17.2 and standard error was 1.73.

Table 5.6: *Gender comparison (t-test) of non-PLWHA in HRQoL, RCOPE and PSS*

Independent Sample Test									
	Leven's Test		**t-test for equality of means**						
	F	**Sig.**	**T**	**Df**	**Sig.)2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% confidence interval of the difference**	
								Lower	**Upper**
HRQoL	5.58	.01	3.40	187.57	.00	269.55	79.06	113.62	425.52
RCOPE	.30	.58	-3.15	198	.00	-3.12	.99	-5.07	-1.16
PSS	8.38	.00	1.53	187.17	.12	3.38	2.19	-.95	7.71

(As Levene's test were significant in HRQoL & PSS, variables in equal variances not assumed were used)

Table 5.6 shows there were significant mean differences between male and female participants of non-PLWHA in HRQoL and RCOPE by employing t-test and their mean differences were 269.55 and -3.12 respectively. However, there was no significant mean difference between male and female participants in PSS.

From the result obtained, we can come to the conclusion by saying that there were significant mean differences between male and female participants of non-PLWHA in health-related quality of life and religious coping but there was no significant mean difference in perceived social support between male and female participants of non-PLWHA.

Figure 2.2: *Gender comparison of non-PLWHA*

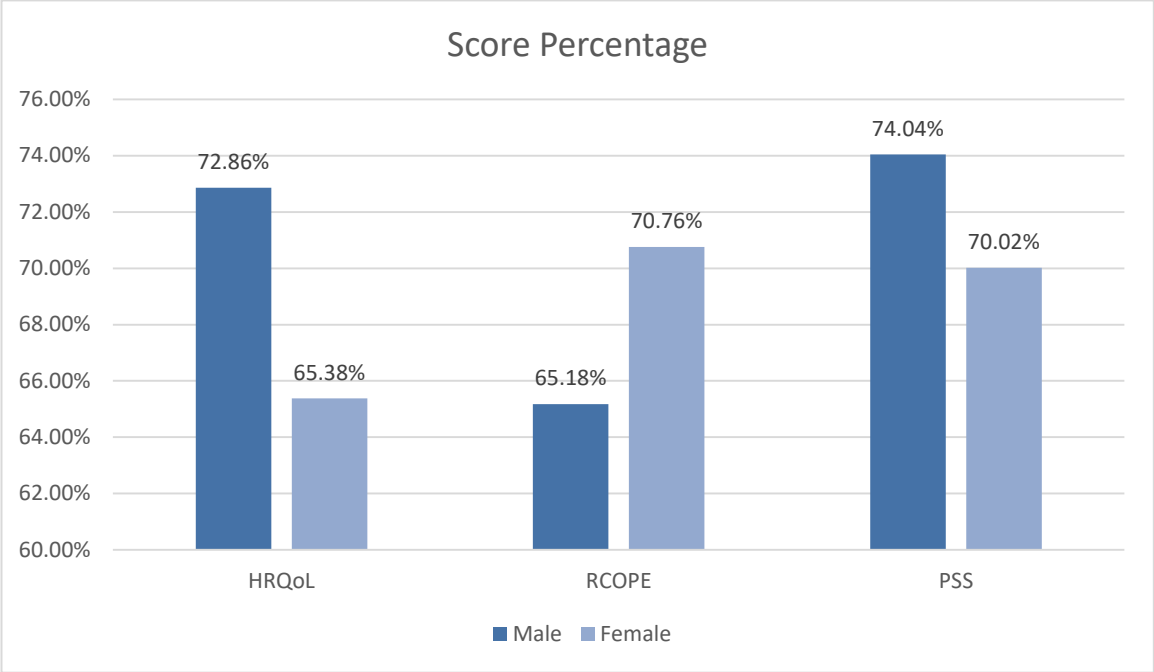


Figure 3.2 shows gender comparison of non-PLWHA in HRQoL, RCOPE and PSS based on score percentage. In HRQoL, male non-PLWHA scored 72.86% and female non-PLWHA scored 65.38%. In RCOPE, male non-PLWHA scored 65.18% and female non-PLWHA scored 70.76%. In PSS, male non-PLWHA scored 74.04% and female non-PLWHA scored 70.02%.

Table 6.1: *Descriptive Statistics on psychological measures for PLWHA*

	N	**Mean**	**Standard Deviation**	**Standard Error**
HRQOL	200	2037.55	600.81	42.48
RCOPE	200	37.24	7.26	.51
PSS	200	59.22	16.73	1.18

Table 6.1 shows the number of participants, Mean, Standard Deviation and Standard Error scored by PLWHA in the three psychological measures for the present study such as health-related quality of life, religious coping and perceived social support. The sample included 200 participants. The Mean score in HRQoL

was 2037.55 with 3600 maximum score, Standard Deviation was 600.81 and Standard Error was 42.48. The Mean score in religious coping was 37.24 with 56 as a maximum score, the Standard Deviation was 7.26 and Standard Error was .51. The Mean score in Perceived Social Support was 59.22 with 84 as a maximum score, Standard Deviation was 16.73 and Standard Error was 1.18.

Table 6.2: *Descriptive Statistics on psychological measures for non-PLWHA.*

	N	**Mean**	**Standard Deviation**	**Standard Error**
HRQoL	200	2488.58	573.81	40.57
RCOPE	200	38.07	7.15	.50
PSS	200	60.51	15.58	1.10

Table 6.2 shows the number of participants, Mean, Standard Deviation and Standard Error scored by non-PLWHA in the three psychological measures for the present study such as health-related quality of life, religious coping and perceived social support. The sample included 200 participants. The Mean score in HRQoL was 2488.5 with 3600 maximum score, Standard Deviation was 573.81 and Standard Error was 40.57. The Mean score in religious coping was 38.07 with 56 as a maximum score, Standard Deviation was 7.15 and Standard Error was .50. The Mean score in Perceived Social Support was 60.51 with 84 as a maximum score, Standard Deviation was 15.58 and Standard Error was 1.10.

Table 6.3: *T-Test between PLWHA and non-PLWHA on HRQoL, RCOPE and PSS*

Independent Sample Test									
	Leven's Test		**t-test for equality of means**						
	F	**Sig.**	**T**	**Df**	**Sig.)2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% confidence interval of the difference**	
								Lower	**Upper**
HRQoL	.44	.50	7.67	398	.00	451.02	58.74	335.53	566.51
RCOPE	.15	.69	1.15	398	.25	.83	.72	-.58	2.24
PSS	2.24	.13	.80	398	.42	1.29	1.61	-1.88	4.47

(As Levene's tests were significant, variables in equal variances not assumed were used)

Table 6.3 shows there was significant mean difference in health-related quality of life between PLWHA and non-PLWHA and their mean difference was 451.02. However, significant mean differences were not found in religious coping and perceived social support between PLWHA and non-PLWHA.

From the results obtained, PLWHA had a Mean score 2037.55 and non-PLWHA had a Mean score 2488.58 in HRQoL (table 6.1 & 6.2), which indicates that PLWHA had lower health-related quality of life than non-PLWHA.

Figure 3: *Score percentage of PLWHA and non-PLWHA on HRQoL, RCOPE and PSS*

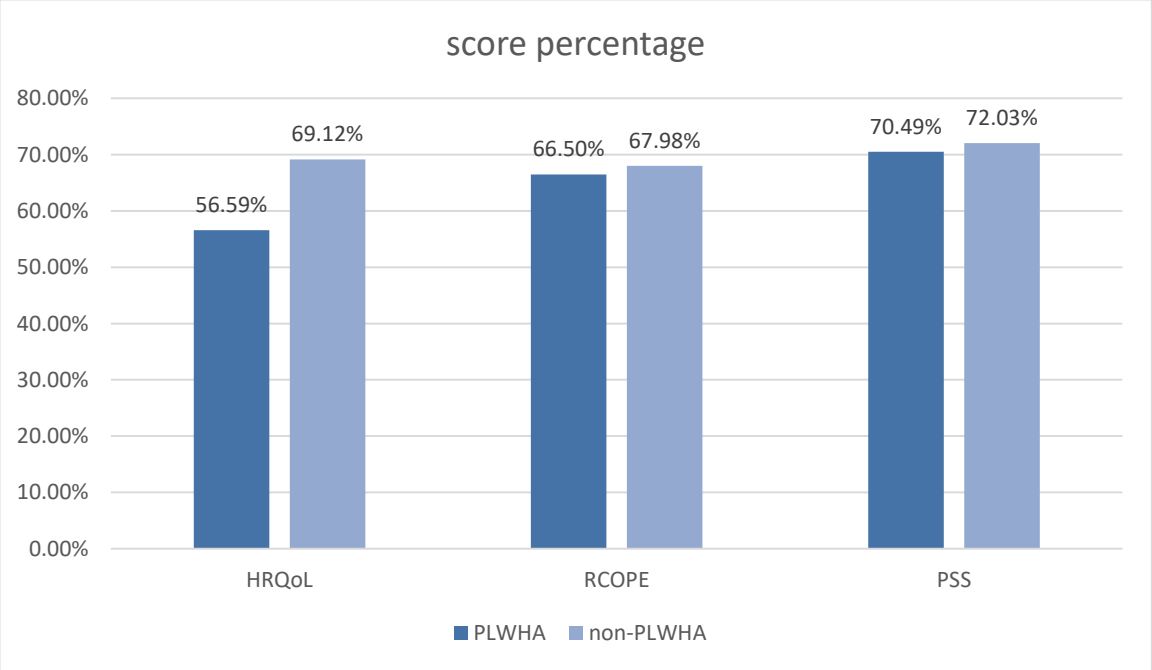


Figure 4 shows score percentages of PLWHA and non-PLWHA in HRQoL, RCOPE and PSS. PLWHA score percentages were- in HRQoL (56.59%), RCOPE (66.50%) and PSS (70.49%). Non-PLWHA score percentages were- in HRQoL (69.12%), RCOPE (67.98%) and PSS (72.02). Difference in percentages were- in HRQoL (12.53%), RCOPE (1.48%) and PSS (1.54%).

Table7.1.1: *Mean, Standard Deviation and Std. Error in HRQoL based on educational level of PLWHA (Sociodemogratic data).*

Ednl. Qualification	**N**	**Mean**	**Std. Deviation**	**Std. Error**
Post-Graduate	3	2561.67	621.01	358.54
Graduate	20	2007.75	580.68	129.84
Higher Secondary	45	2126.33	693.85	103.43
High School	74	2094.86	565.62	65.75
Middle School	43	1937.4	524.52	79.98
Primary School	15	1710.33	602.76	155.63

Table 7.1.1 shows number of participants, Mean, Standard Deviation and Standard Error in HRQoL based on educational level of PLWHA. Among the sample post-Graduate (1.5%) the Mean score (M) was 2561.67, Standard Deviation (SD)= 621.01 and Standard Error (SE)= 358.54, graduate (10%) M= 2007.75, SD= 580.68 and SE= 129.84, Higher Secondary School (22.5%) M= 2126.33, SD= 693.85 and SE= 103.43, High School (37%) M= 2094.86, SD= 565.62 and SE= 65.75, Middle School (21.5%) M= 1937.4, SD= 524.52 and SE= 79.98, and Primary School (7.5%) M= 1710.33, SD= 602.76 ans SE= 155.63. The result obtained by using descriptive statistics, Post Graduate scored the highest Mean in health-related quality of life which was 2471.70 and the lowest mean (1771.47) came from the responses of the participants with primary school qualification holders.

From the result obtained, it appears that post graduate degree holders scored higher in health-related quality of life than lower degree holders which can be explained as education might play a pivotal role in the perception of health-related quality of life among the participants for the present study.

Table 7.1.2: *Test of Homogeneity of Variances on HRQoL x educational status*

	Levene Statistics	Df1	Df2	Sig.
HRQoL	.87	5	194	.49

The homogeneity of variances was tested for the administration of ANOVA. Levene statistics was .87 and the significant level was .49 which is not considered as significant.

Table 7.1.3: *Analysis of Variance (One-way ANOVA) for HRQoL among six different educational level*

ANOVA					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
HRQoL	3476648.49	5	695329.69	1.97	.08

Table 7.1.3 shows the result of one-way ANOVA test for health-related quality of life among six different educational level of PLWHA. Significant difference was not obtained among six different educational level of PLWHA in HRQoL.

Table 7.2.1: *Mean, SD and SE in HRQoL based on employment status of PLWHA*

Employment Status	**N**	**Mean**	**SD**	**SE**
Unemployed	71	2003.17	586.68	69.62
Self-employed	100	2068.75	595.38	59.53
Employed	29	2014.14	666.80	123.83

Table 7.2.1 shows number of participants, Mean, Standard Deviation and Standard Error in health-related quality of life in relation to employment status of PLWHA. The sample included 35.5% unemployed participants with a Mean score of 2003.17, SD= 586.68 and SE= 69.62. The sample further included 50% self-

employed participants and their Mean score in health-related quality of life was 2068.75, SD= 2068.75 and SE= 595.38. The sample also included 14.5% employed individuals and their Mean score in health-related quality of life was 2014.14 and SD= 666.80 and SE= 123.83.

From the result obtained in table 7.2.1, self-employed participants obtained the highest mean score in HRQoL which was 2068.75 and the lowest mean score which was 2003.17 came from the responses of the unemployed participants. The result was further analysed with the help of ANOVA as follows.

Table 7.2.2: *Test of Homogeneity of Variances on HRQoL x employment status*

	Levene Statistic	**Df1**	**Df2**	**Sig.**
HRQoL	.04	2	197	.96

Table 7.2.2 shows the homogeneity of variances. Levene Statistics was .04 and the significant level was .96 which is considered not significant.

Table 7.2.3: Analysis of variance (*One-way ANOVA) for HRQoL among three different employment status*

ANOVA					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
HRQoL	197165.3	2	98582.66	.27	.76

Table 7.2.3 shows the result of One-way ANOVA test for HRQoL among three different employment status. The ANOVA test showed that the significant level was .76 which is considered as not significant. The result of one-way ANOVA test showed that significant difference was not obtained among three different employment status of PLWHA in HRQoL.

Table 7.3.1: *Mean, Standard Deviation and Standard Error HRQoL based on income range of PLWHA*

Income Range	**N**	**Mean**	**Std. Deviation**	**Std. Error**
Below ₹4,000	39	1823.46	492.97	78.93
Between ₹4,000 to ₹30,000	117	2049.57	591.14	54.65
Between ₹30,000 to ₹50,000	25	1952.40	572.01	114.40
Between ₹50,000 to ₹80,000	16	2590.63	694.42	173.60
₹80,000 and above	3	2111.67	200.39	115.69

Table 7.3.1 shows number of participants, Mean, Standard Deviation and Standard Error in HRQoL based on income range of PLWHA. The sample included 19.5% participants who were in the income range of ₹4,000 and below and the participants' Mean score was 1823.46, Standard Deviation was 492.97 and Standard Error was 78.93. The sample further included 58.5% participants who were in the income range between ₹4,000 and ₹30,000 and their Mean score in health-related quality of life was 2049.57, Standard Deviation was 591.14 and Standard Error was 54.65. The sample also included 12.5% individuals who were in the income range between ₹30,000 and ₹50,000 and their Mean score in health-related quality of life was 1952.40, Standard Deviation was 572.01 and Standard Error was 114.40. The sample included 8% individuals who were in the income range between ₹50,000 and ₹80,000 and their Mean score in health-related quality of life was 2590.63, Standard Deviation was 694.42 and Standard Error was 173.60. The sample included 1.5% participants who were in the income range of ₹80,000 and above and their Mean score in health-related quality of life was 2111.67, Standard Deviation was 200.39 and Standard Error was 115.69.

From the result obtained, participants who had family income ranging between ₹50,000 and ₹80,000 obtained the highest mean score which was 2590.63

and the lowest mean score which was 1823.46 came from the responses of the participants who had family income ranging ₹4,000 and below.

By comparing mean score, it appears that participants who had a better family income obtained higher score in health-related quality of life than those participants who came from lower family income. It can further be explained as family income might played a pivotal role in the perception of health-related quality of life among the participants for the present study. The result was further assessed with the help of ANOVA.

Table 7.3.2: *Test of Homogeneity of Variances on HRQoL x income range*

	Levene's Statistics	**Df1**	**Df2**	**Sig.**
HRQoL	1.89	4	195	.12

Table 7.3.2 shows the homogeneity of variances. Levene's Statistics was 1.89 and the significant level was .12 and it is considered not significant.

Table 7.3.3: *Analysis of variance* **(***One-way ANOVA) for HRQoL among five different family income ranges*

ANOVA						
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**	**Eta Square**
HRQoL	6896446.75		1724111.69	5.17	.00	.06

Table 7.3.3 shows the result of analysis of variance (one-way ANOVA) for HRQoL among five different family income ranges. The result showed that the significant level was .00 which is considered as significant at 0.01 level. The result obtained showed that a significant difference in HRQoL was obtained among five different family income ranges. The Eta Square was .06 and it shows 6% of variability in health-related quality of life was accounted for by family income.

Table 7.4.1: *Mean, Standard Deviation and Standard Error in HRQoL based on marital status of PLWH*

Marital Status	N	Mean	Std. Deviation	Std. Error
Unmarried	101	2026.14	614.90	61.18
Married	50	2106.80	573.68	81.13
Divorce	39	1994.87	611.71	97.95
Widow/widower	10	1973.00	606.66	42.48

Table 7.4.1 shows number of participants, Mean, Standard Deviation and Standard Error in HRQoL based on marital status of PLWHA. The sample included 50.5% Unmarried participants and their Mean score in health-related quality of life was 2026.14, Standard Deviation 614.90 and Standard Error 61.18. The sample further included 25% married participants and their Mean score was 2106.80, Standard Deviation 573.68 and Standard Error 81.13. The sample also included 19.5% divorced participants and their Mean score was 1994.87, Standard Deviation 611.71 and Standard Error 97.95. The sample included 5% widow/widower and their Mean score was 1973.00, Standard Deviation 606.66 and Standard Error 42.48.

From the result obtained, married participants obtained the highest mean score which was 2106.80 in health-related quality of life and the lowest mean score which was 1973.00 came from the responses of widow/widower participants.

From the result obtained, it appears that married participants had higher score in health-related quality of life than other participants. It can further be explained that marital status might played a significant role in the perception of health-related quality of life among the participants of PLWHA. The result was further assessed with the help of ANOVA as follows.

Table 7.4.2: *Test of Homogeneity of Variances on HRQoL x marital status*

	Levene Statistics	**Df1**	**Df2**	**Sig.**
HRQoL	.37	3	196	.77

Table 7.4.2 shows the homogeneity of variances. Levene's Statistics was .37 and the significant level was .77 and it is considered not significant.

Table 7.4.3: *Analysis of variance* **(***One-way ANOVA) for HRQoL among four different marital status of PLWHA*

ANOVA					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
HRQoL	365633.08	3	121877.69	.33	.80

Table 7.4.3 Analysis of variance **(**One-way ANOVA) for HRQoL among four different marital status of PLWHA. The result showed that the significant level was .80 which is considered as not significant which means a significant difference was not obtained in HRQoL among four different marital status of PLWHA.

Table 7.5.1: *Mean, Standard Deviation and Standard Error in HRQoL based on substance use status of PLWH*

Substance use	**N**	**Mean**	**Std. Deviation**	**Std. Error**
Non user	10	1817.00	765.64	242.11
Pan/gutkha	11	2051.36	543.29	163.81
Cigarettes/chewing tobacco	107	2081.17	620.54	59.99
Beer/grape wine	4	2268.75	374.37	187.18
Alcohol	35	2094.57	577.64	97.64
Drug	9	2118.33	589.15	196.38
Most/all of the above	24	1776.67	490.54	100.13

Table 7.5.1 shows number of participants, Mean, Standard Deviation and Standard Error in HRQoL based on substance use status of PLWHA. The sample

included 5% of non-users of any type of intoxicating substances, 5.5% participants consumed pan/gutkha, 53.5% consumed cigarettes/other tobacco products, 2% of participants consumed beer/grape wine, 17.5% consumed alcohol, 4.5% used drug and 12% of participants consumed most/all of the above-mentioned intoxicating substances.

The Mean score of non-users in health-related quality of life was 1817.00, Standard Deviation 765.64 and Standard Error 242.11. The Mean score of participants who consumed pan/gutkha was 2051.36, Standard Deviation 543.29 and Standard Error 163.81. The Mean score of participants who consumed cigarettes/other tobacco products was 2081.17 and Standard Deviation 620.54 and Standard Error 59.99. The Mean score of participants who consumed beer/grape wine was 2268.75, Standard Deviation 374.37 and Standard Error 187.18. The Mean score of participants who consumed alcohol was 2094.57, Standard Deviation 577.64 and Standard Error 97.64. The Mean score of participants who used drug was 2118.33, Standard Deviation 589.15 and Standard Error 196.38. The Mean score of participants who consumed most/all of the above intoxicating substances was 1776.67, Standard Deviation 490.54 and Standard Error 100.13.

From the result obtained, participants who consumed beer/grape wine obtained the highest mean score which was 2268.75 in health-related quality of life and the lowest mean score which was 1776.67 came from the responses of the participants who consumed most/all of the intoxicating substances mentioned in the response sheet.

Based on the result obtained, it appears that participants who consume beer/grape wine obtained higher mean score in health-related quality of life than other participants and participants who could use most/all of the intoxicating substances mentioned obtained the lowest mean score. It is hard to identify whether indulgence in substance usage played a significant role or not played a significant role in the perception of health-related quality of life among the participants for the present study. So, the result was further assessed with the help of ANOVA.

Table 7.5.2: *Test of Homogeneity of Variances on HRQoL x substance use status*

	Levene Statistics	**Df1**	**Df2**	**Sig.**
HRQoL	.99	6	193	.43

Table 7.5.2 shows the homogeneity of variances. Levene's Statistics was .99 and the significant level was .43 and it is considered not significant.

Table 7.5.3: *Analysis of variance* **(***One-way ANOVA) for HRQoL among seven different substance use status of PLWHA*

ANOVA					
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
HRQoL	2711885.32	6	451980.88	1.26	.27

Table 7.5.3 shows the result of analysis of variance (One-way ANOVA) test for HRQoL among seven different substance use status of PLWHA. The result showed that the significant level was .27 which is considered as not significant which means there was no significant difference in HRQoL among seven different substance use status of PLWHA.

SOCIO-DEMOGRAPHIC PROFILE

Figure 4: *Proportion of PLWHA participants' age group*

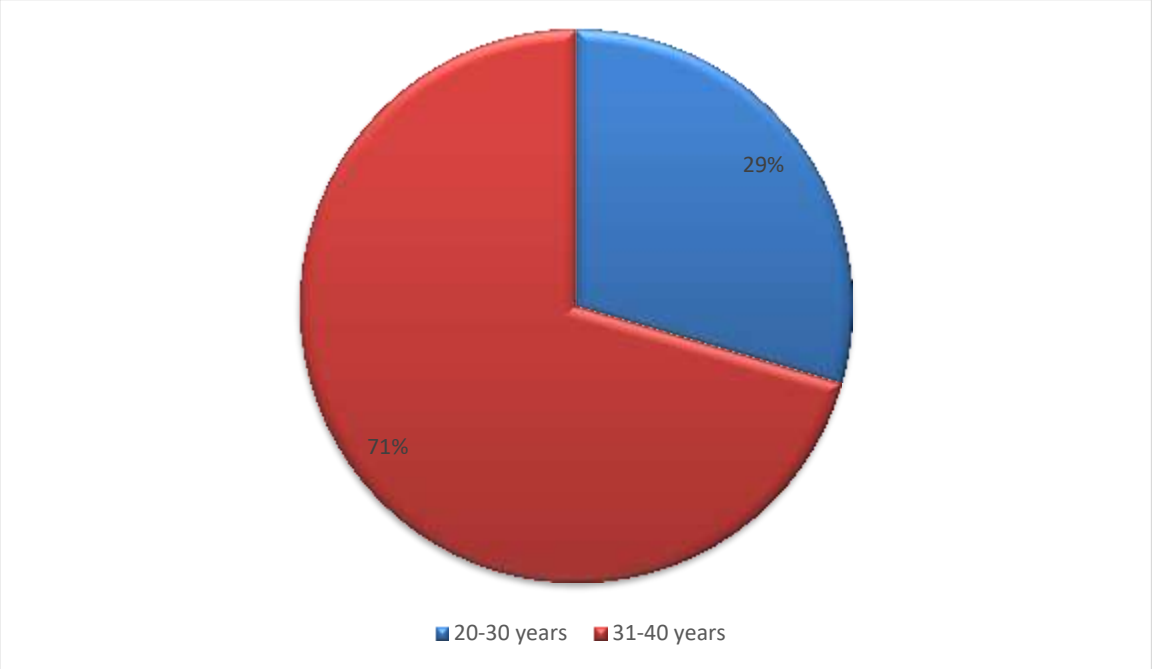


Figure 4 shows the proportion of PLWHA participants' age groups for the present study. As we selected only middle adult to participate in the study, the study covered the age group of 20 to 40 years of age only and it is categorised into two groups of age ranges. The highest proportion (70.5%) belonged to the age range between 31 and 40 years of age and 29.5% of participants belonged to the age range between 20 and 30 years of age.

The Mean age of PLWHA participants was calculated and the result showed that 35 years was the mean age of PLWHA participants.

Figure 5.1: *Family pattern of PLWHA participants*

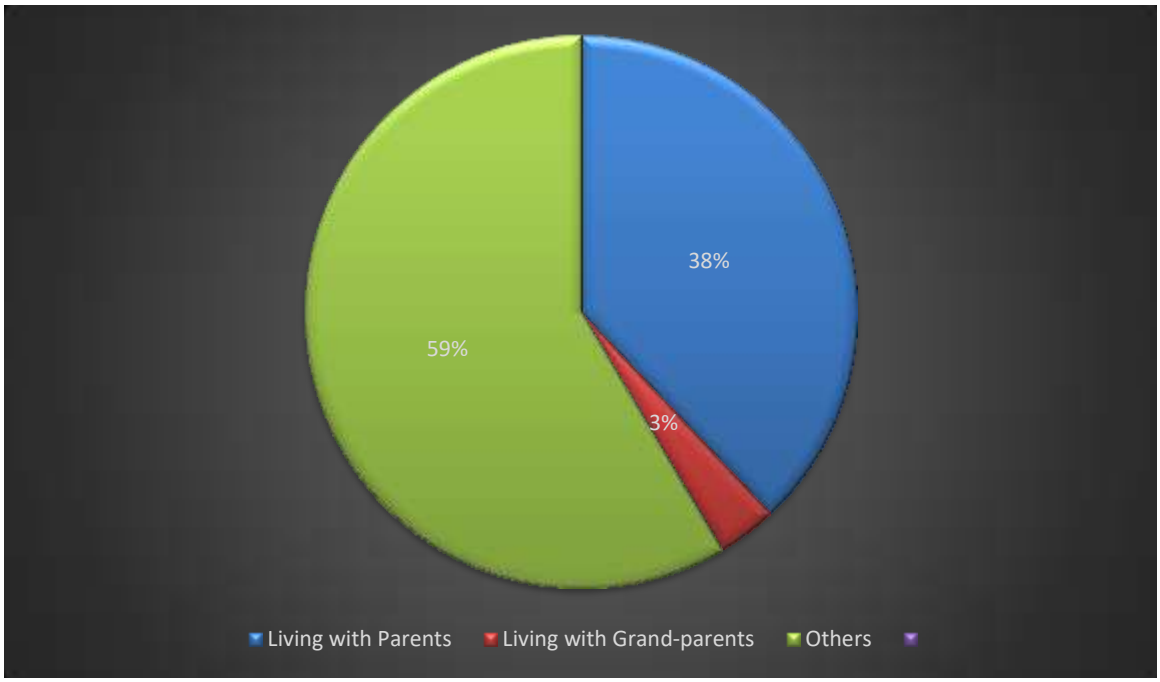


Fig. 5.1 shows the family pattern of participants of Positive Living with HIV/AIDS. Among 200 participants, 76 individuals lived with their parents which represented 38% of the participants. 7 participants lived with their grand-parents which represented 3.5% of the participants. And so, 117 participants lived with their spouses/siblings/living alone which represented 58.5% of the whole PLWHA participants.

Figure 5.2: *Bread winner in the family of PLWHA participants*

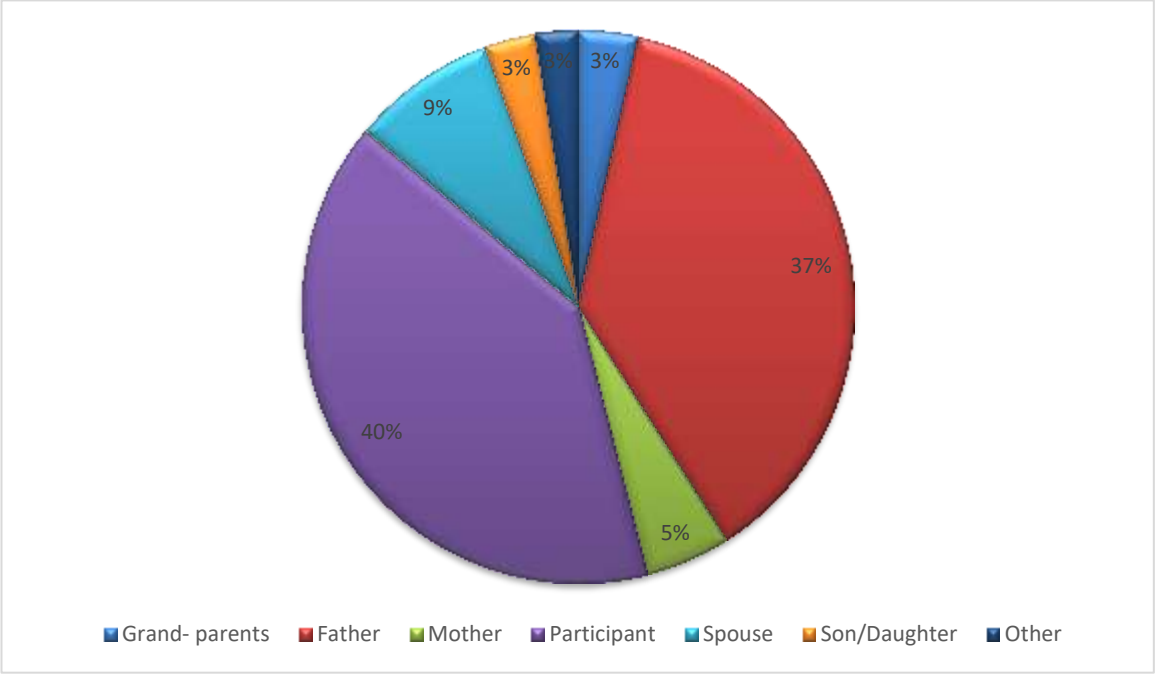


Fig. 5.2 shows who were the bread winners in the families among the participants of positive living with HIV/AIDS (PLWHA). According to data collected for the present study, 7 participants reported their grand-parents were their family bread winners which represented 3.5% of the whole sample. 75 participants reported their family heads (fathers) were their family bread winners which represented 37.5% of the whole sample. 10 participants reported their mothers were their family bread winners which represented 5% of the whole sample. 80 participants reported they themselves were their family bread winners which represented 40% of the whole PLWHA sample. 17 individuals reported their spouses were their family read winners which represented 8.5% of the whole sample. Further 6 participants reported their children (son/daughter) were their family bread winners. Lastly, 5 participants opted others as their family bread winners which represented 2.5 percent of the whole PLWHA sample.

Figure 6.1*: Frequency of Attending Church Services by PLWHA*

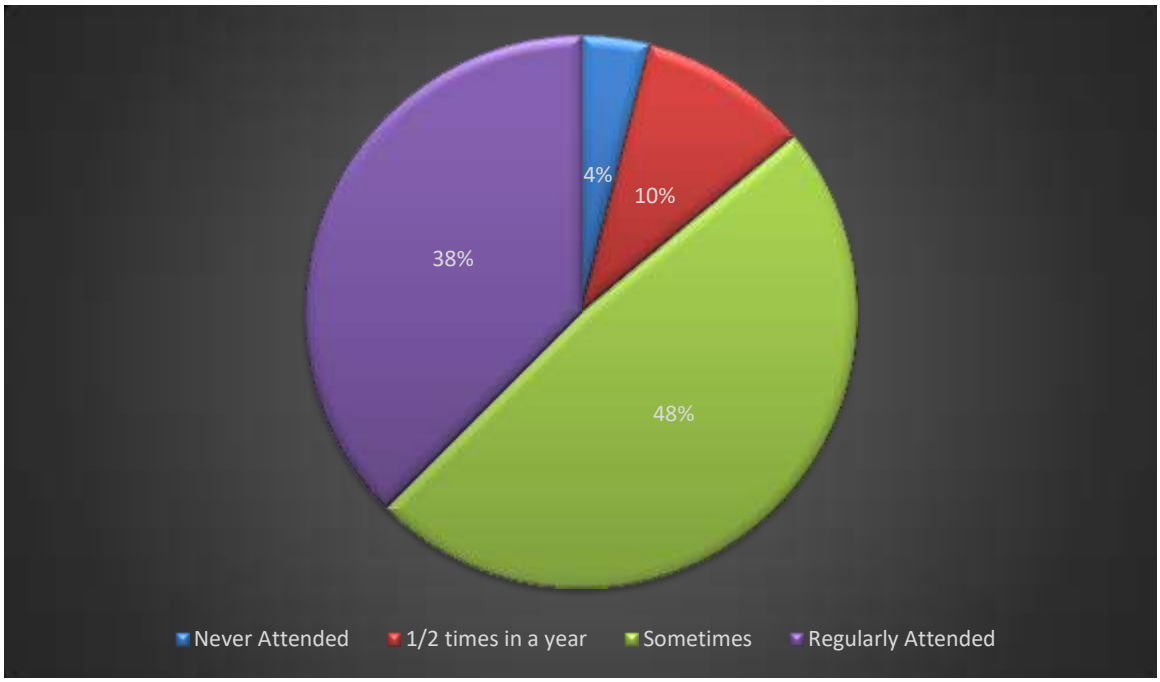


Fig. 6.1 shows the frequency of attending church services by PLWHA participants in a year. From the responses of the participants, 8 participants reported they never attended church services for the recent years which represented 4% of the whole PLWHA sample. 20 participants reported they attended one or two times in a year for the recent year which represented 10% of the whole PLWHA sample. Further 97 participants reported they attended church services sometimes based on the occasion which represented 48.5% of the whole PLWHA sample. Lastly, 75 participants reported they attended church services regularly for the recent year which represented 37.5% of the whole PLWHA sample.

Figure 6.2: *Frequency of Attending Religious Programme by PLWHA*

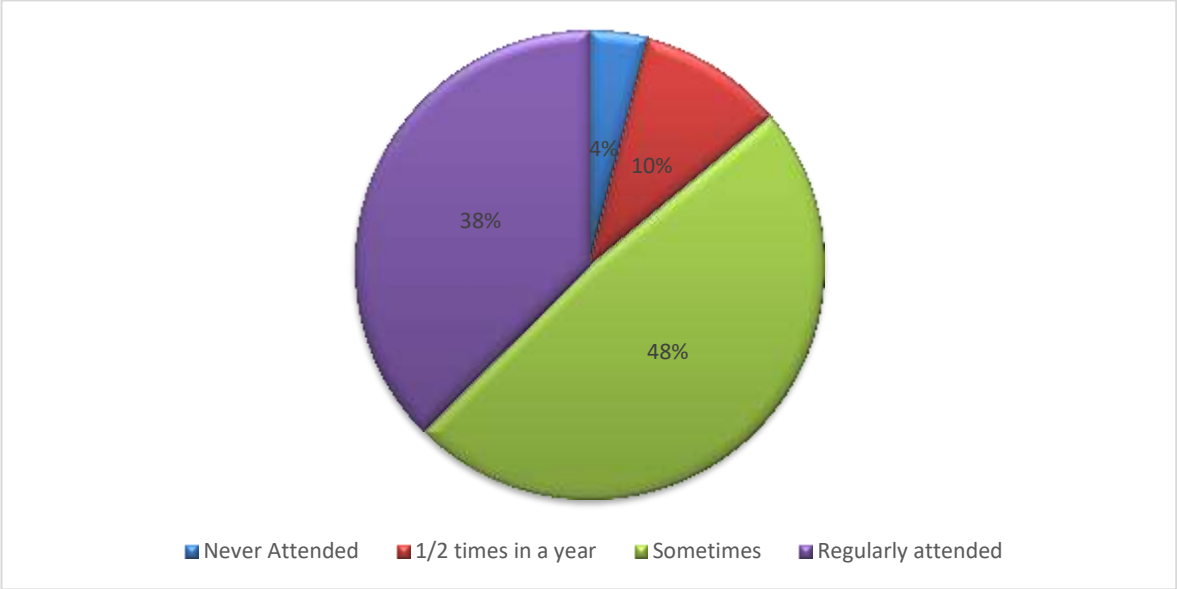


Fig. 6.2 shows the frequency of attending religious programme by PLWHA participants in a year. From the responses of the participants, 53 participants reported they never attended religious programmes for the recent years which represented 26.5% of the whole PLWHA sample. 29 participants reported they attended one or two times in a year in special occasions for the recent years which represented 14.5% of the whole sample. Further 105 participants reported they attended religious programmes sometimes based on the occasion which represented 52.5% of the whole sample. Lastly, 13 participants reported they attended religious programme regularly for the recent past which represented 6.5% of the whole sample.

Figure 7.1: *Duration of knowledge of HIV infection*

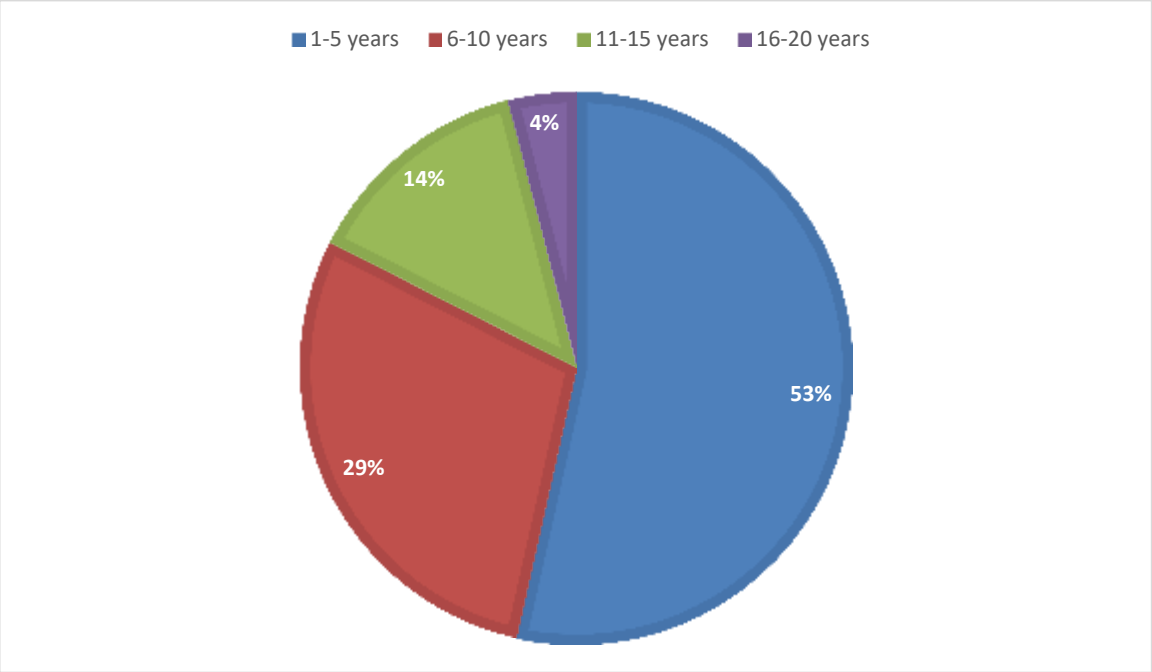


Fig. 7.1 shows the duration of knowledge of being infected with HIV/AIDS. The number of years were categorised into four groups such as 1-5 years, 6-10 years, 11-15 years and 16-20 years. From the responses obtained from the participants, 107 participants fall in the category of 1-5 years which represented 53.5% of the whole PLWHA sample. 58 participants fall in the category of 6-10 years which represented 29% of the whole PLWHA sample. Further, 27 participants fall in the category of 11-15 years which represented 13.5% of the whole PLWHA sample. Lastly, 8 participants fall in the category of 16-20 years which represented 4% of the whole PLWHA sample.

Mean scores in health-related quality of life were compared based on the duration of knowledge of HIV infection. The result obtained showed that PLWHA infected for the last 16-20 years scored the lowest Mean= 1971.32, 11-15 years M= 2033.69, 6-10 years M= 2033.74, 1-5 years M= 2033.69.

Figure 7.2: *Anti-retroviral Therapy Treatment Status*

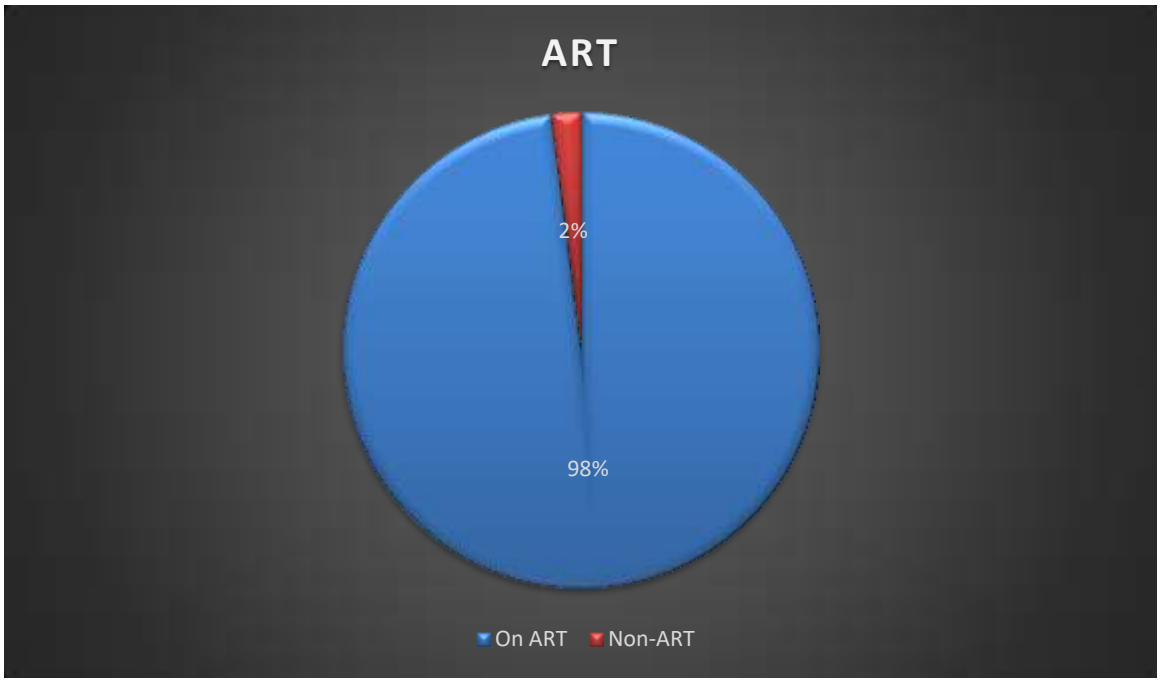


Fig. 7.2 shows the status of anti-retroviral therapy of PLWHA participants. From the responses of the participants, 196 individuals had started ART treatment which represented 98% of the whole HIV participants while 4 participants reported they were not on ART which represented 2% of the whole PLWHA sample.

Figure 7.3: *Perception of discrimination of HIV infected individuals in the society by PLWHA*

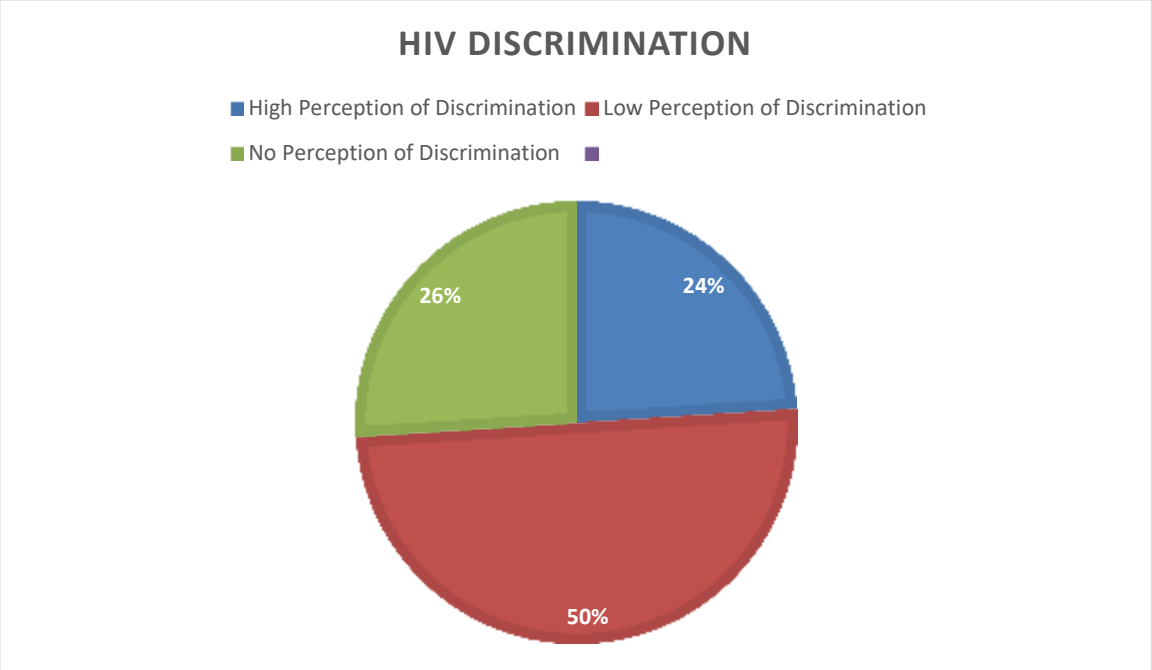


Fig. 7.3 shows the level of perception of discrimination in the society by PLWHA participants. Based on the responses of the participants, 48 participants reported discrimination was high in the society which represented 24% of the whole PLWHA sample. Further, 100 participants reported they felt mild discrimination in the society which represented 50% of the whole PLWHA sample. Lastly, 52 participants reported there was no discrimination in the society which represented 26% of the whole PLWHA sample.

Figure 7.4: *Involvement in group/society/association of PLWHA*

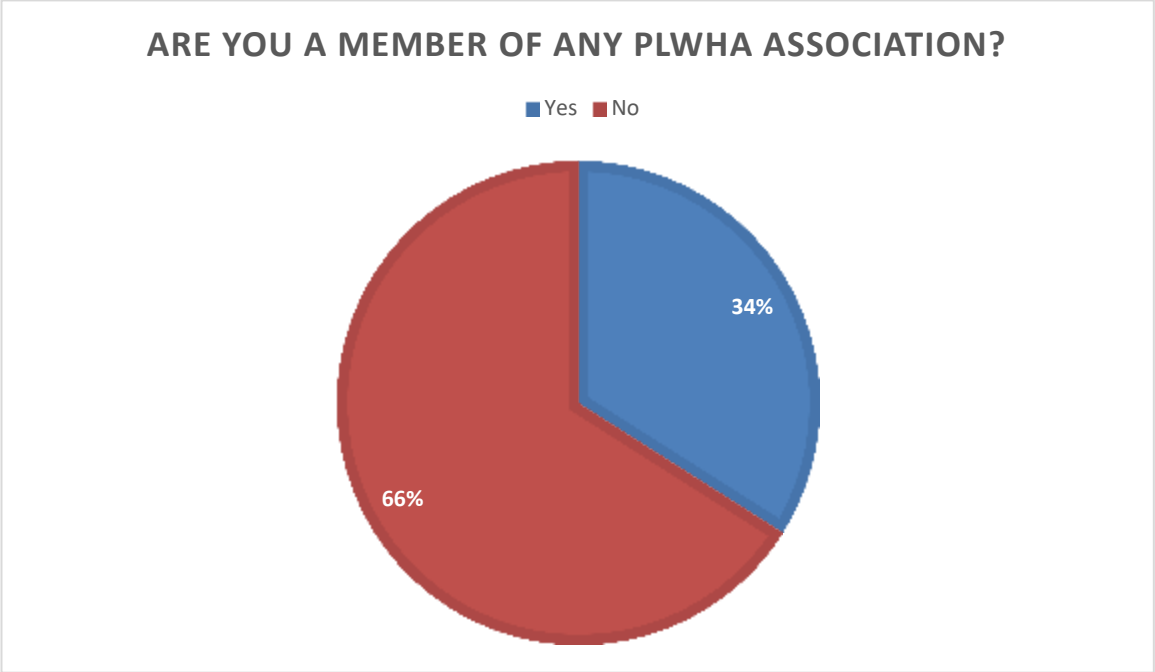


Fig. 7.4 shows the involvement of PLWHA in group/society/association formed by PLWHA. From the responses of the participants, 68 participants reported they were involved in those groups which represented 34% of the whole PLWHA participants. While, 132 participants reported they were not involved in any type of PLWHA groups or societies which represented 66% of the whole PLWHA sample.

Figure 7.5: *Frequency of Admission to Hospital due to HIV Related Diseases*

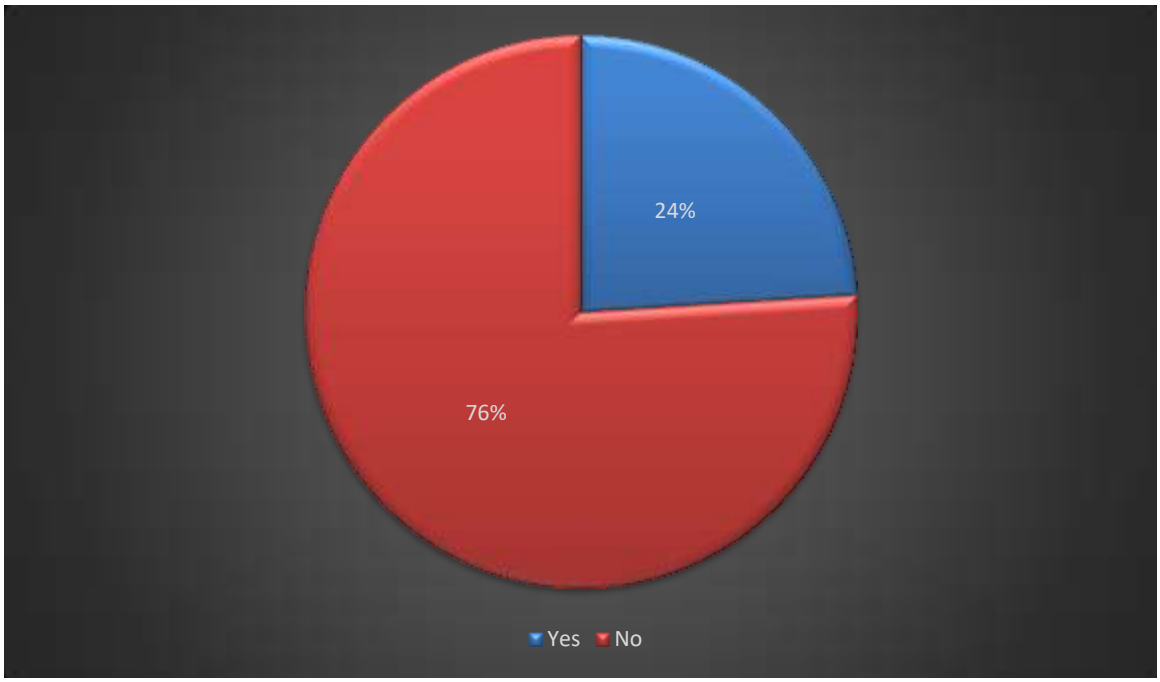


Fig. 7.5 shows the frequency of admission to hospital due to HIV related diseases among PLWHA participants. From the responses of the participants, 48 individuals reported they had gotten admit into hospital due to HIV related diseases which represented 24% of the whole PLWHA participants while 152 participants reported they had not gotten into hospital due to HIV related diseases which represented 76% of the whole PLWHA participants.

DISCUSSION

The psychometric adequacy of the psychological measures used in the study was aimed in the light of the experiences of cross-cultural psychology. Psychological test(s) of proven psychometric adequacy for a given population, if transported and employed for measurement purposes in another culture milieu, may not carry their identical psychometric properties, and unless preliminary checks are made, may not be accepted as the reliable measure(s) of the theoretical construct (Witkin & Berry, 1975; Eysenck & Eysenck, 1985). Stated otherwise, efforts were made to adapt the behavioural measures, and to find empirical bases for comparability of the test scores (the findings of the present study).

The results of the study revealed that the total coefficient of correlation of the subjects emerged to be satisfactory (more than 0.50) over the levels of analysis for the whole sample, indicating the trustworthiness of the scales, namely 36 Item Short Form Survey (SF 36), Brief RCOPE and Multidimensional Scale of Perceived Social Support (PSS) for measurement purposes in the project population. The overall internal consistency (Cronbach's Alpha) of 36 Item Short Form was 0.92, the overall internal consistency (Cronbach's Alpha) of Brief RCOPE was 0.79 and the internal consistency (Cronbach's Alpha) of Multidimensional Scale of Perceived Social Support was 0.95. Reliability for the sub-scales also emerge to be satisfactory. For the SF 36 with eight subscales the internal consistencies (Cronbach's Alpha) were; for Physical Functioning (0.90), Role Functioning/Physical (0.81), Role Functioning/Emotional (0.83), Energy/Fatigue (0.71), Emotional Well-being (0.78), Social Functioning (0.58), Pain (0.81) General Health (0.81). For Brief RCOPE with two sub-scales i.e., Positive Coping (0.87) and Negative Coping (0.80). For Multidimensional Perceived Social Support Scale with three sub-scales i.e., Significant Others (0.88), Family (0.92) and Friends (0.92).

Pearson Coefficient of Correlation was employed to analyse correlation between each of the scales and subscales and the result indicated that SF 36 and PSS had a significant correlation at 0.01 level (2 tailed) and Brief RCOPE and PSS also

had significant correlation at 0.01 level (2 tailed). However, no significant correlation was found between SF 36 and Brief RCOPE.

The correlation between the subscales of the SF-36, RCOPE and PSS were also analysed with the help of Pearson Coefficient of Correlation. And the results showed that there were significant positive correlations between the sub scales as depicted in Table 1.2.

After establishing the reliability and correlations of the scales and sub-scales for the present study, the normality and homogeneity of the collected data was also ascertained. The results showed the Mean, Standard Deviation, Skewness, and Kurtosis of all the three variables under study. The Mean score of Health-Related Quality of Life (HRQoL) was found to be 2272.35 out of maximum score of 3600, Standard Deviation was 627.98, Skewness was -.19 with standard error of .12 and Kurtosis was -.74 with Standard Error of .24. the Mean score of Religious Coping (RCOPE) was found to be 37.66 out of maximum score 56, Standard Deviation was 7.21, Skewness was .010 with Standard Error of .12 and Kurtosis was found to be -.35 with Standard Error of .24. The Mean score of Perceived Social Support Scale was found to be 59.86 out of maximum score 84, Standard Deviation was 16.16, the Skewness was .22 with Standard Error of .12 and Kurtosis was found to be -.59 with Standard Error of .24.

Level of Health-related Quality of Life (HRQoL) among People Living with HIV/AIDS (PLWHA) and Non-Positive (non-PLWHA): The Mean score in HRQoL of PLWHA was 2037.55 with maximum score 3600(SF 36 scale) and Standard Deviation (SD) was 600.81. The M score of non-PLWHA in HRQoL was 2488.58 with maximum score 3600 and SD was 573.81. The HRQoL level in PLWHA was high (63 %) and (37%) was low. The HRQoL level in non-PLWHA was high (88%) and (12%) was low. PLWHA score percentages for physical functioning (70%), role limitation due to physical function (42.87%), role limitation due to emotion (37.5%), energy/fatigue (51.67%), emotional well-being (56.82%), social functioning (69.17%), pain (69.2%) and general health (47.58%), respectively. For non-PLWHA were as follows- physical functioning (69.36%), role limitation due

to physical function (78.12%), role limitation due to emotion (74.83%), energy/fatigue (64.72%), emotional well-being (67.44%), social functioning (71.3%), pain (73.06%) and general health (62.37%). From the result obtained, PLWHA scored slightly higher than non-PLWHA in the SF 36 subscale (i) physical functioning sub-scale with 0.64% difference. The result of the study conducted by Hays et al., (2004) in USA showed that Physical functioning was about the same for adults with asymptomatic HIV disease as for the US population [mean (± SD) of 92 ± 16 versus 90 ± 17) but was much worse for those with symptomatic HIV disease (76 ± 28) or who met criteria for the acquired immunodeficiency syndrome (AIDS; 58 ± 31). However, PLWHA were lower in the following subscales than non-PLWHA (ii) role limitation due to physical functioning, (iii) role limitation due to emotional functioning, (iv) energy/fatigue, (v)emotional well-being, (vi) social functioning, (vii) pain and (viii) general health.

The result was further analysed with the help of t-test to explore for any difference between PLWHA and non-PLWHA in health-related quality of life. The result shows there was significant difference in health-related quality of life between PLWHA and non-PLWHA and their mean difference was 451.02. The Mean score of PLWHA was 2037.55 and non-PLWHA had a Mean score of 2488.58 in HRQoL, which indicates that PLWHA had lower health-related quality of life than non-PLWHA.

Correlation between HRQoL and Religious Coping (RCOPE) among PLWHA: Although numerous studies have examined quality of life, in particular, health-related quality of life, in patients with HIV (Grossman, Sullivan & Wu, 2003; Clayson et al., 2006) only a few have examined the role that spirituality plays in quality of life in HIV (Tsevat et al., 1999; Guillory et al., 1997; Grimsley, 2006). Mrus et al. (2006) suggested that a number of correlates of health-related quality of life, such as symptom bother, spirituality/religiosity, and depressive symptoms, could be fruitful potential targets for interventions to improve health-related quality of life.

In the present study, health-related quality of life and religious coping had a significant positive correlation at .14 which was significant at 0.05 level (2 tailed).

HRQoL had significant positive correlation ($p<0.01$) with positive coping and significant negative correlation ($p<0.01$) with negative coping. Physical functioning had no significant correlation with religious coping, positive coping and negative coping. Role limitations due to physical function had a significant positive correlation ($p<0.01$) with positive coping but, no correlation with negative coping and religious coping. Role limitation due to emotion had a positive correlation ($p<0.01$) with positive coping and significant negative correlation ($p<0.01$) with negative coping, but no significant correlation with religious coping. Energy/fatigue had significant positive correlation ($p<0.01$) with positive coping and significant negative correlation ($p<0.05$) with negative coping, but there was no significant correlation with religious coping. Emotional well-being had significant negative correlation ($p<0.01$) with negative coping and religious coping, but there was no significant correlation with positive coping. Social functioning had significant positive correlation ($p<0.05$) with positive coping and significant negative correlation ($p<0.05$) with negative coping, but there was no significant correlation with religious coping. pain had significant correlations ($p<0.01$) with positive coping and religious coping and significant negative correlation ($p<0.01$) with negative coping. General health had significant positive correlation ($p<0.01$) with positive coping and significant negative correlation ($p<0.01$) with negative coping, but there was no significant correlation with religious coping.

From the result obtained, we can say that there was a significant positive correlation between health-related quality of life and religious coping among PLWHA which can further be explained as a person who scored high in religious coping also scored high in health-related quality of life. Positive correlation was also obtained between role limitations due to physical function and positive coping, role limitations due to emotional functions and positive coping, energy/fatigue and positive coping, social functioning and positive coping, pain and positive coping, pain and religious coping and general health and positive coping. Significant negative correlation was also obtained between role limitation due to emotion and negative coping, energy/fatigue and negative coping, emotional well-being and negative coping, emotional well-being and religious coping, social functioning and

negative coping, pain and negative coping, general health and negative coping and health-related quality of life and negative coping. This finding is in line with the finding of the study which indicated that individuals with HIV/AIDS often found deeper meaning in life through a spiritual perspective after the diagnosis, and also experienced enhanced quality of life (Fryback & Reinert, 1999). This finding is also consistent with the existing theoretical model of benefit finding (Hobfoll, 2002; Taylor, 1983; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000), those who frequently used positive religious coping found more benefit from their illness, which presumably led to more positive affect and greater life satisfaction. It is believed that PLWHA who are coping well with their condition may achieve a balance of longevity and HRQOL, religion being a useful coping resource. Religious coping and social support played important roles in reducing depressive symptoms and improving the psychological well-being of the participants in the study (Dalmida et al., 2013).

In case of the present study, 100% of PLWHA participants reported they were Christians, but only 37.5% of the participants reported they attended church services on a regular basis, which was followed by sometimes (48.5%), one or two times in a year (10%) and never attended (4%). Besides, only 6.5% reported they attended religious programmes on a regular basis, followed by sometimes (52.5%), one or two times in a year (14.5%) and never attended (26.5%). In Mizo society, the religiosity/spirituality of a person is largely measured by the frequency of attending church services and religious programmes.

Correlation between HRQoL and Perceived Social Support (PSS) among PLWHA: Mengistu et al. (2022) found out that strong perceived social support was significantly associated with higher levels of subjectively perceived HRQOL. PLWHA who were on ART and had good social support were four times more likely to report higher HRQoL when compared to their counterparts. A study conducted by Mengistu et al. (2022) in Ethiopia showed that a substantial number of PLWHA had poor HRQoL in Ethiopia. Social support was significantly associated with HRQoL among people living with HIV/AIDS. Hence, it was recommended to encourage

suitable intervention at every follow-up visit, and psycho-social support is also warranted to improve the quality of life.

In the present study, HRQoL had significant positive correlation with perceived social support at .28 ($p<0.01$). HRQoL had significant positive correlations ($p<0.01$) with significant others, family and friends. Physical functioning had significant positive correlations with family ($p<0.01$) and PSS ($p<0.05$). Role limitations due to physical function had significant positive correlations with significant others ($p<0.01$), family ($p<0.05$) and PSS ($p<0.05$). Role limitations due to emotional function had no significant correlation with others. Energy/Fatigue had significant positive correlations ($p<0.01$) with significant others, family, friends and PSS. Emotional well-being had no significant correlation with others. Social functioning had significant positive correlations ($p<0.01$) with significant others, family and PSS. Pain had significant positive correlations with significant others, family, friends and PSS. General health had significant positive correlations with significant others, family, friends and PSS.

From the result obtained, we can say that there was a significant positive correlation between health-related quality of life and perceived social support among PLWHA which can further be explained as a person who scored high in perceived social support also scored high in health-related quality of life. Positive correlation was also obtained between HRQoL and significant others, HRQoL and family, HRQoL and friends, physical functioning and family, physical functioning and perceived social support, role limitations due to physical functioning and significant others, role limitations due to physical function and family, role limitations due to physical function and perceived social support, energy/fatigue and significant others, energy/fatigue and family, energy/fatigue and friends, energy/fatigue and perceived social support, social functioning and significant others, social functioning and family, social functioning and perceived social support, pain and significant others, pain and family, pain and friends, pain and perceived social support, general health and significant others, general health and family, general health and friends and general health and perceived social support.

This finding is in line with the findings that show perceiving a high availability of support may enhance adjustment to HIV infection directly through improved adherence to treatment (e.g., Ashton et al., 2005; Alemu et al., 2012) and also indirectly through buffering the effect of HIV-related stigma on mental functioning and quality of life among these patients (Bekele et al., 2013; Breet et al., 2014). This finding is also congruent with the finding of the study which showed that social support was significantly associated with all HRQL domains except physical functioning and bodily pain. The use of antiretroviral drugs was significantly associated with social functioning. The study indicates the importance of social support to the quality of life of HIV-infected individuals in that culture (Bastardo & Kimberlin, 2000). The finding of the study conducted by Nunes et al. (1995) also showed that social support and quality of life are significantly intercorrelated and that higher CD4 counts are related to quality of life in that sample of persons living with HIV. Further areas for research include evaluation of quality of life over the span of HIV disease and interventions aimed at enhancing or maintaining quality of life in persons across the spectrum of HIV disease (Nunes et al., 1995).

Differences in perceived social support on the basis of socio-demographic variables were analysed using one-way ANOVA test. Occupation had a significant relationship with perceived social support by contributing 2% variability in perceived social support. Family income also had a significant relationship with perceived social support and 3% of variability in perceived social support was accounted for by family income.

In case of the present study, 66% of PLWHA participants reported they never attended programmes organised by positive societies or organizations, or never being member of any positive society or organization. And, only 34% of participants reported they attended or being members. Involvement in the organization/society of positive network could be a good source of social support, but in the case of the present study more than half of the participants were not involve in this kind of programmes or associations.

Correlations between Health-related Quality of Life (HRQoL), Religious Coping (RCOPE) and Perceives Social Support (PSS) among non-PLWHA: Pearson Co-efficient of Correlation test result showed health-related quality of life and religious coping had a correlation at .04 which was considered not significant. However, health-related quality of life and perceived social support had a correlation at .28 which was significant at 0.01 level (2 tailed). Correlations between sub-scales of HRQoL, RCOPE and PSS showed physical functioning had significant positive correlations ($p<0.01$) with significant others, family, friends and perceived social support. Role limitations due to physical function had significant negative correlation with negative coping ($p<0.01$). Energy/fatigue had significant positive correlations ($p<0.01$) with positive coping, significant others, family, friends and perceived social support and a significant positive correlation ($p<0.05$) with religious coping. Emotional well-being had significant positive correlation ($p<0.01$) with positive coping, significant others, family, friends and perceived social support and significant positive correlation ($p<0.05$) with religious coping. Social functioning had significant positive correlations ($p<0.01$) with positive coping, significant others, family, friends and perceived social support and significant positive correlations ($p<0.05$) with religious coping, social functioning also had significant negative correlation with negative coping ($p<0.05$). Pain had significant positive correlations ($p<0.01$) with positive coping, significant others, family, friends and perceived social support. General health had significant positive correlations ($p<0.01$) with significant others, family, friends and perceived social support. Health-related quality of life had significant positive correlations ($p<0.01$) with significant others, family, friends and perceived social support.

From the result obtained, we can say that there was no significant correlation between health-related quality of life and religious coping among non-PLWHA. However, there was significant positive correlation between health-related quality of life and perceived social support among non-PLWHA.

Gender Differences Between Male and Female Participants: The majority of studies on HRQoL in HIV infection were conducted on male populations only (e.g., Jia et al., 2004; Liu et al., 2006; Song et al., 2016; Emuren et al., 2017). Thus, research on HRQoL among HIV-infected women remains scarce (e.g., McDonnell et al., 2000; Gielen et al., 2001). So, adding female participants in the study of health-related quality of life among PLWHA is very crucial.

To obtain Mean score, Descriptive Statistics was employed and to analyse gender difference, t-test was employed. The Mean score of male participants of PLWHA in Health-Related Quality of Life (HRQoL) was 2119.55, Standard Deviation was 535.58 and Standard Error was 53.55. The Mean score in Religious Coping was 36.26, Standard Deviation was 6.35 and Standard Error was .63. The Mean score in Perceived Social Support was 61.95, Standard Deviation was 12.93 and Standard Error was 1.29. While, the Mean score of female participants of PLWHA in HRQoL was 1955.55, Standard Deviation was 652.04 and Standard Error was 53.55. The Mean score in Religious Coping was 38.22, Standard Deviation was 7.97 and Standard Error was .79. The Mean score in Perceived Social Support was 56.48, Standard Deviation was 19.51 and Standard Error was 1.95.

The result obtained shows there was significant mean difference between male and female participants of PLWHA in health-related quality of life by conducting t-test, the Mean difference was 164.00. Further, there were significant Mean differences between male and female participants of PLWHA in religious coping and perceived social support and their mean differences were -1.96 and 5.47 respectively.

The Mean score of male participants of non-PLWHA in HRQoL was 2623.35, Standard Deviation was 488.77 and Standard Error was 48.8. The Mean rank in Religious Coping (RCOPE) was 36.5, Standard Deviation was 6.60 and Standard Error was .66. The Mean score in Perceived Social Support was 62.2, Standard Deviation was 13.53 and Standard Error was 1.35. While the Mean score of female participants in HRQoL was 2353.80, Standard Deviation was 621.49 and Standard Error was 62.15. The Mean rank in Religious Coping was 39.63, Standard

Deviation was 7.38 and Standard Error was .73. The Mean score in Perceived Social Support was 58.82, Standard Deviation was 17.29 and Standard Error was 1.73. The result obtained shows there were significant Mean differences between male and female participants of non-PLWHA in health-related quality of life (269.55) and religious coping (-3.12) by employing t-test. However, there was no significant Mean difference between male and female participants of non-PLWHA in perceived social support. Significant gender difference was not obtained between male and female participants of non-PLWHA in perceived social support.

From the result obtained, female PLWHA (M=1955.55) had lower health related quality of life than male PLWHA (2119.55). This finding is in line with the findings of researchers examining gender differences in HRQoL in HIV patients group consequently observed lower HRQoL among HIV-infected women than HIV-infected men (Campsmith et al., 2003; Mrus et al., 2005; Chandra et al., 2009). Various explanations for the poorer HRQoL among HIV-infected women were suggested, including unequal access to antiretroviral treatment (ART) in some countries for HIV-infected women (Penniman et al. 2007), in the present study, 16% of female participants reported admission to hospital due to HIV related diseases while in male participants it was only 9%. Higher rate of physical and emotional abuse and mental disorders among HIV-infected women caused poorer HRQoL (Machtinger et al., 2012), especially the heightened HIV-related stigma among HIV-infected women (Geary et al., 2014) which prevents them from disclosing their HIV+ status and seeking medical care (Campbell et al., 2006), in the present study, 28% of female PLWHA participants reported perception of high discrimination in the society while 20% of male reported high discrimination. As Mizo society is perceived as patriarchal society, there might be difference in the acceptance of positive male and positive female. Besides, the demographic profile also showed that 28% of female participants were infected for more than ten years while only 6% of male participants were infected for more than ten years. Reduced HRQoL was greatest in those people diagnosed for the longest time (Miners et al., 2014). However, some authors observed poorer HRQoL among HIV-infected men (Peltzer and Phaswana-Mafuya 2008) or no gender differences in respect to HRQoL in this

patient group (Ruiz-Perez et al., 2009). In non-PLWHA, gender difference was also obtained in HRQoL as female participants (M= 2353.80) had lower HRQoL than male participants (M= 2623.35).

In the case of religious coping, a significant gender difference was also obtained between male and female participants of PLWHA. Female PLWHA (M= 38.22) had higher religious coping than male participants (M= 36.26). This finding is consistent with the finding of the study conducted by Hvidtjørn et al., (2014) in which they organized a study among 3000 Danish men and women and organized religiousness in three dimensions: Cognition, Practice and Importance, and they assessed religious coping using the brief RCOPE questionnaire. And, they found substantial gender differences in both religiousness and religious coping. Nearly, 60 % of the women believed in some sort of spirit or in God compared to 40 % of the men. Women are found to be more religious than men and more likely to use religious coping. Only few studies have explored religious gender differences in more secular societies (Hvidtjørn et al., 2014). Significant gender difference was also obtained between male and female participants on non-PLWHA.

Lastly, there was also significant gender difference between male and female participants of PLWHA in perceived social support and the result further shows male participants (M= 61.95) had higher perceived social support than female participants (M= 56.48) and this study is inconsistent with the study conducted by Osman et. al. (2014) which says compared to females, males perceive to have less social support and are less satisfied with their social support (Semple et. al., 1996). However, in the case of non-PLWHA, there was no significant gender difference in perceived social support. The results obtained indicate that there were significant gender differences in health-related quality of life and religious coping in the two groups, and significant gender difference in perceived social support in PLWHA but not in non-PLWHA.

Comparison between PLWHA and non-PLWHA in HRQoL, RCOPE and PSS: There was significant mean difference in health-related quality of life between PLWHA and non-PLWHA and their mean difference was 451.02. From the results

obtained, PLWHA had a Mean score 2037.55 and non-PLWHA had a Mean score 2488.58 in HRQoL which indicates that PLWHA had lower health-related quality of life than non-PLWHA. This finding is in line with the finding of different studies which showed that PLHIV often have lower QoL compared to the general population due to the longevity of the infection and chronic disease aspects (Seguiti et al., 2022). HRQoL in PLHIV has been shown to be predicted by old age, presence of comorbidities, unavailability of food, limited social support and psychological factors (Degroote, Vogelaers & Vandijck, 2014; Mannheimer et al., 2005; Ruiz Perez et al., 2005; Imam et al., 2011; Mrus et al., 2005). In 2017, a meta-analysis of the prevalence of depression in PLHIV in sub-Saharan Africa (SSA) found that the prevalence of depression ranged from 9% to 32% (Bernard, Dabis, de Rekeneire, 2017) and its correlates were low socio-economic status, female sex, and old age. In Ethiopia, for example a study on the relationship between food insecurity, poor mental health and QoL in PLHIV found that food insecurity and poor mental health correlated well with low QoL (Tesfaye et al., 2016). However, significant mean differences were not found in religious coping and perceived social support between PLWHA and non-PLWHA.

Relationship between socio-demographic variables and HRQoL among PLWHA: Several socio-demographic characteristics such as age, gender, education and employment were also factors associated with lower QOL (Venter et al., 2009; O'connel et al., 2003).

HRQoL and Education: Among the sample, post-Graduate (1.5%) the Mean score (M) was 2561.67, graduate (10%) M= 2007.75, Higher Secondary School (22.5%) M= 2126.33, High School (37%) M= 2094.86, Middle School (21.5%) M= 1937.4 and Primary School (7.5%) M= 1710.33. The result obtained by using descriptive statistics, Post Graduate scored the highest Mean in health-related quality of life which was 2561.67 and the lowest mean (1710.33) came from the responses of the participants with primary school qualification. The result of one-way ANOVA test showed significant difference was not obtained among different educational level of PLWHA in HRQoL. This finding is inconsistent with a cross-sectional study conducted in Casablanca district of Zaragoza (Spain) by Marta Gil-Lacruz et al.,

2020 a result was obtained that showed the higher the level of education, the better the level of HRQOL. Education seems to have a significant effect on HRQOL (Baumann et al., 2011).

HRQoL and Employment Status: The sample included unemployed (35.5%) and the Mean score was 2003.17, Self-employed (50%) Mean= 2068.75 and Employed (14.5%) M= 2014.14. From the result obtained by using descriptive statistics, self-employed participants scored the highest mean score (2068.75) and the lowest mean score (2003.17) came from the responses of the unemployed participants. Further analyses (One-way ANOVA) result showed that there was no significant difference in HRQoL among three different employment status.

Level of HRQoL and Family Income: Income range between 4000 and below (19.5%) Mean (M) score was 1823.46, income range between 4,000 and 30,000 (58.5%) M= 2049.57, income range between 30,000 and 50,000 (12.5%) M= 1952.40, income range between 50,000 and 80,000 (8%) M= 2590.63, income range between 80,000 and above (1.5%) M= 2111.67. From the result obtained, participants who had family income ranging between 50,000 to 80,000 obtained the highest Mean and the lowest Mean came from participants who had family income ranging 4000 and below.

From the result obtained, participants who had higher family income had better HRQoL than participants who had lower family income which can be explained as family income might play a pivotal role in the perception of health-related quality of life. Further analyses (One-way ANOVA) revealed a significant difference (.00) in health-related quality of life among five different family income ranges. The Eta Square was .06 and it shows 6% variability in health-related quality of life was accounted for by family income. This finding is congruent with the study conducted by Shaozhe Zhang & Wei Xiang in 2019 among the population of United States, verifies the result verified positive association between income and health-related quality of life. The results showed that people's network ties are affected by their income and confirm the role of social networking time in the reproduction of the income gradient in health-related quality of life. Income, as a basic indicator of

social class, plays a dominant role in the maintenance of people's health (Marmot, 2002).

Level of HRQoL and Marital Status: Unmarried (50.5%) Mean= 2026.14, Married (25%) M= 2106.80, Divorced (19.5%) M= 1994.87, Widow/widower (5%) M= 1973.00. Based on Mean score, married participants scored the highest mean score and the lowest mean score came from the responses of widow/widower participants. Further analyses (One-way ANOVA) revealed that no significant difference was obtained among six different marital status of PLWHA in health-related quality of life. This study is incongruent with the study conducted by Kyu-Tae Han et al. (2014) in Korea, in which there was significant relationship between marital status and QOL, and this relationship appeared to differ by gender and age. Other study conducted by Nahid Khamedi et al., (2021) also revealed that marital status and drug use were the main predictors of various domains of QOL.

Level of HRQoL and Substance Use Status: Non-users (5%) M= 1817.00, pan/gutkha (5.5%) M= 2051.36, cigarettes/other tobacco products (53.5%) M= 2081.17, beer/grape wine (2%) M= 2268.75, alcohol (17.5%) M= 2094.57, drug (4.5) M= 2118.33 and most/all of the above (12%) M= 1776.67. Participants who consumed beer/grape wine scored highest mean score in health-related quality of life and the lowest mean was scored by participants who did most/all of the above. From the results obtained by using analysis of variance (One-way ANOVA) test, a significant difference was not obtained in HRQoL among seven different substance use status of PLWHA. This study is incongruent with the study conducted by Stephanie Bourion-Bedes et al., 2017 and Ophelie muller et al., 2020 which shows that Substance Use Disorder adversely affect the quality of life of patients, including their working life, interpersonal relationships, social activities, and physical and mental states (It has been shown that HRQoL is consistently low among individuals with substance use disorder who actively seek treatment compared with individuals without SUD or those with chronic psychiatric conditions (Dennis Donovan et al., 2005). According to the study conducted by Nahid Khamedi et al., (2021) marital status and drug use were the main predictors of various domains of QOL. Drug use was a behavioral factor with a negative influence on the QOL.

The Results and Discussion will be followed by summary and conclusion in the next chapter Chapter V- ***Summary and Conclusion***

CHAPTER – V

SUMMARY AND CONCLUSION

SUMMARY AND CONCLUSION

Identifying the level of health-related quality of life (HRQoL) and its influencing factors in people living with HIV/AIDS (PLWHA) is extremely important as this disease has been ravaging many nations and many people, the victim of this disease. The location of the present to conduct this study is one of the north-eastern states of India. According to Unique Identification Aadhar India, Mizoram's population in 2023 is estimated to be 1.38 million (13.80 Lakhs) and is the second smallest state in India. But Mizoram stands highest in adult HIV/AIDS prevalent rate at sub-national level. The study therefore may help infected persons to identify themselves and persons working in this field may be able to gain knowledge from this study about the level of contributing factors and provide research data for policy makers and development of intervention strategies for prevention, care and support initiatives. This study is an attempt explore the level of HRQoL and its correlation with religious coping and procedure was used for the present study. 200 People Living with HIV/AIDS and 200 non- Infected Individuals between the ages of 20 to 40 years from agencies such as ART Plus Centre, Community Care Centre, Integrated Counselling and Testing Centre (ICTC), Care and Support Centre and NGOs from Aizawl (capital of Mizoram) were selected to serve as subjects for the study. So far, no published articles focusing solely on health-related quality of life among PLWHA in Mizoram is available, however several studies on the issue and challenges have been conducted.

The present study was designed with the objectives to determine the levels of Health-Related Quality of life (HRQoL) in PLWHA and non-PLWHA, to explore the relationship between Religious Coping and levels of HRQoL among PLWHA and non-PLWHA, to explore the relationship between the Perceived Social Support and levels of HRQoL among PLWHA and non-PLWHA, to highlight gender differences between the variables under study, to elucidate the relationship between HRQoL, Religious Coping and Perceived Social Support among PLWHA and finally, to study the relationship between the socio-demographic variables and levels

of HRQoL among PLWHA and non-PLWHA. In order to achieve the objectives of the study, six hypotheses were formulated and statistical analyses were conducted as per the requirement to meet the objectives of the study as follows:

Hypothesis 1

Hypothesis 1 predicted that the level of HRQoL of PLWHA would be low in comparison to non-PLWHA, in line with studies conducted on HRQoL, where participants of People living with HIV reported significantly lower HRQoL than do the general population (Miners et al., 2014; Cooper et al., 2014; Skogen et al.,2023). To examine this, the total scores obtained by the subjects on HRQoL was analysed. The results revealed that HRQoL level in PLWHA was high (63 %) and (37%) was low and in non-PLWHA was high (88%) and (12%) was low. The result of t-test further showed there was significant mean difference in HRQoL between PLWHA and non-PLWHA and the difference was 452.50. Therefore, the results showed that level of HRQoL was lower in PLWHA than non-PLWHA, thus Hypothesis 1 was supported. The result is in line with the results of earlier studies conducted, (Miners et al., 2014; Hays et al., 2004; Seguiti et al., 2022; Do et al., 2014; Engelhard et al., 2018) which showed that people living with HIV have significantly lower HRQoL than do the general population, despite most HIV positive individuals in that study being virologically and immunologically stable. However, this finding is inconsistent with study conducted by Ma Liping, Xu Peng, Lin Haijiang,Ju Lahong, and Lv Fan (2015) in China where there was no significant difference in most of the domain in quality of life between PLWHA and non-PLWHA.

Hypothesis 2

Hypothesis 2 hypothesized that there would be a significant positive correlation between health-related quality of life and religious coping among PLWHA. To examine this, Pearson Co-efficient of Correlation test was employed to assess the relationship between health-related quality of life and religious coping. The result shows that health-related quality of life and religious coping had a correlation at .14 which is considered significant at 0.05 level (2 tailed). From the result obtained indicate that there is a positive correlation between health-related

quality of life and religious coping. This finding is consistent with the finding of the study which indicated that individuals with HIV/AIDS often found deeper meaning in life through a spiritual perspective after the diagnosis, and also experienced enhanced quality of life (Fryback & Reinert, 1999). This finding is also in line with the existing theoretical model of benefit finding (Hobfoll, 2002; Taylor, 1983; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000), those who frequently used positive religious coping found more benefit from their illness, which presumably led to more positive affect and greater life satisfaction. Other studies which supported this finding are Pargament et al., 2004;Tuck et al., 2001; Cotton et al., 2006; Ironson et al., 2006 and Yi et al. 2006 which stated that among adults PLWHA, higher levels of spirituality and positive religious coping are associated with quality of life and slowed disease progression.

Hypothesis 3

Hypothesis 3 predicted that there would be a significant positive correlation between health-related quality of life and perceived social support among PLWHA. To analyse the hypothesis Pearson Co-efficient of Correlation was employed and results revealed a significant positive correlation between health-related quality of life and perceived social support. Health-related quality of life and perceived social support had a correlation at .28 which was significant at 0.01 level (2 tailed). This finding support hypothesis 3 and is consistent with the findings of the studies that shows perceiving a high availability of support may enhance adjustment to HIV infection directly through improved adherence to treatment (e.g., Ashton et al., 2005; Alemu et al., 2012) and also indirectly through buffering the effect of HIV-related stigma on mental functioning and quality of life among these patients (Bekele et al., 2013; Breet et al., 2014). This finding is also consistent with the finding of the study conducted by Abbas et al., (2023) which stated that perceived social support has been linked with better quality of life among PLWHA.

Hypothesis 4

Hypothesis 4 predicted that there would be significant gender differences in PLWHA and between PLWHA & non-PLWHA on the variables under study. To explore the gender difference, t-test was employed. The result obtained from the t-test shows there were significant mean differences between male and female participants of PLWHA in HRQoL, RCOPE and PSS and their mean differences were 164.00, -1.96 and 5.47 respectively. This finding is in line with the findings of researchers examining gender differences in HRQoL in HIV patients group consequently observed lower HRQoL among HIV-infected women than HIV-infected men (Campsmith et al., 2003; Mrus et al., 2005; Chandra et al., 2009). The study conducted by Hvidtjørn et al., (2014) found out substantial gender differences in both religiousness and religious coping and this finding is congruent with the finding of the present study. Male PLWHA were higher in HRQoL and PSS while female PLWHA were higher in religious coping than male PLWHA and this finding is incongruent with the study conducted by Osman et al., in 2014 which showed compared to females, males perceive to have less social support and are less satisfied with their social support (Patterson et. al., 1996). A significant gender differences were obtained in HRQoL and religious coping among non-PLWHA which further signifies that male participants were higher in HRQoL and religious coping than female participants, But a significant gender difference in perceived social support was not obtained in non-PLWHA.

Hypothesis 5

Hypothesis 5 hypothesized that there would be significant differences between PLWHA and non-PLWHA on health-related quality of life, religious coping and perceived social support. To assess the differences on these three variables between PLWHA and non-PLWHA t-test was employed. The result shows there was significant difference in health-related quality of life between PLWHA and non-PLWHA and their mean difference was 451.02. The result indicates that PLWHA had lower health-related quality of life than non-PLWHA. This finding is supported

by the findings of the study conducted by Miners et al., 2014; Cooper et al., 2014 and Skogen et al., 2023.

However, no significant differences in religious coping and perceived social support between PLWHA and non-PLWHA were observed. According to Fryback & Reinert in 1999, individuals with HIV/AIDS often found deeper meaning in life through a spiritual perspective after the diagnosis, and also experienced enhanced quality of life. Studies have reported that at the early stage after diagnosis, infected individuals mostly tend to seek religious help to cope with their problem. In the current study the socio-demographic data with regards to the length of diagnosis is that 53.5% of PLWHA participants got their diagnosis 1 to 5 years before the study was conducted and this may account for the findings of the present study. Regarding the no significant difference between PLWHA and non PLWHA on perceived social support, the Mizo society where the present study is conducted is a collectivist culture that is close knit, people usually have a reliable social support system from families, friends, significant others etc. this may also account for the finding.

Hypothesis 6

Hypothesis 6 expected that the socio-demographic variables may account for differences in the level of HRQoL in PLWHA. To examine this, Descriptive Statistics test was conducted to obtain mean rank of the variables and ANOVA test was further conducted to compare mean ranks in HRQoL based on the socio-demographic variables. Significant difference was not obtained in health-related quality of life among different levels of education. This finding is consistent with the finding of the study conducted by Swindle et al., (1999) which showed that quality of life did not correlate with age, sex, race, HIV risk factor, education or marital status. The finding also shows that there was no significant difference in HRQoL among difference types of occupation. However, the result further shows there was significant difference in HRQoL among different ranges of family income in which 6% of variability for HRQoL was accounted for by family income. This finding supported hypothesis 6. Then, no significant difference was obtained among six different marital status of PLWHA in health-related quality of life. This finding is

consistent with the finding of the study conducted by Swindle et al., (1999) which showed that quality of life did not correlate with age, sex, race, HIV risk factor, education or marital status. The finding of this study further shows that there was no significant difference in HRQoL among three different employment status and this finding is inconsistent with the finding of the study conducted by Swindell et al., (1999) which showed that employment was one of several factors associated with improve quality of life. Lastly, a significant difference was not obtained in HRQoL among seven different substances use status of PLWHA. This finding is inconsistent with the finding of the study conducted by Korthuis et al., (2008) which showed illicit substance use reported reductions in both mental and physical HRQoL.

The present endeavour was conducted to study Health-related Quality of Life, Religious Coping and Perceived Social Support among People Living with HIV/AIDS in the Mizo population. The findings of the present study indicate that Mizo PLWHA have lower health-related quality of life in comparison to general population even though most of the infected individuals already enjoyed anti-retroviral therapy treatment as in the present study 98% of participants had been in the process of ART treatment. According to MSACS report, till September 2023, among 29,514 diagnosed of HIV infection, 21,303 individuals already started ART which means 72.18% of PLWHA already accessed ART treatment. Improvement in antiretroviral therapy (ART) has led to increased survival in PLWH. Despite these improvements, HIV infection and its related problems still have a notable impact on health-related quality of life (HRQOL), even in people who are virally suppressed as a result of taking ART (Reshadat et al., 2016). Quality of Life (QOL) is one of the key factors to evaluate the health status of PLWH, and its improvement is one of the important goals of treatment. Assessing the QOL can provide an accurate assessment of how patient life is affected by diseases and treatments (Préau et al., 2019). To improve the status of health-related quality of life among Mizo PLWHA, it is necessary to adopt an advanced treatment strategy besides providing ART. For this purpose, the present study is conducted to find out whether these two variables such as religious coping and perceived social support have a significant impact on the perception of health-related quality of life among PLWHA.

The findings of the study also demonstrated that religious coping and perceived social support have a significant positive impact in the perception of health-related quality of life among Mizo PLWHA. The result of the present study shows that PLWHA who are high in religious coping and perceived social support also show high level of health-related quality of life. Among general population who participated for the present study all of them were Christians and 61.5% regularly attended church services while 37.5% of PLWHA participants regularly attended church services among 100% reported being Christian.

This study further demonstrated that gender also plays a significant role in the perception of health-related quality of life, religious coping and perceived social support among PLWHA. The result of the present study further demonstrated that males have high perception of health-related quality of life than females. And, males also have high perception of social support than females. Whilst, females have high perception of religious coping than their male counterparts.

The need for prevention research that incorporates strategies to address mental health and substance abuse issues, behaviour change and adherence. Proven behavioural approaches, particularly when combined with biomedical strategies, have been found to: optimize the effectiveness of biomedical interventions; increase access to care; increase retention in care; increase treatment adherence; reduce overall cost of care; reduce the stigma associated with the disease; and address co-morbid mental health and substance abuse issues should continue to acknowledge the value of behavioural research and combination approaches to HIV prevention and treatment through continued support for a robust HIV/AIDS behavioural prevention research agenda, the integration of biomedical, behavioural and structural approaches through interdisciplinary research and implementation teams, and dissemination of effective strategies to prevent and treat HIV; and prioritization of combination strategies.

At present, Mizoram holds being the highest prevalence of HIV/AIDS among states in India. The number of PLWHA has been increasing day by day in Mizoram, reaching approximately 29,514 cases till September 2023. Research to analyse

health-related quality of life of PLWHAs and research focusing for the adoption of strategy to improve their quality of life is very limited, also research on the psychosocial aspects is felt to be highly needed to address the HIV/AIDS pandemic in general. The present endeavour is an attempt to explore and examine the health-related quality of life in people living with HIV/AIDS and to provide research foundations for policy, development of behavioural intervention programs and further extended studies.

Finally, the results of the present study indicated lower quality of life in PLWHA, which are attempted to be explained in the light of the findings of the study, the sociodemographic data indicated a significant difference in HRQoL in PLWHA, in the family income data which is mostly low, which may account for the low quality of life, as several studies have reported that socio economic status is one of the factors for low quality of life. With regards to the HRQoL and its subscales except for Physical Functioning subscale, the other seven indicated low quality of life in PLWHA, Also, although ART adherence among PLWHA improves HRQoL as reported by research studies, the findings of this study which indicate that adherence to ART is high in the population under study, is contrary with the research in the field. With regards to Religious Coping and Social Support and its subscales the findings indicate significant correlations in HRQoL with the dependent variables in PLWHA, but there was no difference between PLWHA and non PLWHA, which are in line with other studies. Additionally, the cultural and societal aspects may also be attributed to play a role.

Major findings: (i) The result of the present study revealed that PLWHA were lower in HRQoL than non-PLWHA with a significant mean difference. The HRQoL level in PLWHA was high (63 %) and (37%) was low. The HRQoL level in non-PLWHA was high (88%) and (12%) was low. From the responses of the participants, 48 individuals reported they had gotten admit into hospital due to HIV related diseases which represented 24% of the whole PLWHA participants while 152 participants reported they had not gotten admit into hospital due to HIV related diseases which represented 76% of the whole PLWHA participants. (ii) A significant positive correlation was obtained between HRQoL and religious coping in

PLWHA. 100% of PLWHA participants reported they were Christians, but only 37.5% of the participants reported they attended church services on a regular basis, which was followed by sometimes (48.5%), one or two times in a year (10%) and never attended (4%). Besides, only 6.5% reported they attended religious programmes on a regular basis, followed by sometimes (52.5%), one or two times in a year (14.5%) and never attended (26.5%). In Mizo society, the religiosity/spirituality of a person is largely measured by the frequency of attending church services and religious programmes. (iii) Pearson Co-efficient of Corelation test further showed a significant positive correlation existed between health-related quality of life and perceived social support. In case of the present study, 66% of PLWHA participants reported they never attended programmes organised by positive societies or organizations, or never being member of positive society or organization. And, only 34% of participants reported they attended or being members. Involvement in the organization/society of positive network could be a good source of social support, but in the case of the present study more than half of the participants were not involve in this kind of programmes or associations. (iv) The result obtained from t-test showed there were significant mean differences between male and female participants of PLWHA in HRQoL, religious coping and perceived social support. In the present study, 28% of female PLWHA participants reported perception of high discrimination in the society while 20% of male reported high discrimination. Besides, the demographic profile also showed that 28% of female participants were infected for more than ten years while only 6% of male participants were infected for more than ten years. Males were higher in perceived social support while females were higher in religious coping. (v) Although there was a significant mean difference in HRQoL between PLWHA and non-PLWHA, no significant differences in religious coping and perceived social support between PLWHA and non-PLWHA were observed. (vi) The result of the present study further showed there was a significant difference in HRQoL among different ranges of family income. However, significant differences in HRQoL were not seen in education, occupation, marital status, and substance use status.

Limitations: The study has several limitations. First, sample for the present study (N=200) was from the PLWHA population availing HIV/AIDS services, and since services are provided only by Centres and NGOs in Aizawl, the sample cannot represent the whole PLWHA population in Mizoram. Secondly, inclusion of a PLWHA group not availing ART treatment could present a more comprehensive picture of the HRQoL of the population. Thirdly, an in-depth longitudinal study would present a with bigger and more inclusive sample in the future. Based on the findings of the present study, longitudinal studies on HRQoL in PLWHA for possible changes over the course of HIV illness and to determine how these changes may be related to coping strategies, perception of interpersonal relations with family, friends and professional sources of support is necessary to do.

Significance of the Study: The present study aims to explore and examine the psychosocial aspects and health related quality of life of the people living with HIV/AIDS (PLWHA), population in Mizoram for development of intervention strategies and to develop the overall consideration would not only help satisfy to achieve the theoretical and methodological considerations but would provide foundations for policy, development of behavioural intervention programs and further extended studies.

Suggestions: (i) A larger sample size could have further strengthened the statistical power for interpretation in this study. (ii) PLWHA who are not availing HIV/AIDS services could also be included in the study. (iii) Inclusion of other psychosocial variables for more comprehensive understanding of issues and challenges face by PLWHA. (iv) Further in-depth longitudinal studies on HRQoL in PLWHA for possible changes over the course of HIV illness and to determine how these changes may be incorporated for development of intervention strategies, and development of policy by the government and other stakeholders could be conducted.

Appendix- I

PARTICIPANT INFORMATION (ENGLISH AND MIZO)

Research description:

You are invited to participate and share your opinion about impact of religion and social support on health-related quality of life of infected people. This research is being undertaken as part of PhD research and request your kind participation to answer several study questions. (Research sawifiahna : He project atan hian I hun hlu tak seng a zawhna te min chhan sak tur in ka ngen a che.Sakhuana leh midangte puihna in HIV natna neite hriselna dinhmun a nghawng dan zir chianna a ni a. PhD zirna a tan a tih a ni a, zawhna eng emaw zah min chhan sak turin ka ngen a che).

Participation:

Your participation in this research is voluntary. If you do not agree to participate, you can withdraw from participation at any time during the research. Try to answer the questions in order. Information provided by you will be kept confidential. (Hriattirna: He project atan hian mahni duh thu ngei a tel i ni a. I tel hnu ah paw hi inhnukdawk leh duh a nih pawn i inhnukdawk their eng a ni. Zawhna hi a indawt in chhan hram hram tum ang che. Chhanna te hi puanzar a nilo ang)

Expected outcome:

This study will help participant and researcher in finding the impact of religion and social support in health-related quality of life of HIV infected people which has been currently an issue in our society. (Hmuhchhuah beisei: He zirna hi sakhuana leh midang puihna leh zirchhiangtu te Sakhuana leh midangte puihna in HIV natna neite hriselna dinhmun a nghawng a neih dan zir chianna a tan a ni)

Appendix- II

PARTICIPANT CONSENT FORM (ENGLISH AND MIZO)

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
   (A chung a zawhna pawimawhte khi ngun takin ka chhiar a, a tul a nih chuan zawhna pawh ka zawt thei a ni.)
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason, and without any medical care or legal rights.
   (Keima duhthu ngei in he zirna ah hian ka tel a,ka duh thu in ka inhnukdawk leh thei bawk tih ka hria)
3. I understand that there are no risks involved in the participation of this study and that I will not directly benefit from participation.
   (He zirna a ka tel vang hian harsatna leh hlawkna a awm dawnlo tih ka hria)
4. I agree to take part in the above study.
5. (He zirna ah hian tel ka remti e)

Date

Signature Research Scholar

Appendix- III

DEMOGRAPHIC PROFILE(PLWHA)

1. Gender
    - 1- Male
    - 2- Female
2. Age: _____
3. Education:
    - 1- M.Phil/Ph.D etc
    - 2- Postgraduate (MA/M.Sc/B.Com etc.)
    - 3- Graduate (BA/B.Sc/B.Com etc)
    - 4- Intermediate/Higher Secondary (HSSLC)
    - 5- Matric/High School (HSLC)
    - 6- Middle School
    - 7- Primary School
    - 8- Illiterate

4. Marital Status
    - 1- Unmarried
    - 2- Married
    - 3- Divorced
    - 4- Widower

5. Type of Family
    - Nuclear
    - Joint
    - Others
6. Number of Family Members:
7. Number of children:

8. Occupation
    - 1- Unemployed
    - 2- Self-employed
    - 3- Employed
9. Who is the breadwinner in your family?
    - 1- Grandparents
    - 2- Father
    - 3- Mother
    - 4- Me
    - 5- My husband/wife
    - 6- My son/daughter
    - 7- Others
10. How many persons are holding a job to support your family:
11. Monthly family income ranges:
    - 1- 4000 and below
    - 2- Between 4000- 30000
    - 3- Between 30000-50000
    - 4- Between 50000-80000
    - 5- 80000 and above
12. Religion:
13. How often do you attend church?
    - 1- Never
    - 2- Once/twice in a year
    - 3- Sometimes
    - 4- Regularly
14. How far do you involve/participate in church program?
    - 1- Never
    - 2- Participate once/twice in special occasion
    - 3- Sometimes, depends on the occasion
    - 4- I am an appointed church worker
15. HIV Status:

i) How long have you been infected by HIV/AIDS?

ii) On ART or Non-ART:

iii) HIV infected discrimination in the society:

- 1- High
- 2- Low
- 3- No discrimination

iv) Did you receive any awareness program on HIV/AIDS during last year?

- 1- Yes
- 2- No

v) Do your NGOs take effort for HIV prevention or care and support?

- 1- Yes
- 2- No

vi) Are you a member of PWNM/PLHA or other infected groups?

- 1- Yes
- 2- No

vii) What are the services available for HIV prevention and care and support of the infected in your state?

- 1- Medical Services
- 2- Nutritional Support
- 3- Free Transportation

16. Have you used/ are you using the following Substances? What are they?

- 1- Pan/Gutkha
- 2- Smoking/chewing of tobacco
- 3- Beer/Grape Wine
- 4- Tip/Marijuana
- 5- Alcohol
- 6- Drug
- 7- Most of the above

17. If you are using any of the above substances. How long?

- A couple of months

- Less than 1 year
- More than 1 year

18. Have you ever been hospitalized or received treatment due to HIV related symptoms?
    - Yes
    - No

Appendix- IV

DEMOGRAPHIC PROFILE (Non-PLWHA)

1. Gender

- 1- Male
- 2- Female

2. Age: _____

3. Education:

- 1- M.Phil/Ph.D etc
- 2- Postgraduate (MA/M.Sc/B.Com etc.)
- 3- Graduate (BA/B.Sc/B.Com etc)
- 4- Intermediate/Higher Secondary (HSSLC)
- 5- Matric/High School (HSLC)
- 6- Middle School
- 7- Primary School
- 8- Illiterate

4. Marital Status

- 1- Unmarried
- 2- Married
- 3- Divorced
- 4- Widower

5. Type of Family

- Nuclear
- Joint
- Others

6. Number of Family Members:
7. Number of children:
8. Occupation
    - 1- Unemployed
    - 2- Self-employed
    - 3- Employed
9. Who is the breadwinner in your family?
    - 1- Grandparents
    - 2- Father
    - 3- Mother
    - 4- Me
    - 5- My husband/wife
    - 6- My son/daughter
    - 7- Others
10. How many persons are holding a job to support your family:
11. Monthly family income ranges:
    - 1- 4000 and below
    - 2- Between 4000- 30000
    - 3- Between 30000-50000
    - 4- Between 50000-80000
    - 5- 80000 and above
12. Religion:
13. How often do you attend church?
    - 1- Never
    - 2- Once/twice in a year
    - 3- Sometimes
    - 4- Regularly

14. How far do you involve/participate in church program?
    - 1- Never
    - 2- Participate once/twice in special occasion

- 3- Sometimes, depends on the occasion
- 4- I am an appointed church worker

15. Have you used/ are you using the following Substances? What are they?
    - 1- Pan/Gutkha
    - 2- Smoking/chewing of tobacco
    - 3- Beer/Grape Wine
    - 4- Tip/Marijuana
    - 5- Alcohol
    - 6- Drug
    - 7- Most of the above
16. If you are using any of the above substances. How long?
    - A couple of months
    - Less than 1 year
    - More than 1 year

Appendix- V

36 Item Short Form Survey (Ware and Sherbourne 1992)

Choose one option for each questionnaire item.

1. In general, would you say your health is:
    - 1 – Excellent
    - 2 - Very good
    - 3 – Good
    - 4 – Fair
    - 5 – Poor

2. Compared to one year ago, how would you rate your health in general now?
    - 1 - Much better now than one year ago
    - 2 - Somewhat better now than one year ago
    - 3 - About the same
    - 4 - Somewhat worse now than one year ago
    - 5 - Much worse now than one year ago

The following items are about activities you might do during a typical day.
Does **your health now limit you** in these activities? If so, how much?

3. **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports.
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
4. **Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf
    - Yes, limited a lot
    - Yes, limited a little

- No, not limited at all

5. Lifting or carrying groceries
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
6. Climbing **several** flights of stairs
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
7. Climbing **one** flight of stairs
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all

8. Bending, kneeling, or stooping
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
9. Walking **more than a mile**
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
10. Walking **several blocks**
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
11. Walking **one block**
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
12. Bathing or dressing yourself

- Yes, limited a lot
- Yes, limited a little
- No, not limited at all

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health**?

13. Cut down the amount of time you spent on work or other activities
    - 1-Yes
    - 2- No
14. Accomplished less than you would like
    - 1-Yes
    - 2- No
15. Were limited in the kind of work or other activities
    - 1-Yes
    - 2- No
16. Had difficulty performing the work or other activities (for example, it took extra effort)
    - 1-Yes
    - 2- No

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

17. Cut down the amount of time you spent on work or other activities
    - 1-Yes
    - 2- No
18. Accomplished less than you would like
    - 1-Yes
    - 2- No
19. Didn't do work or other activities as carefully as usual
    - 1-Yes

- 2- No

20. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?
    - 1 - Not at all
    - 2 - Slightly
    - 3 - Moderately
    - 4 - Quite a bit
    - 5 - Extremely
21. How much bodily pain have you had during the past 4 weeks?
    - 1 - None
    - 2 - Very mild
    - 3 - Mild
    - 4 - Moderate
    - 5 - Severe
    - 6 - Very severe
22. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
    - 1 - Not at all
    - 2 - A little bit
    - 3 - Moderately
    - 4 - Quite a bit
    - 5 – Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks...?

23. Did you feel full of pep?

- 1- All of the time
- 2- Most of the time
- 3- A good bit of the time
- 4- Some of the time
- 5- A little of the time
- 6-None of the time

24. Have you been a very nervous person?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
25. Have you felt so down in the dumps that nothing could cheer you up?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
26. Have you felt calm and peaceful?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
27. Did you have a lot of energy?
    - 1- All of the time
    - 2- Most of the time

- 3- A good bit of the time
- 4- Some of the time
- 5- A little of the time
- 6-None of the time

28. Have you felt downhearted and blue?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
29. Did you feel worn out?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
30. Have you been a happy person?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
31. Did you feel tired?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time

- 5- A little of the time
- 6-None of the time

32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?
    - 1 - All of the time
    - 2 - Most of the time
    - 3 - Some of the time
    - 4 - A little of the time
    - 5 - None of the time

How TRUE or FALSE is each of the following statements for you.

33. I seem to get sick a little easier than other people
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false
34. I am as healthy as anybody I know
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false
35. I expect my health to get worse
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false

36. My health is excellent

- Definitely true
- Mostly true
- Don't know
- Mostly false
- Definitely false

Appendix- VI

RCOPE (Pargament)

Please read the statements listed below and for each statement please indicate to what extent

each of the following was involved in your coping with the event. Please use the following

scale to record your answers:

1 = not at all

2 = somewhat

3= quite a bit

4= a great deal

1	Looked for a stronger connection with God.	1	2	3	4
2	Sought God's love and care.				
3	Sought help from God in letting go of my anger.				
4	Tried to put my plans into action together with God.				
5	Tried to see how God might be trying to strengthen me in this situation.				
6	Asked forgiveness for my sins.				
7	Focused on religion to stop worrying about my problems.				
8	Wondered whether God had				

	abandoned me.				
9	Felt punished by God for my lack of devotion.				
10	Wondered what I did for God to punish me.				
11	Questioned God's love for me.				
12	Wondered whether my church had abandoned me.				
13	Decided the devil made this happen.				
14	Questioned the power of God.				

Appendix- VII

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

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

Appendix- VIII

HIV/AIDS

Acquired Immuno-Deficiency Syndrome (AIDS) was first recognized as a new disease in 1981 when increasing numbers of young homosexual men succumbed to unusual opportunistic infections and rare malignancies (CDC 1981; Greene 2007). A retrovirus, now termed human immunodeficiency virus type 1 (HIV-1), was subsequently identified as the causative agent of what has since become one of the most devastating infectious diseases to have emerged in recent history (Barre-Sinoussi et al. 1983; Gallo et al. 1984; Popovic et al. 1984). HIV-1 spreads by sexual, percutaneous, and perinatal routes (Hladik and McElrath 2008; Cohen et al. 2011); however, 80% of adults acquire HIV-1 following exposure at mucosal surfaces, and AIDS is thus primarily a sexually transmitted disease (Hladik and McElrath 2008; Cohen et al. 2011). Since its first identification almost three decades ago, the pandemic form of HIV-1, also called the main (M) group, has infected at least 60 million people and caused more than 25 million deaths (Merson et al. 2008). Developing countries have experienced the greatest HIV/AIDS morbidity and mortality, with the highest prevalence rates recorded in young adults in sub-Saharan Africa (http://www.unaids.org/). Although antiretroviral treatment has reduced the toll of AIDS- related deaths, access to therapy is not universal, and the prospects of curative treatments and an effective vaccine are uncertain (Barouch 2008; Richman et al. 2009). Thus, AIDS will continue to pose a significant public health threat for decades to come.

Ever since HIV-1 was first discovered, the reasons for its sudden emergence, epidemic spread, and unique pathogenicity have been a subject of intense study. A first clue came in 1986 when a morphologically similar but antigenically distinct virus was found to cause AIDS in patients in western Africa (Clavel et al. 1986). Curiously, this new virus, termed human immunodeficiency virus type 2 (HIV-2), was only distantly related to HIV-1, but was closely related to a simian virus that

caused immunodeficiency in captive macaques (Chakrabarti et al. 1987; Guyader et al. 1987). Soon thereafter, additional viruses, collectively termed simian immunodeficiency viruses (SIVs) with a suffix to denote their species of origin, were found in various different primates from sub-Saharan Africa, including African green monkeys, sooty mangabeys, mandrills, chimpanzees, and others. Surprisingly, these viruses appeared to be largely nonpathogenic in their natural hosts, despite clustering together with the human and simian AIDS viruses in a single phylogenetic lineage within the radiation of lentiviruses. Interestingly, close simian relatives of HIV-1 and HIV-2 were found in chimpanzees (Huet et al. 1990) and sooty mangabeys (Hirsch et al. 1989), respectively. These relationships provided the first evidence that AIDS had emerged in both humans and macaques as a consequence of cross-species infections with lentiviruses from different primate species (Sharp et al. 1994). Indeed, subsequent studies confirmed that SIVmac was not a natural pathogen of macaques (which are Asian primates), but had been generated inadvertently in US primate centers by inoculating various species of macaques with blood and/or tissues from naturally infected sooty mangabeys (Apetrei et al. 2005, 2006). Similarly, it became clear that HIV-1 and HIV-2 were the result of zoonotic transfers of viruses infecting primates in Africa (Hahn et al. 2000). In this article, we summarize what is known about the simian precursors of HIV-1 and HIV-2, and retrace the steps that led to the AIDS pandemic.

The human body can’t get rid of HIV and no effective HIV cure exists. Luckily, however, effective treatment with HIV medicine (called antiretroviral therapy or ART) is available. If taken as prescribed, HIV medicine can reduce the amount of HIV in the blood (also called the viral load) to a very low level. This is called viral suppression. If a person’s viral load is so low that a standard lab can’t detect it, this is called having an undetectable viral load. People with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load can live long and healthy lives and will not transmit HIV to their HIV-negative partners through sex.

Antiretroviral therapy (ART) is a combination of medications that treat HIV. HIV (human immunodeficiency virus) is a virus that destroys CD4 cells (also

called helper T-cells), an important part of your immune system. Without the protection of CD4 cells, you're more likely to get life-threatening infections. While ART can't cure HIV, it can reduce the levels of HIV in your body. Low levels of the virus mean your body can produce more CD4 cells. This keeps your immune system healthy and makes you less likely to get serious infections.

ART medications use a variety of ways to stop HIV from getting into your cells and reproducing. You usually take a combination of two to four medications that work in different ways to reduce the levels of virus (also called viral load) in your body. Taking a combination of medications, rather than just one, makes the treatment more effective and reduces the risk that it'll stop working. If your viral load is low enough, tests won't be able to detect HIV in your blood (undetectable levels).

HIV treatment is called "antiretroviral" because HIV is a retrovirus. This means it uses its genetic instructions (RNA) as a template to make DNA (most of the time, in human cells, DNA is used to make RNA). You might hear antiretroviral therapy called ART, cART (combined antiretroviral therapy) or HAART (highly active antiretroviral therapy) — they all mean the same thing.

How does antiretroviral therapy work?

Each ART medication stops HIV at a different part of the virus's replication (copying) process. To understand how antiretroviral therapy works, it's important to understand how HIV infects your cells and multiplies — it's a bit like someone breaking into your house and reprogramming your security system so other intruders can get in.

HIV gets inside your cells, writes instructions for making more copies of itself and uses your cells' tools to make those copies. It destroys your T-cells in the process, preventing you from being able to fight off other infectious diseases.

The specific steps include:

1. Attachment (binding). HIV uses a protein (GP120) to attach to receptors on your CD4 cells (immune cells). Receptors are like locks HIV must open to

enter your cells. This is a multistep process that involves the protein changing shape and locking on to more than one receptor.

2. Fusion. The outer coating (membrane) of HIV joins with the CD4 cell — this is called fusion.
3. Entry. The capsid (HIV's "toolbox" — a shell made of proteins carrying its genetic material and tools it needs to replicate) gets inside.
4. Reverse transcription. Reverse transcriptase, an enzyme HIV carries, makes DNA (the instructions your genes are written in) from RNA (the instructions it carries with it to make more copies of the virus). It builds the DNA from building blocks found inside your cells (nucleosides).
5. Integration. HIV DNA gets into the nucleus of the cell, where your DNA lives. There, the enzyme integrase inserts the HIV DNA into your DNA. From there, your cells read the virus's DNA as if it were your own body's instructions.
6. Transcription. Your cell codes its DNA and HIV's DNA into messenger RNA (mRNA).
7. Translation. The mRNA moves outside of the nucleus and uses your cell's ribosomes (similar to tiny factories that make proteins) to create proteins from its instructions. Proteins are a part of your body that perform specific functions.
8. Assembly. HIV protease breaks these proteins apart and packages them into more viruses to infect other cells.
9. Budding and cell death. The CD4 cell is destroyed when the viruses escape the cell to infect more cells.

There are many different types of antiretroviral medications. Each one uses a different strategy, at different points in HIV replication, to stop HIV from making more copies of itself. Types of ART medications include:

Entry inhibitors. These include attachment inhibitors, fusion inhibitors, CCR5 antagonists and post-attachment inhibitors.

Capsid inhibitors.

Nucleoside reverse transcriptase inhibitors (NRTIs).

Non-nucleoside reverse transcriptase inhibitors (NNRTIs).

Integrase inhibitors/integrase strand transfer inhibitors (INSTIs).

Protease inhibitors.

Pharmacokinetic enhancers.

Combination medications.

Many ART medications, like NRTIs, NNRTIs and INSTIs, work by breaking or preventing HIV's tools (enzymes) from working. Others work in different ways (https://my.clevelandclinic.org/).

In addition, there are effective methods to prevent getting HIV through sex or drug use, including pre-exposure prophylaxis (PrEP), medicine people at risk for HIV take to prevent getting HIV from sex or injection drug use, and post-exposure prophylaxis (PEP), HIV medicine taken within 72 hours after a possible exposure to prevent the virus from taking hold. Learn about other ways to prevent getting or transmitting HIV. ART is accessible to all. ART is now available free to all those who need it. Public health facilities are mandated to ensure that ART is provided to people living with HIV/AIDS (PLHA). Special emphasis is given to the treatment of sero-positive women and infected children. (https://www.hiv.gov/).

HIV infection is not the end of life. People can lead a healthy life for a long time with appropriate medical care. Anti-retroviral therapy (ART) effectively suppresses replication, if taken at the right time. Successful viral suppression restores the immune system and halts onset and progression of disease as well as reduces chances of getting opportunistic infections – this is how ART is aimed to work. Medication thus enhances both quality of life and longevity. Adherence to ART regimen is therefore very vital in this treatment. Any irregularity in following the

prescribed regimen can lead to resistance to HIV drugs, and therefore can weaken or negate its effect.

Appendix- IX

A BRIEF DESCRIPTION OF MIZORAM AND MIZOs

Mizoram is a small north-eastern state in india with an area of 21,087 sq. kms. It extends from 21º56 ′N to 24º31′N, and 92º16′E to 93º26′E. The tropic of cancer runs through the state nearly at its middle. It shares borders with three of the "eight-sister" states, namely Tripura, Assam and Manipur. The state also shares a 722 km border with the neighbouring countries of Bangladesh and Myanmar. The name 'Mizoram' has been derived from *Mi* (people), *Zo* (Highland or Hills) and Ram (land), and thus 'Mizoram' implies "land of the hill people". Mizoram is a land of rolling hills, valleys, rivers and lakes. Hill ranges or peaks of different heights run throughout the length and breath of the state, with plains scattered here and there.

Mizoram has apopulation of 1,091,014 with 552,339 males and 538,675 females (2011 census). It is the second least populous state in the country with majority of its inhabitants Christians (87%). The sex ratio of the state is 976 females per thousand males, higher than the national ratio of 940. The density of population is 52 persons per square kilometre. The literacy rate i\of Mizoram in 2011 was 91.33 per cent, higher than the national average 74.04 per cent, and second best among all the states of India. About 52% of Mizoram's population lives in urban areas, much higher than India's average. Over one third of the Mizorsm population lives in Aizawl district which hosts the capital.

The origin of the Mizos, like those of many other tribes in North Eastern India is shrouded in mystery. It is generally accepted that they were a part of great Mongoloid wave of migration from China who later moved out to India to their present habitat. The earliest documented records of Mizoram were from the British military officers in the 1850s, when they encountered a series of raids in their official jurisdiction in Chittagong Hill Tracts from the neighbouring natives. Back then they referred to the land as the Lushai hills. As a consequence of relentless tribal

encroachment often result in human mortality, British rulers were compelled to subjugate the tribal chiefdoms. Punitive British expeditions in 1871 and 1889 forced the annexation of the entire Lushai Hills. After India's independence from the British Empire in 1947, the land became Lushai Hills District under the Government of Assam. In 1972, the district was declared a Union Territory and was give a more culturally inclusive name 'Mizoram'. Ultimately, Mizoram became a full-fledged federal state of the Indian Union in 1986.

The ancestors of the Mizos were without any form of written language before the advent of the British. They were anthropologically identified as members of the Tibeto-Burman ethnicity. They worshipped all shorts of objects and natural phenomena. The land is now a mixture of people from Chin Hills and Bangladesh and its history is therefore largely reflected by those lo Lusei, Hmar, Lai, Mara and Chakma tribes. Following religious, political and cultural revolutions in the 19th century majority of the people agglomerated into a super tribe, Mizo. Hence, the officially recognized settlemtn of the Mizos became Mizoram. The Mizos are a distinct community and the social unit was the village. Around it revolved the life of a Mizo. A typical Mizo village was usually set on the top of a hill with the Chief's house at the centre. In a way the focal point in the village was the Zawlbuk, a dormitory where all the young bachelors of the village slept. Zalbuk was the training ground, an d indeed, the cradle wherein the Mizo youth was shaped into a responsible adult member of the society.

The Mizos came under the influence of the British missionaries in the nineteenth century, and now most of the Mizos are Christians. They have been enchanted to their faith in Christianity with so much dedication that their entire social life and thought-process has been transformed and guided by the Christian church and their sense of values has also undergone drastic change. Their perception of what is right or wrong is based on Chriatian beliefs, as in their judgement of what is moral an immoral. This is reflected in their behaviour towars those in their community.

Mizos are fast giving up their old customs and adopting the new mode of life which is greatly influenced by the western culture. Many of their present customs are

mixtures of their old tradition and western pattern of life. Contemporary people of Mizoram celebrate Christmas, Easter and other Christian festivals replacing many of old tribal customs and practices. However, the Mizo society is a close-knit one, with no class distinction and discrimination on grounds of gender. Birth of a child, marriage and death of a person in the village or community are important occasions in which the whole community is involved. The entire society is knitted by a peculiar code of ethics, 'Tlawmngaihna' an untranslatable term meaning on the part of everyone to be hospitable, kind, unselfish and helpful to others. *Thlawmngaihna* as a cultural concept incorporates behavoir that is self-sacrificing, self-denying, doing what an occasion demands unselfishly and without concern for inconvenience caused. Thus, for example, after a fire or landslide damage, the Mizo culture shows spontaneous humble social work without demands or expactations, with members of the whole community helping out.

With the attainment of statehood in 1986, modern Mizoram is heading to progress and prosperity. Mizoram is a growing transit point for trade with Myanmar and Bangladesh. However, as like any other community, with increasing population burden and the modern ways of life no doubt, the Mizo society also faces great challenges, with a large number of Mizo youths being faced with drug and alcohol abuse. As Mizoram is situated near the infamous "golden triangle" (an area of around 950,000 sq. kms that overlaps the mountains of the three countries of Southern Asia: Myanmar, Laos and Thailand) which has been one lof the largest opium-producing areas of Asia as well as the world since the 1050s, heroin has found its way to Mizoram and has posed a great threat to the lives of many Mizo youth.

Appendix- X

MIZORAM STATUS OF HIV/AIDS SINCE OCT 1990 UPTO SEPT 2023				
No. of tested and detected HIV+ at ICTC				
	General Client (since 1990)		ANC (since 2005)	Total
HIV positive	27080		2434	29514
Care Support & Treatment (since 2006)				
	M	F	Children	Total
ART Reg.	14195	8977	685	23857
Started ART	12630	8044	629	21303
PLHIV Death	3082	1541	80	4703
AGE SEX PROPORTION OF HIV POSITIVE CASES (General Clients)				
AGE GROUP	M	F	Total	%
Less than 14	377	376	753	2.78
15-24	4009	1885	5894	21.77
25-34	8204	3154	11358	41.94
35-49	4737	2731	7468	27.58
50+	1006	601	1607	5.93
TOTAL	18333	8747	27080	100.00

(source: MizoramSACS.org)

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Appendix- I

PARTICIPANT INFORMATION (ENGLISH AND MIZO)

Research description:

You are invited to participate and share your opinion about impact of religion and social support on health-related quality of life of infected people. This research is being undertaken as part of PhD research and request your kind participation to answer several study questions. (Research sawifiahna : He project atan hian I hun hlu tak seng a zawhna te min chhan sak tur in ka ngen a che.Sakhuana leh midangte puihna in HIV natna neite hriselna dinhmun a nghawng dan zir chianna a ni a. PhD zirna a tan a tih a ni a, zawhna eng emaw zah min chhan sak turin ka ngen a che).

Participation:

Your participation in this research is voluntary. If you do not agree to participate, you can withdraw from participation at any time during the research. Try to answer the questions in order. Information provided by you will be kept confidential. (Hriattirna: He project atan hian mahni duh thu ngei a tel i ni a. I tel hnu ah paw hi inhnukdawk leh duh a nih pawn i inhnukdawk their eng a ni. Zawhna hi a indawt in chhan hram hram tum ang che. Chhanna te hi puanzar a nilo ang)

Expected outcome:

This study will help participant and researcher in finding the impact of religion and social support in health-related quality of life of HIV infected people which has been currently an issue in our society. (Hmuhchhuah beisei: He zirna hi sakhuana leh midang puihna leh zirchhiangtu te Sakhuana leh midangte puihna in HIV natna neite hriselna dinhmun a nghawng a neih dan zir chianna a tan a ni)

Appendix- II

PARTICIPANT CONSENT FORM (ENGLISH AND MIZO)

1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.
   (A chung a zawhna pawimawhte khi ngun takin ka chhiar a, a tul a nih chuan zawhna pawh ka zawt thei a ni.)
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving reason, and without any medical care or legal rights.
   (Keima duhthu ngei in he zirna ah hian ka tel a,ka duh thu in ka inhnukdawk leh thei bawk tih ka hria)
3. I understand that there are no risks involved in the participation of this study and that I will not directly benefit from participation.
   (He zirna a ka tel vang hian harsatna leh hlawkna a awm dawnlo tih ka hria)
4. I agree to take part in the above study.
5. (He zirna ah hian tel ka remti e)

Date

Signature Research Scholar

Appendix- III

DEMOGRAPHIC PROFILE(PLWHA)

1. Gender
    - 1- Male
    - 2- Female
2. Age: _____
3. Education:
    - 1- M.Phil/Ph.D etc
    - 2- Postgraduate (MA/M.Sc/B.Com etc.)
    - 3- Graduate (BA/B.Sc/B.Com etc)
    - 4- Intermediate/Higher Secondary (HSSLC)
    - 5- Matric/High School (HSLC)
    - 6- Middle School
    - 7- Primary School
    - 8- Illiterate

4. Marital Status
    - 1- Unmarried
    - 2- Married
    - 3- Divorced
    - 4- Widower

5. Type of Family
    - Nuclear
    - Joint
    - Others
6. Number of Family Members:
7. Number of children:

8. Occupation
    - 1- Unemployed
    - 2- Self-employed
    - 3- Employed
9. Who is the breadwinner in your family?
    - 1- Grandparents
    - 2- Father
    - 3- Mother
    - 4- Me
    - 5- My husband/wife
    - 6- My son/daughter
    - 7- Others
10. How many persons are holding a job to support your family:
11. Monthly family income ranges:
    - 1- 4000 and below
    - 2- Between 4000- 30000
    - 3- Between 30000-50000
    - 4- Between 50000-80000
    - 5- 80000 and above
12. Religion:
13. How often do you attend church?
    - 1- Never
    - 2- Once/twice in a year
    - 3- Sometimes
    - 4- Regularly
14. How far do you involve/participate in church program?
    - 1- Never
    - 2- Participate once/twice in special occasion
    - 3- Sometimes, depends on the occasion
    - 4- I am an appointed church worker

15. HIV Status:
    i) How long have you been infected by HIV/AIDS?
    ii) On ART or Non-ART:
    iii) HIV infected discrimination in the society:
        - 1- High
        - 2- Low
        - 3- No discrimination
    iv) Did you receive any awareness program on HIV/AIDS during last year?
        - 1- Yes
        - 2- No
    v) Do your NGOs take effort for HIV prevention or care and support?
        - 1- Yes
        - 2- No
    vi) Are you a member of PWNM/PLHA or other infected groups?
        - 1- Yes
        - 2- No
    vii) What are the services available for HIV prevention and care and support of the infected in your state?
        - 1- Medical Services
        - 2- Nutritional Support
        - 3- Free Transportation

16. Have you used/ are you using the following Substances? What are they?
    - 1- Pan/Gutkha
    - 2- Smoking/chewing of tobacco
    - 3- Beer/Grape Wine
    - 4- Tip/Marijuana
    - 5- Alcohol
    - 6- Drug
    - 7- Most of the above

17. If you are using any of the above substances. How long?
    - A couple of months
    - Less than 1 year
    - More than 1 year
18. Have you ever been hospitalized or received treatment due to HIV related symptoms?
    - Yes
    - No

Appendix- IV

DEMOGRAPHIC PROFILE (Non-PLWHA)

1. Gender

- 1- Male
- 2- Female

2. Age: _____
3. Education:
   - 1- M.Phil/Ph.D etc
   - 2- Postgraduate (MA/M.Sc/B.Com etc.)
   - 3- Graduate (BA/B.Sc/B.Com etc)
   - 4- Intermediate/Higher Secondary (HSSLC)
   - 5- Matric/High School (HSLC)
   - 6- Middle School
   - 7- Primary School
   - 8- Illiterate

4. Marital Status
   - 1- Unmarried
   - 2- Married
   - 3- Divorced
   - 4- Widower

5. Type of Family
   - Nuclear
   - Joint
   - Others
6. Number of Family Members:
7. Number of children:

8. Occupation
    - 1- Unemployed
    - 2- Self-employed
    - 3- Employed
9. Who is the breadwinner in your family?
    - 1- Grandparents
    - 2- Father
    - 3- Mother
    - 4- Me
    - 5- My husband/wife
    - 6- My son/daughter
    - 7- Others
10. How many persons are holding a job to support your family:
11. Monthly family income ranges:
    - 1- 4000 and below
    - 2- Between 4000- 30000
    - 3- Between 30000-50000
    - 4- Between 50000-80000
    - 5- 80000 and above
12. Religion:
13. How often do you attend church?
    - 1- Never
    - 2- Once/twice in a year
    - 3- Sometimes
    - 4- Regularly

14. How far do you involve/participate in church program?
    - 1- Never
    - 2- Participate once/twice in special occasion
    - 3- Sometimes, depends on the occasion
    - 4- I am an appointed church worker

15. Have you used/ are you using the following Substances? What are they?
    - 1- Pan/Gutkha
    - 2- Smoking/chewing of tobacco
    - 3- Beer/Grape Wine
    - 4- Tip/Marijuana
    - 5- Alcohol
    - 6- Drug
    - 7- Most of the above
16. If you are using any of the above substances. How long?
    - A couple of months
    - Less than 1 year
    - More than 1 year

Appendix- V

36 Item Short Form Survey (Ware and Sherbourne 1992)

Choose one option for each questionnaire item.

1. In general, would you say your health is:
    - 1 – Excellent
    - 2 - Very good
    - 3 – Good
    - 4 – Fair
    - 5 – Poor
2. Compared to one year ago, how would you rate your health in general now?
    - 1 - Much better now than one year ago
    - 2 - Somewhat better now than one year ago
    - 3 - About the same
    - 4 - Somewhat worse now than one year ago
    - 5 - Much worse now than one year ago

The following items are about activities you might do during a typical day.

Does **your health now limit you** in these activities? If so, how much?

3. **Vigorous activities**, such as running, lifting heavy objects, participating in strenuous sports.
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
4. **Moderate activities**, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all

5. Lifting or carrying groceries
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
6. Climbing **several** flights of stairs
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
7. Climbing **one** flight of stairs
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
8. Bending, kneeling, or stooping
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
9. Walking **more than a mile**
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
10. Walking **several blocks**
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
11. Walking **one block**
    - Yes, limited a lot
    - Yes, limited a little
    - No, not limited at all
12. Bathing or dressing yourself
    - Yes, limited a lot
    - Yes, limited a little

- No, not limited at all

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of your physical health**?

13. Cut down the amount of time you spent on work or other activities
    - 1-Yes
    - 2- No
14. Accomplished less than you would like
    - 1-Yes
    - 2- No
15. Were limited in the kind of work or other activities
    - 1-Yes
    - 2- No
16. Had difficulty performing the work or other activities (for example, it took extra effort)
    - 1-Yes
    - 2- No

During the **past 4 weeks**, have you had any of the following problems with your work or other regular daily activities **as a result of any emotional problems** (such as feeling depressed or anxious)?

17. Cut down the amount of time you spent on work or other activities
    - 1-Yes
    - 2- No
18. Accomplished less than you would like
    - 1-Yes
    - 2- No
19. Didn't do work or other activities as carefully as usual
    - 1-Yes
    - 2- No
20. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

- 1 - Not at all
- 2 - Slightly
- 3 - Moderately
- 4 - Quite a bit
- 5 - Extremely

21. How much bodily pain have you had during the past 4 weeks?
    - 1 - None
    - 2 - Very mild
    - 3 - Mild
    - 4 - Moderate
    - 5 - Severe
    - 6 - Very severe
22. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?
    - 1 - Not at all
    - 2 - A little bit
    - 3 - Moderately
    - 4 - Quite a bit
    - 5 – Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks...?

23. Did you feel full of pep?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time

- 6-None of the time

24. Have you been a very nervous person?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
25. Have you felt so down in the dumps that nothing could cheer you up?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
26. Have you felt calm and peaceful?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
27. Did you have a lot of energy?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
28. Have you felt downhearted and blue?
    - 1- All of the time

- 2- Most of the time
- 3- A good bit of the time
- 4- Some of the time
- 5- A little of the time
- 6-None of the time

29. Did you feel worn out?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
30. Have you been a happy person?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
31. Did you feel tired?
    - 1- All of the time
    - 2- Most of the time
    - 3- A good bit of the time
    - 4- Some of the time
    - 5- A little of the time
    - 6-None of the time
32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?
    - 1 - All of the time
    - 2 - Most of the time

- 3 - Some of the time
- 4 - A little of the time
- 5 - None of the time

How TRUE or FALSE is each of the following statements for you.

33. I seem to get sick a little easier than other people
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false
34. I am as healthy as anybody I know
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false
35. I expect my health to get worse
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false
36. My health is excellent
    - Definitely true
    - Mostly true
    - Don't know
    - Mostly false
    - Definitely false

Appendix- VI

RCOPE (Pargament)

Please read the statements listed below and for each statement please indicate to what extent

each of the following was involved in your coping with the event. Please use the following

scale to record your answers:

1 = not at all

2 = somewhat

3= quite a bit

4= a great deal

1	Looked for a stronger connection with God.	1	2	3	4
2	Sought God's love and care.				
3	Sought help from God in letting go of my anger.				
4	Tried to put my plans into action together with God.				
5	Tried to see how God might be trying to strengthen me in this situation.				
6	Asked forgiveness for my sins.				
7	Focused on religion to stop worrying about my problems.				
8	Wondered whether God had abandoned me.				

9	Felt punished by God for my lack of devotion.				
10	Wondered what I did for God to punish me.				
11	Questioned God's love for me.				
12	Wondered whether my church had abandoned me.				
13	Decided the devil made this happen.				
14	Questioned the power of God.				

Appendix- VII

Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet & Farley, 1988)

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

Appendix- VIII

HIV/AIDS

Acquired Immuno-Deficiency Syndrome (AIDS) was first recognized as a new disease in 1981 when increasing numbers of young homosexual men succumbed to unusual opportunistic infections and rare malignancies (CDC 1981; Greene 2007). A retrovirus, now termed human immunodeficiency virus type 1 (HIV-1), was subsequently identified as the causative agent of what has since become one of the most devastating infectious diseases to have emerged in recent history (Barre-Sinoussi et al. 1983; Gallo et al. 1984; Popovic et al. 1984). HIV-1 spreads by sexual, percutaneous, and perinatal routes (Hladik and McElrath 2008; Cohen et al. 2011); however, 80% of adults acquire HIV-1 following exposure at mucosal surfaces, and AIDS is thus primarily a sexually transmitted disease (Hladik and McElrath 2008; Cohen et al. 2011). Since its first identification almost three decades ago, the pandemic form of HIV-1, also called the main (M) group, has infected at least 60 million people and caused more than 25 million deaths (Merson et al. 2008). Developing countries have experienced the greatest HIV/AIDS morbidity and mortality, with the highest prevalence rates recorded in young adults in sub-Saharan Africa (http://www.unaids.org/). Although antiretroviral treatment has reduced the toll of AIDS- related deaths, access to therapy is not universal, and the prospects of curative treatments and an effective vaccine are uncertain (Barouch 2008; Richman et al. 2009). Thus, AIDS will continue to pose a significant public health threat for decades to come.

Ever since HIV-1 was first discovered, the reasons for its sudden emergence, epidemic spread, and unique pathogenicity have been a subject of intense study. A first clue came in 1986 when a morphologically similar but antigenically distinct virus was found to cause AIDS in patients in western Africa (Clavel et al. 1986). Curiously, this new virus, termed human immunodeficiency virus type 2 (HIV-2), was only distantly related to HIV-1, but was closely related to a simian virus that caused immunodeficiency in captive macaques (Chakrabarti et al. 1987; Guyader et al. 1987). Soon thereafter, additional viruses, collectively termed simian

immunodeficiency viruses (SIVs) with a suffix to denote their species of origin, were found in various different primates from sub-Saharan Africa, including African green monkeys, sooty mangabeys, mandrills, chimpanzees, and others. Surprisingly, these viruses appeared to be largely nonpathogenic in their natural hosts, despite clustering together with the human and simian AIDS viruses in a single phylogenetic lineage within the radiation of lentiviruses. Interestingly, close simian relatives of HIV-1 and HIV-2 were found in chimpanzees (Huet et al. 1990) and sooty mangabeys (Hirsch et al. 1989), respectively. These relationships provided the first evidence that AIDS had emerged in both humans and macaques as a consequence of cross-species infections with lentiviruses from different primate species (Sharp et al. 1994). Indeed, subsequent studies confirmed that SIVmac was not a natural pathogen of macaques (which are Asian primates), but had been generated inadvertently in US primate centers by inoculating various species of macaques with blood and/or tissues from naturally infected sooty mangabeys (Apetrei et al. 2005, 2006). Similarly, it became clear that HIV-1 and HIV-2 were the result of zoonotic transfers of viruses infecting primates in Africa (Hahn et al. 2000). In this article, we summarize what is known about the simian precursors of HIV-1 and HIV-2, and retrace the steps that led to the AIDS pandemic.

The human body can't get rid of HIV and no effective HIV cure exists. Luckily, however, effective treatment with HIV medicine (called antiretroviral therapy or ART) is available. If taken as prescribed, HIV medicine can reduce the amount of HIV in the blood (also called the viral load) to a very low level. This is called viral suppression. If a person's viral load is so low that a standard lab can't detect it, this is called having an undetectable viral load. People with HIV who take HIV medicine as prescribed and get and keep an undetectable viral load can live long and healthy lives and will not transmit HIV to their HIV-negative partners through sex.

Antiretroviral therapy (ART) is a combination of medications that treat HIV. HIV (human immunodeficiency virus) is a virus that destroys CD4 cells (also called helper T-cells), an important part of your immune system. Without the protection of CD4 cells, you're more likely to get life-threatening infections. While

ART can’t cure HIV, it can reduce the levels of HIV in your body. Low levels of the virus mean your body can produce more CD4 cells. This keeps your immune system healthy and makes you less likely to get serious infections.

ART medications use a variety of ways to stop HIV from getting into your cells and reproducing. You usually take a combination of two to four medications that work in different ways to reduce the levels of virus (also called viral load) in your body. Taking a combination of medications, rather than just one, makes the treatment more effective and reduces the risk that it’ll stop working. If your viral load is low enough, tests won’t be able to detect HIV in your blood (undetectable levels).

HIV treatment is called “antiretroviral” because HIV is a retrovirus. This means it uses its genetic instructions (RNA) as a template to make DNA (most of the time, in human cells, DNA is used to make RNA). You might hear antiretroviral therapy called ART, cART (combined antiretroviral therapy) or HAART (highly active antiretroviral therapy) — they all mean the same thing.

How does antiretroviral therapy work?

Each ART medication stops HIV at a different part of the virus’s replication (copying) process. To understand how antiretroviral therapy works, it’s important to understand how HIV infects your cells and multiplies — it’s a bit like someone breaking into your house and reprogramming your security system so other intruders can get in.

HIV gets inside your cells, writes instructions for making more copies of itself and uses your cells’ tools to make those copies. It destroys your T-cells in the process, preventing you from being able to fight off other infectious diseases.

The specific steps include:

1. Attachment (binding). HIV uses a protein (GP120) to attach to receptors on your CD4 cells (immune cells). Receptors are like locks HIV must open to enter your cells. This is a multistep process that involves the protein changing shape and locking on to more than one receptor.

2. Fusion. The outer coating (membrane) of HIV joins with the CD4 cell — this is called fusion.
3. Entry. The capsid (HIV's "toolbox" — a shell made of proteins carrying its genetic material and tools it needs to replicate) gets inside.
4. Reverse transcription. Reverse transcriptase, an enzyme HIV carries, makes DNA (the instructions your genes are written in) from RNA (the instructions it carries with it to make more copies of the virus). It builds the DNA from building blocks found inside your cells (nucleosides).
5. Integration. HIV DNA gets into the nucleus of the cell, where your DNA lives. There, the enzyme integrase inserts the HIV DNA into your DNA. From there, your cells read the virus's DNA as if it were your own body's instructions.
6. Transcription. Your cell codes its DNA and HIV's DNA into messenger RNA (mRNA).
7. Translation. The mRNA moves outside of the nucleus and uses your cell's ribosomes (similar to tiny factories that make proteins) to create proteins from its instructions. Proteins are a part of your body that perform specific functions.
8. Assembly. HIV protease breaks these proteins apart and packages them into more viruses to infect other cells.
9. Budding and cell death. The CD4 cell is destroyed when the viruses escape the cell to infect more cells.

There are many different types of antiretroviral medications. Each one uses a different strategy, at different points in HIV replication, to stop HIV from making more copies of itself. Types of ART medications include:

Entry inhibitors. These include attachment inhibitors, fusion inhibitors, CCR5 antagonists and post-attachment inhibitors.

Capsid inhibitors.

Nucleoside reverse transcriptase inhibitors (NRTIs).

Non-nucleoside reverse transcriptase inhibitors (NNRTIs).

Integrase inhibitors/integrase strand transfer inhibitors (INSTIs).

Protease inhibitors.

Pharmacokinetic enhancers.

Combination medications.

Many ART medications, like NRTIs, NNRTIs and INSTIs, work by breaking or preventing HIV's tools (enzymes) from working. Others work in different ways (https://my.clevelandclinic.org/).

In addition, there are effective methods to prevent getting HIV through sex or drug use, including pre-exposure prophylaxis (PrEP), medicine people at risk for HIV take to prevent getting HIV from sex or injection drug use, and post-exposure prophylaxis (PEP), HIV medicine taken within 72 hours after a possible exposure to prevent the virus from taking hold. Learn about other ways to prevent getting or transmitting HIV. ART is accessible to all. ART is now available free to all those who need it. Public health facilities are mandated to ensure that ART is provided to people living with HIV/AIDS (PLHA). Special emphasis is given to the treatment of sero-positive women and infected children. (https://www.hiv.gov/).

HIV infection is not the end of life. People can lead a healthy life for a long time with appropriate medical care. Anti-retroviral therapy (ART) effectively suppresses replication, if taken at the right time. Successful viral suppression restores the immune system and halts onset and progression of disease as well as reduces chances of getting opportunistic infections – this is how ART is aimed to work. Medication thus enhances both quality of life and longevity. Adherence to ART regimen is therefore very vital in this treatment. Any irregularity in following the prescribed regimen can lead to resistance to HIV drugs, and therefore can weaken or negate its effect.

Appendix- IX

A BRIEF DESCRIPTION OF MIZORAM AND MIZOs

Mizoram is a small north-eastern state in india with an area of 21,087 sq. kms. It extends from 21º56 ′N to 24º31′N, and 92º16′E to 93º26′E. The tropic of cancer runs through the state nearly at its middle. It shares borders with three of the "eight-sister" states, namely Tripura, Assam and Manipur. The state also shares a 722 km border with the neighbouring countries of Bangladesh and Myanmar. The name 'Mizoram' has been derived from *Mi* (people), *Zo* (Highland or Hills) and Ram (land), and thus 'Mizoram' implies "land of the hill people". Mizoram is a land of rolling hills, valleys, rivers and lakes. Hill ranges or peaks of different heights run throughout the length and breath of the state, with plains scattered here and there.

Mizoram has apopulation of 1,091,014 with 552,339 males and 538,675 females (2011 census). It is the second least populous state in the country with majority of its inhabitants Christians (87%). The sex ratio of the state is 976 females per thousand males, higher than the national ratio of 940. The density of population is 52 persons per square kilometre. The literacy rate i\of Mizoram in 2011 was 91.33 per cent, higher than the national average 74.04 per cent, and second best among all the states of India. About 52% of Mizoram's population lives in urban areas, much higher than India's average. Over one third of the Mizorsm population lives in Aizawl district which hosts the capital.

The origin of the Mizos, like those of many other tribes in North Eastern India is shrouded in mystery. It is generally accepted that they were a part of great Mongoloid wave of migration from China who later moved out to India to their present habitat. The earliest documented records of Mizoram were from the British military officers in the 1850s, when they encountered a series of raids in their official jurisdiction in Chittagong Hill Tracts from the neighbouring natives. Back then they referred to the land as the Lushai hills. As a consequence of relentless tribal encroachment often result in human mortality, British rulers were compelled to subjugate the tribal chiefdoms. Punitive British expeditions in 1871 and 1889 forced the annexation of the entire Lushai Hills. After India's independence from the British

Empire in 1947, the land became Lushai Hills District under the Government of Assam. In 1972, the district was declared a Union Territory and was give a more culturally inclusive name 'Mizoram'. Ultimately, Mizoram became a full-fledged federal state of the Indian Union in 1986.

The ancestors of the Mizos were without any form of written language before the advent of the British. They were anthropologically identified as members of the Tibeto-Burman ethnicity. They worshipped all shorts of objects and natural phenomena. The land is now a mixture of people from Chin Hills and Bangladesh and its history is therefore largely reflected by those lo Lusei, Hmar, Lai, Mara and Chakma tribes. Following religious, political and cultural revolutions in the 19th century majority of the people agglomerated into a super tribe, Mizo. Hence, the officially recognized settlemtn of the Mizos became Mizoram. The Mizos are a distinct community and the social unit was the village. Around it revolved the life of a Mizo. A typical Mizo village was usually set on the top of a hill with the Chief's house at the centre. In a way the focal point in the village was the Zawlbuk, a dormitory where all the young bachelors of the village slept. Zalbuk was the training ground, an d indeed, the cradle wherein the Mizo youth was shaped into a responsible adult member of the society.

The Mizos came under the influence of the British missionaries in the nineteenth century, and now most of the Mizos are Christians. They have been enchanted to their faith in Christianity with so much dedication that their entire social life and thought-process has been transformed and guided by the Christian church and their sense of values has also undergone drastic change. Their perception of what is right or wrong is based on Chriatian beliefs, as in their judgement of what is moral an immoral. This is reflected in their behaviour towars those in their community.

Mizos are fast giving up their old customs and adopting the new mode of life which is greatly influenced by the western culture. Many of their present customs are mixtures of their old tradition and western pattern of life. Contemporary people of Mizoram celebrate Christmas, Easter and other Christian festivals replacing many of old tribal customs and practices. However, the Mizo society is a close-knit one, with

no class distinction and discrimination on grounds of gender. Birth of a child, marriage and death of a person in the village or community are important occasions in which the whole community is involved. The entire society is knitted by a peculiar code of ethics, 'Tlawmngaihna' an untranslatable term meaning on the part of everyone to be hospitable, kind, unselfish and helpful to others. *Thlawmngaihna* as a cultural concept incorporates behavoir that is self-sacrificing, self-denying, doing what an occasion demands unselfishly and without concern for inconvenience caused. Thus, for example, after a fire or landslide damage, the Mizo culture shows spontaneous humble social work without demands or expactations, with members of the whole community helping out.

With the attainment of statehood in 1986, modern Mizoram is heading to progress and prosperity. Mizoram is a growing transit point for trade with Myanmar and Bangladesh. However, as like any other community, with increasing population burden and the modern ways of life no doubt, the Mizo society also faces great challenges, with a large number of Mizo youths being faced with drug and alcohol abuse. As Mizoram is situated near the infamous "golden triangle" (an area of around 950,000 sq. kms that overlaps the mountains of the three countries of Southern Asia: Myanmar, Laos and Thailand) which has been one lof the largest opium-producing areas of Asia as well as the world since the 1050s, heroin has found its way to Mizoram and has posed a great threat to the lives of many Mizo youth.

Appendix- X

MIZORAM STATUS OF HIV/AIDS SINCE OCT 1990 UPTO SEPT 2023				
No. of tested and detected HIV+ at ICTC				
	General Client (since 1990)		ANC (since 2005)	Total
HIV positive	27080		2434	29514
Care Support & Treatment (since 2006)				
	M	F	Children	Total
ART Reg.	14195	8977	685	23857
Started ART	12630	8044	629	21303
PLHIV Death	3082	1541	80	4703
AGE SEX PROPORTION OF HIV POSITIVE CASES (General Clients)				
AGE GROUP	M	F	Total	%
Less than 14	377	376	753	2.78
15-24	4009	1885	5894	21.77
25-34	8204	3154	11358	41.94
35-49	4737	2731	7468	27.58
50+	1006	601	1607	5.93
TOTAL	18333	8747	27080	100.00

(source: MizoramSACS.org)

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ABSTRACT

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AN ABSTRACT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

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HEALTH-RELATED QUALITY OF LIFE, RELIGIOUS COPING AND PERCEIVED SOCIAL SUPPORT AMONG PEOPLE LIVING WITH HIV/AIDS: A STUDY AMONG MIZO

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Health is defined by World Health Organization (WHO) as ‘a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity’ (WHO, 1948). WHO made further clarifications on the definition in 1986 as follows, “A resource for everyday life, not the objective of living, health is a positive concept emphasizing social and personal resources, as well as physical capacities,” this means that health is a resource to support an individual’s function in wider society, rather than an end in itself. A healthful lifestyle provides the means to lead a full life with meaning and purpose (WHO, 1986). When it comes to health, there is more to consider than just physical well-being.

Health-related Quality of Life (HRQoL) is defined as physical, social, and psychological domains of health that are affected by experiences, beliefs, expectations, and individual perceptions (Testa & Simonson, 1996). Thus, HRQoL should be evaluated from different physical, mental, and social angles and dimensions. When quality of life is considered in the context of health and disease, it is commonly referred to as health-related quality of life (HRQoL) to differentiate it from other aspects of quality of life.

Human immunodeficiency virus (HIV) is an infection that attacks the body’s immune system and Acquired Immune-Deficiency Syndrome (AIDS) is the most advanced stage of the disease. HIV targets the body’s white blood cells, weakening the immune system. This makes it easier to get sick with diseases like tuberculosis, infections and some cancers. HIV is spread from the body fluids of an infected person, including blood, breast milk, semen and vaginal fluids. It is not spread by kisses, hugs or sharing food and it can also spread from a mother to her baby. WHO gives a diagnosis of Advanced HIV Disease (AHD) in adults and adolescents with CD4 cell count less than 200cells/mm3 or WHO stage 3 or 4 and children with HIV younger than 5 years of age are considered to have advanced HIV disease (WHO, 2023) and untreated HIV can progress to AIDS.

As early as 1986, the American Psychological Association (APA), recognizing that the epidemic of Acquired Immune Deficiency Syndrome (AIDS) threatens the mental health and civil liberties, as well as physical health, of many

people, adopted the AIDS Resolution, which was passed by the APA Council of Representatives (1986). Since then, the APA has taken several measures towards the prevention, treatment and research of AIDS. For this purpose, Committee on Psychology and AIDS (COPA) was established by the APA Council of Representatives in 1990. Further, in February, 2012, the APA Council of Representatives, passed a resolution entitled "Combination of Biomedical and Behavioural Approaches to Optimize HIV Prevention."

HIV/AIDS is accompanied by multiple stressors, which include the management of treatment regimens that are complex. Disease management often requires significant lifestyle modifications and adaptation of daily activities to the demands of prescribed treatment regimen. In addition, the long-term benefit of pharmacotherapies remains a source of uncertainty, and adherence to HIV/AIDS treatment is considered to be among the most rigid of any disease given the potential for compromising the future effectiveness of these treatments and the development of resistance to the prescribed medication(s).

Religious Coping (RCOPE) is a religiously framed cognitive, emotional or behavioural responses to stress, encompassing multiple methods and purposes as well as positive and negative dimensions. Religion and spirituality translate into coping responses to stress in so far as they serve, as available and compelling orienting systems and especially when stressors test “the limits of personal powers.” Religion can provide a framework for understanding emotional and physical suffering and can facilitate perseverance or acceptance in the face of stressors (Pargament, 1997). Since HIV/AIDS threatens the mental health and civil liberties, as well as physical health, of many people, Researchers have identified significant associations between spiritual or religious coping and a variety of health outcomes, including psychological health, physical HRQoL in People Living with HIV/AIDS.

Perceived Social Support (PSS) refers to the subjective evaluation of how individuals perceive friends, family members, and others as available to provide material, psychological, and overall support during times of need (Grey et al., 2020). In other words, it is the confidence that we will be supported by a network of

individuals who care about us when we face challenges or difficulties in life. This sense of support can significantly impact quality of life, achievement, and overall health. When people feel valued, respected, cared about, and loved by those around them, it contributes to their well-being and ability to cope with stressors. Social support plays a crucial role in our lives, providing emotional and practical assistance during both positive and challenging times (McLean et al., 2022). Studies have reported that individuals who were more satisfied with social support were likelier to report lower HIV-related health symptoms, suggesting that social support is a robust predictor of health outcomes over time, independent of coping styles and baseline medical status.

At present, Mizoram holds the highest prevalence rate of HIV/AIDS …….in India. The number of PLWHA has been increasing day by day in Mizoram, reaching approximately 29,514 cases till September 2023. Research on health-related quality of life of PLWHAs and research focusing for the adoption of strategy to improve their quality of life is very limited, also research on the psychosocial aspects is felt to be highly needed to address the HIV/AIDS pandemic in general. The present endeavour is an attempt to explore and examine the health-related quality of life in people living with HIV/AIDS and to provide research foundations for policy, development of behavioural intervention programs and further extended studies.

HIV/AIDS threatens the mental health and civil liberties, as well as physical health, of many people. Research on health-related quality of life of PLWHAs and research focusing for the adoption of strategy to improve their quality of life is very limited, also research on the psychosocial aspects is felt to be highly needed to address the HIV/AIDS pandemic in general. The present endeavour is an attempt to explore and examine the health-related quality of life in people living with HIV/AIDS and to provide research foundations for policy, development of behavioural intervention programs and further extended studies.

Methodology

Sample: Purposive random sampling procedure was used for the present study. 200 PLWHA and 200 non- PLWHA (400), young adults between the ages of 20 to 40 (Sandrock, 2013) who were willing to participate were selected to serve as subjects for the study. The study was carried out in agencies such as ART Plus Centre, Community Care Centre, Integrated Counselling and Testing Centre (ICTC), Care and Support Centre and NGOs in Aizawl.

Design: The study incorporated 2X2 factorial design as depicted below such as 'Status of Participant' (PLWHA and non-PLWHA) and 'Gender' (Male and Female) to elucidate the relationship between Health-related quality of Life, Religious Coping and Perceived Social Support.

Psychological Tools Used: To test level of HRQoL 36 Item Short Form Survey (Ware and Sherbourne 1992) was used, to test religious coping Brief RCOPE (Pargament, 1998) was employed and to analyse PSS The Multidimensional Scale of Perceived Social Support (Zimet et al., 1988) was used.

Statistical Analysis: Data analysis was done with the help of SPSS 26. To test reliability and correlation, Cronbach Alpha and Pearson Co-efficient of Correlation were employed. Parametric statistics i.e., Independent T-test, Pearson Co-efficient of Correlation and One-way ANOVA Test were employed for the analysis of data.

Results

The results of the study revealed that the reliability (internal consistency) of the scales emerged to be satisfactory (more than 0.50) over the levels of analysis for the whole sample, indicating the trustworthiness of the scales, namely 36 Item Short Form Survey (SF 36), Brief RCOPE and Multidimensional Scale of Perceived Social Support (PSS) and their sub-scales for measurement purposes in the project population. Pearson Coefficient of Correlation was employed to analyse correlation between each of the scales and subscales and the result indicated that SF 36 and PSS had a significant correlation at 0.01 level (2 tailed) and Brief RCOPE and PSS also had significant correlation at 0.01 level (2 tailed). However, no significant correlation was found between SF 36 and Brief RCOPE.

Level of Health-related Quality of Life among People Living with HIV/AIDS (PLWHA) and Non-Positive (non-PLWHA): The Mean score of PLWHA was 2037.55 and non-PLWHA had a Mean score of 2488.58 in HRQoL, which indicates that PLWHA had lower health-related quality of life than non-PLWHA with a significant Mean difference of 451.02. The finding of the present study is congruent with the findings of the study which showed lower HRQoL in PLWHA than the general population (Miners et al., 2014; Hays et al., 2004; Seguiti et al., 2022; Do et al., 2014). The findings of the present study however, indicate low HRQoL, where although, 98% of the participants were on ART treatment and only 2% were not on ART, and that 24% of the participants reported admission to hospital due to HIV related diseases. The sociodemographic data which indicated a significant difference in HRQoL, among different family income ranges with 6% of variability in health-related quality of life, shows that 78% of PLWHA participants were in the monthly income range of ₹30,000 and below and with regards to occupation, 35.5% of the participants were unemployed, 50% were self-employed and 14.5% were employed, these factors may account for the low quality of life, in line with studies which have reported lower quality of life in developing countries then in developed countries (Moreno-Montoya et al., 2018).

Correlation between HRQoL and Religious Coping among PLWHA: In the present study, health-related quality of life and religious coping had a significant positive correlation at .14 which was significant at 0.05 level (2 tailed). HRQoL had significant positive correlation ($p<0.01$) with positive coping and significant negative correlation ($p<0.01$) with negative coping. This finding is in line with the finding of the study which showed correlation between HRQoL and religious coping (Fryback & Reinert, 1999; Hobfoll, 2002; Taylor, 1983; Taylor et al., 2000). In case of the present study, 100% of PLWHA participants reported they were Christians, but only 37.5% of the participants reported they attended church services on a regular basis, which was followed by sometimes (48.5%), one or two times in a year (10%) and never attended (4%). Besides, only 6.5% reported they attended religious programmes on a regular basis, followed by sometimes (52.5%), one or two times in a year (14.5%) and never attended (26.5%). In Mizo society, since the perception of the religiosity/spirituality status of a person is largely measured by the frequency of attending church services and religious programmes, the findings to a large extent may be one of the factors for low quality of life.

Correlation between HRQoL and Perceived Social Support among PLWHA: In the present study, HRQoL had significant positive correlation with perceived social support at .28 ($p<0.01$). HRQoL had significant positive correlations ($p<0.01$) with significant others, family and friends (subscales of PSS). This finding is in line with the findings that show perceiving a high availability of support may enhance adjustment to HIV infection directly through improved adherence to treatment (e.g., Ashton et al., 2005; Alemu et al., 2012) and also indirectly through buffering the effect of HIV-related stigma on mental functioning and quality of life among these patients (Bekele et al., 2013; Breet et al., 2014). In case of the present study, 66% of PLWHA participants reported they never attended programmes organised by positive societies or organizations, or never being the member of positive society or organization. And, only 34% of participants reported they attended or being members. Involvement in the organization/society of positive network could be a good source of social support, but in the case of the present study more than half of the participants were not involve in this kind of programmes and associations.

Correlations between Health-related Quality of Life (HRQoL), Religious Coping and Perceives Social Support (PSS) among non-PLWHA: Health-related quality of life and religious coping had a correlation at .04 which was considered not significant. However, health-related quality of life and perceived social support had a correlation at .28 which was significant at 0.01 level (2 tailed). From the result obtained, we can say that there was no significant correlation between health-related quality of life and religious coping among non-PLWHA. However, there was significant positive correlation between health-related quality of life and perceived social support among non-PLWHA.

Gender Differences Between Male and Female Participants: The result obtained shows there was significant mean difference between male and female participants of PLWHA in health-related quality of life by conducting T-test and the Mean difference was 164.00. From the result obtained, female PLWHA (M=1955.55) had lower health related quality of life than male PLWHA (2119.55). This finding is in line with the findings of researchers examining gender differences in HRQoL in HIV patients group consequently observed lower HRQoL among HIV-infected women than HIV-infected men (Campsmith et al., 2003; Mrus et al., 2005; Chandra et al., 2009).

Further, there were significant mean differences between male and female participants of PLWHA in religious coping and their mean difference was -1.96. Female PLWHA (M= 38.22) had higher religious coping than male participants (M= 36.26). This finding is consistent with the finding of the study conducted by Hvidtjørn et al., (2014) which showed higher religious coping among female than male.

Lastly, there was significant mean difference between male and female participants of PLWHA in perceived social support and their mean differences was 5.47. Male participants (M= 61.95) had higher perceived social support than female participants (M= 56.48) and this study is inconsistent with the study conducted by Osman et. al. (2014) which says compared to females, males perceive to have less social support and are less satisfied with their social support (Semple et. al., 1996).

Comparison between PLWHA and non-PLWHA in HRQoL, RCOPE and PSS: From the results obtained, PLWHA had a Mean score 2037.55 and non-PLWHA had a Mean score 2488.58 in HRQoL which indicates that PLWHA had lower health-related quality of life than non-PLWHA. This finding is in line with the finding of different studies which showed that PLHIV often have lower QoL compared to the general population due to the longevity of the infection and chronic disease aspects (Seguiti et al., 2022). However, significant mean differences were not found in religious coping and perceived social support between PLWHA and non-PLWHA.

Relationship between socio-demographic variables and HRQoL among PLWHA: Several socio-demographic characteristics such as age, gender, education and employment were also factors associated with lower QOL (Venter et al., 2009; O'connel et al., 2003).

HRQoL and Education: The result of one-way ANOVA test showed significant difference was not obtained among different educational level of PLWHA in HRQoL. This finding is inconsistent with a cross-sectional study conducted in Casablanca district of Zaragoza (Spain) by Marta Gil-Lacruz et al., 2020 a result was obtained that showed the higher the level of education, the better the level of HRQOL.

HRQoL and Employment Status: One-way ANOVA test result showed that there was no significant difference in HRQoL among three different employment status.

Level of HRQoL and Family Income: One-way ANOVA test revealed a significant difference (.00) in health-related quality of life among five different family income ranges. The Eta Square was .06 and it shows 6% variability in health-related quality of life was accounted for by family income. This finding is congruent with the study conducted by Shaozhe Zhang & Wei Xiang, 2019; Marmot, 2002).

Level of HRQoL and Marital Status: One-way ANOVA test result revealed that no significant difference was obtained among six different marital status of PLWHA in health-related quality of life.

Level of HRQoL and Substance Use Status: A significant difference was not obtained in HRQoL among seven different substance use status of PLWHA by employing One-way ANOVA test.

Summary and Conclusion

The present study was designed with the objectives to determine the levels of Health-Related Quality of life (HRQoL) in PLWHA and non-PLWHA, to explore the relationship between Religious Coping and levels of HRQoL among PLWHA and non-PLWHA, to explore the relationship between the Perceived Social Support and levels of HRQoL among PLWHA and non-PLWHA, to highlight gender differences between the variables under study, to elucidate the relationship between HRQoL, Religious Coping and Perceived Social Support among PLWHA and finally, to study the relationship between the socio-demographic variables and levels of HRQoL among PLWHA and non-PLWHA. In order to achieve the objectives of the study, six hypotheses were formulated and statistical analyses were conducted as per the requirement to meet the objectives of the study as follows:

Hypothesis 1

Hypothesis 1 predicted that the level of HRQoL of PLWHA would be low in comparison to non-PLWHA, in line with studies conducted on HRQoL, where participants of People living with HIV reported significantly lower HRQoL than do the general population (Miners et al., 2014; Cooper et al., 2017; Skogen et al.,2023). To examine this, the total scores obtained by the subjects on HRQoL was analysed. The results revealed that HRQoL level in PLWHA was high (63 %) and (37%) was low and in non-PLWHA was high (88%) and (12%) was low. The result of T-test further showed there was significant mean difference in HRQoL between PLWHA and non-PLWHA and the difference was 452.50. Therefore, the results showed that level of HRQoL was lower in PLWHA than non-PLWHA, thus Hypothesis 1 was supported.

Hypothesis 2

Hypothesized that there would be a significant positive correlation between health-related quality of life and religious coping among PLWHA. To examine this, Pearson Co-efficient of Correlation test was employed to assess the relationship between health-related quality of life and religious coping. The result shows that health-related quality of life and religious coping had a correlation at .14 which is considered significant at 0.05 level (2 tailed). From the result obtained indicate that there is a positive correlation between health-related quality of life and religious coping. This finding is consistent with the finding of the study which indicated that individuals with HIV/AIDS often found deeper meaning in life through a spiritual perspective after the diagnosis, and also experienced enhanced quality of life (Fryback & Reinert, 1999). Therefore hypothesis 2 was supported.

Hypothesis 3

Hypothesis 3 predicted that there would be a significant positive correlation between health-related quality of life and perceived social support among PLWHA. To analyse the hypothesis Pearson Co-efficient of Correlation was employed and results revealed a significant positive correlation between health-related quality of life and perceived social support. Health-related quality of life and perceived social support had a correlation at .28 which was significant at 0.01 level (2 tailed). This finding is consistent with the findings of the studies that shows perceiving a high availability of support may enhance adjustment to HIV infection directly through improved adherence to treatment (e.g., Ashton et al., 2005; Alemu et al., 2012) and also indirectly through buffering the effect of HIV-related stigma on mental functioning and quality of life among these patients (Bekele et al., 2013; Breet et al., 2014).). This finding support hypothesis 3.

Hypothesis 4

Hypothesis 4 predicted that there would be significant gender difference between the two groups on the variables under study. To explore the gender difference, T-test was employed. The result obtained from the T test shows there were significant mean differences between male and female participants of PLWHA

in HRQoL, RCOPE and PSS and their mean differences were 164.00, -1.96 and 5.47 respectively. This finding is in line with the findings of researchers examining gender differences in HRQoL in HIV patients group consequently observed lower HRQoL among HIV-infected women than HIV-infected men (Campsmith et al., 2003; Mrus et al., 2005; Chandra et al., 2009).

A significant gender difference was obtained in perceived social support among PLWHA which further signifies that male participant were higher in perceived social support than female participants and this finding is incongruent with the study conducted by Osman et al., in 2014 which showed compared to females, males perceive to have less social support and are less satisfied with their social support (Patterson et. al., 1996). But a significant gender difference in perceived social support was not obtained in non-PLWHA.

Hypothesis 5

Hypothesis 5 hypothesized that there would be significant differences between PLWHA and non-PLWHA on health-related quality of life, religious coping and perceived social support. The result shows there was significant difference in health-related quality of life between PLWHA and non-PLWHA and their mean difference was 451.02. The result indicates that PLWHA had lower health-related quality of life than non-PLWHA. This finding is supported by the findings of the study conducted by Miners et al., 2014; Cooper et al., 2014 and Skogen et al., 2023.

However, no significant differences in religious coping and perceived social support between PLWHA and non-PLWHA was observed.

Hypothesis 6

Hypothesis 6 expected that the socio-demographic variables may account for differences in the level of HRQoL in PLWHA. The result shows there was significant difference in HRQoL among different type ranges of family income in which 6% of variability for HRQoL was accounted for by family income. This finding supported hypothesis 6. However, significant difference in HRQoL was not seen in education, occupation, marital status and substance use status. This finding is

consistent with the finding of the study conducted by Swindle et al., (1999) which showed that quality of life did not correlate with age, sex, race, HIV risk factor, education or marital status

The present endeavour was conducted to study Health-related Quality of Life, Religious Coping and Perceived Social Support among People Living with HIV/AIDS in the Mizo population. The findings of the present study indicate that Mizo PLWHA have lower health-related quality of life in comparison to general population even though most of the infected individuals are on anti-retroviral therapy treatment in the present study, where 98% of participants undertaking ART treatment. According to MSACS report, till September 2023, among 29,514 diagnosed of HIV infection, 21,303 individuals already started ART which means 72.18% of PLWHA already accessed ART treatment. Improvement in antiretroviral therapy (ART) has led to increased survival in PLWH. Despite these improvements, HIV infection and its related problems still have a notable impact on health-related quality of life (HRQOL), even in people who are virally suppressed as a result of taking ART (Reshadat et al., 2016).

Quality of Life (QOL) is one of the key factors to evaluate the health status of PLWH, and its improvement is one of the important goals of treatment. Assessing the QOL can provide an accurate assessment of how patient life is affected by diseases and treatments (Préau et al., 2019). To improve the status of health-related quality of life among Mizo PLWHA, it is necessary to adopt an advanced treatment strategy besides providing ART. For this purpose, the present study is conducted to find out whether these two variables such as religious coping and perceived social support have a significant impact on the perception of health-related quality of life among PLWHA.

The findings of the study also demonstrated that religious coping and perceived social support have a significant positive impact in the perception of health-related quality of life among Mizo PLWHA. The result of the present study shows that PLWHA who are high in religious coping and perceived social support also show high level of health-related quality of life. Among general population who

participated for the present study all of them were Christians and 61.5% regularly attended church services while 37.5% of PLWHA participants regularly attended church services. This study further demonstrated that gender also plays a significant role in the perception of health-related quality of life, religious coping and perceived social support. The result of the present study further demonstrated that females have high perception of health-related quality of life than males. And, females also have high perception of social support than males. Whilst, significant difference cannot be obtained between male in female in religious coping based on the present study.

The results of the present study indicated lower quality of life in PLWHA, which are attempted to be explained in the light of the findings of the study, the sociodemographic data indicated a significant difference in HRQoL in PLWHA, in the family income data which is mostly low, which may account for the low quality of life, as several studies have reported that socio economic status is one of the factors for low quality of life. With regards to the HRQoL and its subscales except for Physical Functioning subscale, the other seven indicated low quality of life in PLWHA, Also, although ART adherence among PLWHA improves HRQoL as reported by research studies, the findings of this study which indicate that adherence to ART is high in the population under study, is contrary with the research in the field. With regards to Religious Coping and Social Support and its subscales the findings indicate significant correlations in HRQoL with the dependent variables in PLWHA, but there was no difference between PLWHA and non PLWHA, which are in line with other studies. Additionally, the cultural and societal aspects may also be attributed to play a role.

Significance of the Present Study: At present, Mizoram holds the highest prevalence rate of HIV/AIDS among states in India. The number of PLWHA has been increasing day by day in Mizoram, reaching approximately 29,514 cases till September 2023. Research to analyse health-related quality of life of PLWHAs and research focusing for the adoption of strategy to improve their quality of life is very limited, also research on the psychosocial aspects is felt to be highly needed to address the HIV/AIDS pandemic in general. Research on health-related quality of life of PLWHAs and research focusing for the adoption of strategy to improve their

quality of life is very limited, also research on the psychosocial aspects is felt to be highly needed to address the HIV/AIDS pandemic in general. The present endeavour is an attempt to explore and examine the health-related quality of life in people living with HIV/AIDS and to provide research foundations for policy, development of behavioural intervention programs and further extended studies.

Limitations: The study has several limitations. First, sample for the present study (N=200) was from the PLWHA population availing HIV/AIDS services, and since services are provided only by Centres and NGOs in Aizawl, the sample cannot represent the whole PLWHA population in Mizoram. Secondly, inclusion of a PLWHA group not availing ART treatment could present a more comprehensive picture of the HRQoL of the population. Thirdly, an in-depth longitudinal study would present a with bigger and more inclusive sample in the future.

Suggestions: Based on the findings of the present study, further indepth longitudinal studies on HRQoL in PLWHA for possible changes over the course of HIV illness and to determine how these changes may be incorporated for development of intervention strategies, and development of policy by the government and other stakeholders could be conducted.

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