COPING STRATEGIES PREDICTING QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV/AIDS

Bamidele Emmanuel OSAMIKA
Department of Psychology, Lead City University, Ibadan, Oyo –State, Nigeria
bamifedd@gmail.com

Abstract

Sub-Saharan Africa still been prevailed with a pandemic health and development problem known to be HIV/AIDS with the prevalence well noted in Nigeria. Immediately after been diagnosed with HIV/AIDS patients begin to experience poor quality of life. Coping strategies is identified as an influencing factor predicting quality of life (QoL) of people living with HIV/AIDS (PLWHA). This study examines coping strategies predicting quality of life of PLWHA attending antiretroviral therapy at the Hematology and Pathology Clinic, State Specialist Hospital, Akure, Ondo State, Nigeria. Using multiple regression analysis, a cross sectional design and a purposive sampling method was employed to sample two hundred and ten PLWHA. A structured questionnaire focusing on socio-demographic profile, coping strategies and the World Health Organization Quality of Life Questionnaire for HIV-Brief Version (WHOQOL-BREF) instrument was administered to the participants. The results showed that coping strategy significantly predict physical ($R=0.41$;$R^2=0.17$; $p<.05$), psychological ($R=0.55$;$R^2=0.28$; $p<.05$), social relationship ($R=0.50$;$R^2=0.25$; $p<.05$), environment ($R=0.55$;$R^2=0.31$; $P<.05$), spirituality ($R=0.51$;$R^2=0.26$; $p<.05$) domains and overall WHOQOL-BREF ($R=0.58$;$R^2=0.21$; $p<.05$) of PLWHA. However, coping strategy didn't significantly predict level of independence domain

(R=0.25;R^2=0.06; p>.05) of quality of life. Specifically, self–distraction (B=0.11;β=0.21; p<.05), active (B=-0.14;β=-0.21; p<.05), acceptance (B=0.12;β=0.19; p<.05) and religion (B=0.08;β=0.15; p<.05) coping strategies independently predict overall WHOQOL-BREF of PLWHA. Also, highest and lowest mean score was recorded in environment and spirituality domains of WHOQOL-BREF respectively. Among PLWHA, coping strategy is essential indicator for the improvement of QoL. Coping strategy plays an important role in the determinant of domains and overall quality of life of PLWHA.

Keywords

Coping Strategies, WHO-BREF Quality of Life, People Living with HIV/AIDS

1. Introduction

Sub-Saharan Africa is still been prevailed with a pandemic health and development problem known to be Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (Laar, et al., 2015). Since the detection of HIV at the beginning of the 1980s, HIV/AIDS has been one of the greatest health problems in the world (Fauci, 1999). In fact according to the report of UNAIDS (2016), South African, Nigerian, and Ugandan, constitute almost half of all annual new people living with HIV/AIDS infections in sub-Saharan Africa and about 210,000 people died from AIDS-related illnesses in Nigeria in 2013, which is 14% of the global total; while Nigeria was ranked second after South Africa, an estimated 22.5 million people were discovered to be living with HIV and AIDS in sub-Saharan Africa as of the end of 2009 (UNGASS, 2011). Similarly, in UNAIDS (2013), reported in their 2012 Global Report, that over two-thirds of the over 35 million people living with HIV worldwide live in sub-Saharan Africa. Likewise, as observed by UNAIDS (2014), about 9% of the people living with HIV globally, lives in Nigeria which hence makes the prevalence of HIV/AIDS is well noted in Nigeria. Consequently, studies has shown that immediately after being diagnose with severe chronic disease like HIV/AIDS, patients begin to experience poor quality of life (Andrykowski, Brady &Hunt, 1993; Breetvelt, Albrecht & Devlieger, 1999), Also, this disease (HIV/AIDS) initiate debilitating effects on all aspects of the lives of the affected individuals and families; such effect ranging from physical, psychological health, economic and social aspects of life (Beck, Miners & Tolley,2001; Walker, Grassly, Garnett, Stanecki & Ghys,2004;UNGASS, 2011).

Quality of life is very paramount component in evaluating the psychological well-being of people living with HIV/AIDS (PLWHA) (Srivastava, et al., 2016). Hence, the need to find out about the psychosocial effects of testing positive for HIV are important and probing mechanisms used by the patients in managing with their clinical condition is paramount, as psychological issues have severe effects on the quality of life of people living with HIV/AIDS (Osamika & Mayungbo, 2017).Quality of life according to World Health Organization is the individuals' perceptions of their positions in life established on the culture, value systems in which they live and in relation to their goals, standards, expectations and concerns (WHO, 1998; Kohli, Sane, Kumar, Paranjape& Mehendale, 2005), Similarly, QoL is conceptualized as the absence of pain or inability to perform daily life functions (Friedland, Renwick & McColl, 1996) and the degree to which a person's life is desirable or undesirable (Cummins,1997).

Coping strategies has been identified as the modifiable factor which is associated with QOL (Minazzato, et al., 2009; Nickel, Wunsch, Egle, Lohse, & Otto, 2002, Basavaraj, Navya & Rashmi, 2010) and has been found to be a very important factor influencing QOL on PLWHA (Vivian, 2008; Rogers, McIntosh, Monica, & Rosselli, 2012). As posited by Laar, et al., (2015) was that, there are cyclical negative coping mechanisms among patients living with HIV/AIDS which leads to the adoption of various coping strategies. Patient education in various coping skills can be used to change the risk of poor QOL (Santo, 2010; Jurado, et al., 2011). Hence the significance of coping strategies in the psychosocial adjustment of individual with chronic diseases especially HIV/AIDS cannot be over-scored (Smedema, Catalona & Ebener, 2010).According to Carver (1997), coping is a dynamic process which changes over a period of time, difference among individuals and concerned with the thought and actions made in stressful and threatening situations. Also, coping is how people respond when they confront difficult or stressful events in their lives and try various ways to deal with the stress (Carver, 2013). Even though, coping was initially conceptualized by Lazarus (1993) as a cognitive process consisting of threat and resource appraisal and the active selection and execution of coping responses. Coping styles greatly influence the psychological impact and could predict the quality of general health of HIV infection. According to Lazarus & Folkman (1984) coping styles can either problem focused: which aimed at problem solving or doing something to alter the source of the stress (such as active and restraint coping, planning, suppressing, seeking of instrumental support) or emotion focused: which aimed at reducing or managing the emotional distress that is

associated with the situation (such as seeking emotional support, positive reinterpretation, acceptance, denial and turning to religion). Carver & Scheier, (1985) and Aldwin & Revenson, (1987) disputed this two types of coping with their ideal that most stressors elicits different types of coping and coping style can come from different angle such as behavioural disengagement (Moos, 1986), mental disengagement (McCrae, 1984), denial, acceptance and turning to religion (Breznitz 1983, Wilson 1981; MCCrae & Costa, 1986), self-distraction, active coping, planning, use emotion, substance abuse, venting, positive reframing, denial, humour, acceptance, religion, self-blame, use of instrumental support and behavioural disengagement (Carver, 1997). From a psychobiological perspective, the way HIV-infected subjects respond to their condition might also have a role in affecting disease parameters.

Hence, Lazarus & Folkman (1984) submitted that coping by denial (avoidance) associated with a significantly lower QOL. On the other hand, studies have discovered that people living with HIV/AIDS finds it difficult to undergo daily tasks of living such as participating in moderate to vigorous physical activities, or have sufficient energy to engage in an active social life while their managing HIV/AIDS (Basavaraj, et al., 2010). As such their low energy has been found to be linked with poor QOL (Zinkernagel, et al., 1999) including physical and psychological morbidity (Breitbart, McDonald, Rosenfeld, Monkman & Passik, 1998). Coping by disengagement or avoidance associated with greater health-related stress among people living with HIV/AIDS (Schmitz & Crystal, 2000), poor social functioning, such as withdrawal and difficulty in social interactions whereby resulting to poorer overall social functioning (Fleishman, et al., 2000). PLWHA who increase their use of avoidance coping strategies such as behavioural disengagement and self-distraction and their use of alcohol and drugs may have poorer physical and social functioning of quality of life (Moneyham, et al., 1998) which may suggest that coping by avoidance may directly reduce PLWH's productivity. Turning religious as a coping strategy among PLWH helps the patient to become more spiritual, and spirituality has been fund to be an important contributor to feelings of well-being among PLWH which has linked to meaningfulness and improved quality of life (Holmes, Bix, Meritz, Turner & Hutelmyer, 1997; Coleman & Holzemer, 1999). Moreover, Tarakeshwar, et al., (2006) discovered in their study that religious coping plays an important role for the QOL of patients, contrary to Lee, (2012) who found out that there was no significant association between positive religious coping and overall quality of life among people PLWHA. However, results from

Jawad, Shalaweh, Kamal, & Roman, (2016)'s study on the relationship between quality of life, psychological distress and coping strategies of persons living with HIV/AIDS showed that certain coping styles such as substance abuse and behavioural disengagement negatively predict quality of life of patients with HIV/AIDS, while some positive predictors included active coping, self-distraction, venting, positive reframing, humour, acceptance and religion. Seligman, (2002) pointed out that maintaining a positive attitude, optimism, and happiness among PLWHA as a coping styles can lead to longer lives, less disability, and increased quality of life. In Deepika, Khakha, Bimla & Kapoor (2015) study, the effectiveness of structured coping strategies intervention was assessed such as informational support about HIV, adaptive coping strategies, seeking social support, mental hygiene and living positively on coping of people living with HIV/AIDS and association between coping and quality of life.

Furthermore, Imam, Karim, Ferdous, & Akhter, (2011) found in their cross sectional study that most of the respondents were with low QOL in all domains of health related quality of life and the proportion of the respondent with low QOL was higher in the domain of social relationship (64.6%) followed by psychological domain (59.8%), physical domain (58.5%), level of independent domain (56.1%),environmental domain (52.4%) and spiritual domain(52.4%) of QOL. Similarly, results from the discovery of Smith, et al.,(2013) in their medians scores of domains of QOL of PLWHA were found in this descending order, physical (61), social (58) environmental (56) and psychological (54). Likewise, Bello, & Bello, (2013)'s study revealed that overall mean scores for health related quality of life were 72 for the physical domain, 67 for the psychological domain, 65 for the environment domain, and 47 for the social domain and Liping, Peng, Haijiang, Lahong, & Fan (2015) reveals that among PLWHA, there are record of relatively lower scores in their social relation and environmental domains; while in Karkashadze, Gates, Chkhartishvili, DeHovitz, & Tsertsvadze, (2017) showed that PLWHA scored highest in social relationship domain and lowest in level of independence domain of their quality of life. Conversely, Folasire, Irabor and Folasire (2012) reported higher mean scores in the psychological domain followed by physical domain and environmental domains, but the lowest score was observed in the social domain. Fleishman, et al., (2000), proposed that problem solving and active decision making are likely to be more beneficial to encourages passive acceptance of the illness and as such improve quality of life of the patient.

In view of this, various studies have evaluated coping strategies on quality of life, but few published studies have investigated coping strategies on dimensions of WHO-BREF quality of life among PLWHA. This study therefore examines coping strategies as predicting dimensions of WHO-BREF quality of life of people living with HIV/AIDS. This study is relevant in the management of PLWHA. It provides information on what is considered essential to PLWHA. The following research questions were raised in the course of the research: Will coping strategies independent and jointly predict domains and overall WHO-BREF quality of life? What are the proportions of the mean scores of the domains of WHOBREF quality of life?

Based on the review of the literature two hypotheses were formulated and tested:

- Coping strategies will independently and jointly predict domains and overall WHO-BREF quality of life.

- Psychological, physical and environment domains will significantly have the highest mean scores of WHO-BREF quality of life.

2. Methods

The study was a cross sectional survey research design. The variables examined coping strategies (which include: self- distraction, active coping, denial, substance use, use of emotion, use of instrumental support, behavioral disengagement, venting, positive reframing, planning, humor, acceptance, religion, and self-blame) and WHO-BREF quality of life (domains consist of: physical, psychological, level of independence, social relationship, environment, spirituality). Two hundred and ten PLWHA attending the antiretroviral therapy participated in the study. The age of the selected sample ranged between 18 and 90 years with a mean of 3.09 and standard deviation of 0.91. One hundred and fifty one female (72%) and 59 (28.1%) males participated in the study. Thirty-four (16%) participants were unmarried, 136 (65%) were married, 28 (13%) widowed and 12 (6%) divorced at the time of the study. Sixteen (8%) of the sample were students, 99 (47%) workers, 36 (17%) unemployed, and 59 (28%) involved in business/others activities. One hundred and eighty three (87%) Christians, 25 (12%) Islam and 2(1%) were from other religions. Thirty three (16%) had primary leaving certificate, 91(43%) had O'level, 46(22%) had NCE/OND, 38(18%) had HND/BSC and 2(1%) had PG educational qualification. Concerning the clinical information of the patients' HIV-serostatus, 66(31%) reported HIV-

positive-asymptomatic, 138 (66%) patients claimed HIV positive-symptomatic and 6 (3%) patients were in advanced AIDS stage. Their medical outcome depicts, 85(40%) were less than 200 while 125 (60%) were greater than 200. The research setting for this was the Hematology and Pathology Clinic of the State Specialist Hospital, Akure South Local Government Area, Akure, Ondo State, Nigeria.

The research instrument for this study was a structured questionnaire which consists of three sections: A, B and C. Section A: consists of the social-demographic characteristics of the participants such as, age, gender, employment status, religion, educational qualification and clinical information. Section B was the WHOQOL-HIVBREF, this scale was a 31 items scale developed by World Health Organization Group WHOQOL (2002).The scale was designed to measure general quality of life, general health perceptions, and dimensions of quality of life in terms of physical (items 3, 4, 14 and 21), psychological(items 6, 11, 15, 24 and 31), level of independence (items 5, 22, 23, and 20), social relationships (items 27, 26, 25, and 17), environment ((items 12, 13, 16, 18, 19, 28, 29, and 30) and spirituality (items 7, 8,9 and 10). item one (1) measures overall quality of life while item two (2) measures general health perception. Items (3, 4, 5, 8, 9, 10 and 31) were reversely scored. The 5-point likert-type scale, range from not all, a little, moderate amount, very much, and an extreme amount, and were scored 1 2 3 4 and 5 respectively. The Cronbach alpha of the scale in this study is 0.734. Additionally, section C of the research instrument was measuring coping strategies. COPE scale was adopted in this study; the scale was developed by Carver, Scheier, & Weintraub (1987) to measure ways of coping with life stress. The 28 items in 5-point Likert type response format, ranging from strongly disagree to strongly agree. The test –retest reliability as reported by the author was 0.96, while the Cronbach alpha in this study is 0.834. The scale was designed to yield fourteen subscales, comprised of two items each, Some of the computed items are on active coping (items 2 and 7), denial (items 3and8), substance use(items 4and11), use of emotional support (items 5and15), use of instrumental support(items 10 and 23), acceptance (items 20and24), religion(items22and27), self-blame (items 13 and 26), humor (items 18 and 28), positive reframing (items12 and 17), planning (items 14 and 25), venting items(9 and 21), behavioral disengagement (items6 and 16), self- distraction (items 1and 19). All items were scored directly with no reverse scoring. The researcher obtained the required permissions from the hospital authorities and an approval from the head, Hematology and Pathology department of the State

Specialist Hospital, Akure. Then, the researcher inquired about clinic days for PLWHA and arranged with the clinic management, the researcher returned to the clinic on the said dates for data collection. The data collection lasted for two weeks at the research location. However, out of the two hundred and twenty (220) administered questionnaires, two hundred and ten (210) questionnaires were screened for proper and accurate responses. Consent of the participants was sought before the administration and the purpose of the study was clearly described, all questions and queries were attended to. Questionnaires were administered under the condition of anonymity and the responses were treated with utmost confidentiality. Each section of the questionnaire was in Likert point response format except the demographic variables where some were unstructured. Completed and accurately filled copies of the questionnaires were scored and analyzed using Statistical Package for the Social Sciences (SPSS) software (v20). Analysis was done using descriptive and multiple regression analysis. The researcher applied the Health Research Ethics Committee at the State Specialist Hospital, Akure, Ondo State, for the sake of ethical approval of the study, and the approval was granted between 10 June and 10 December 2015, to conduct the study. A representative of the review board monitored the research work to ensure compliance with all institutional guidelines, rules, regulations and with the tenets of the code. Both verbal and written informed consents were obtained from each participant before the administration of questionnaire.

3. Results

Table 1: *Multiple regression analysis showing the prediction of coping strategies on the domains and overall WHO-BREF quality of life among PLWHA*

	Domains of Quality of Life																				
	Physical			Psychological			Level of Independent			Social Relationship			Environment			Spirituality			Overall Qol		
Coping Strategies	B	β	Sig.	B	β	Sig.	B	β	Sig.	B	β	Sig.	B	β	Sig.	B	β	Sig.	B	β	Sig.
Self-Distraction	30	.13	.10	-24	-.15	.04	18	.07	37	-25	-.17	.02	-13	-.05	46	14	.07	34	11	21	.01
Active Coping	-37	-15	07	26	15	05	-29	-11	20	22	14	06	06	02	76	-27	-13	10	-14	-25	00
Denial	11	05	56	-40	-24	00	-12	-05	56	-04	-03	74	-35	-15	05	15	08	31	-03	-05	52
Substance Use	11	06	48	12	10	23	-11	-06	54	19	18	04	11	06	47	19	13	13	06	16	07
Use of Emotion	24	10	24	-01	00	96	-01	00	98	-03	-02	82	50	20	01	30	15	06	08	15	08
Use of Instrumental Support	12	06	50	-09	-06	44	04	02	84	16	12	13	-17	-07	32	07	04	63	01	02	81
Behavioural Disengagement	54	25	00	38	25	00	49	22	02	36	27	00	92	41	00	27	15	07	04	09	28
Venting	-28	-11	16	02	01	89	-04	-01	87	-21	-14	07	-13	-05	50	-48	-22	00	-02	-04	60
Positive Reframing	-11	-05	49	09	06	41	-15	-07	41	-16	-13	09	-09	-04	55	-03	-01	85	02	04	62
Planning	38	16	06	05	03	73	12	05	59	-17	-11	16	-09	-04	64	33	16	05	-04	-07	37
Humour	-18	-10	24	-42	-31	00	-02	-01	91	-05	-04	57	-52	-26	00	-10	-06	42	-06	-15	06
Acceptance	07	03	70	47	25	00	38	14	09	40	25	00	82	30	00	-14	-06	37	12	19	01
Religion	-13	-05	50	31	18	02	05	02	81	29	19	01	41	16	03	12	06	45	08	15	05
Self-Blame	-03	-02	84	09	06	41	-15	-07	39	-04	-04	64	-19	-09	22	32	19	01	-07	-15	06
P	<.05			<.05			>.05			<.05			<.05			<.05			<.05		
R	.41			.55			0.25			0.50			0.55			0.51			0.45		
R²	.17			.28			0.06			0.25			0.31			0.26			0.21		

Dependent variable: Quality of Life

Table1. Reveals the multiple regression analysis showing the prediction of coping strategies on domains of quality of life and overall quality of life., The results shows that coping strategies (R=0.41, R^2=0.17; p<.05) significantly predict physical domain of quality of life while behavioral disengagement coping strategy (B=0.54, β=0.25; p<.05) independently predict physical domain of quality of life of people living with HIV/AIDS. This simply means that coping strategies shows 0.41 degree of relationship with physical domain of quality of life. In other words, coping strategies shows 17% amount of proportion with physical domain of quality of life that can be explained by the relationships of the coping strategies. Additionally, 0.54 is the amount of change that occurred in physical domain quality of life, per unit change in the behavioral disengagement coping, while behavioral disengagement coping independently shows 25% impact on the physical domain of quality of life of PLWHA.

Furthermore, coping strategies (R=0.55, R^2=0.28; p<.05) significantly predict psychological domain of quality of life. While self-distraction (B=-0.24, β= -0.15; p<.05), Active coping (B=0.26, β=0.15; p<.05), Denial (B= -0.40, β=-0.24; p<.05), Behavioral Disengagement (B=0.38, β=0.25; p<.05), Humor (B=-0.42, β=-0.31; p<.05), Acceptance(B=0.47, β=0.25; p<.05), Religion (B= 0.31, β= 0.18; p<.05) coping strategies independently predict psychological domain of quality of life of people living with HIV/AIDS. This result shows that coping strategies shows 0.55 degree of relationship with psychological domain of quality of life. In other words, coping strategies shows 28% amount of proportion of psychological domain of quality of life that can be explained by the relationships of the coping strategies. Moreover, 0.24 is the inverse amount of change that occurred in the psychological domain of quality of life, per unit change in the self –distraction coping, while self –distraction independently shows -15% impacts on psychological domain of the quality of life. Also, active coping shows 0.26 amount of change that occurred in psychological domain of quality of life, per unit change in the active coping.

Likewise, active coping displays 15% independent impacts on the psychological domain of quality of life. Denial coping inversely shows 0.40 amount of change that occurred in psychological domain of quality of life per unit change in the denial coping, whereas, denial coping strategy independently shows an inverse 24% impacts on psychological domain of quality of life. In addition, behavioral disengagement coping shows 0.38 amount of change that occurred in psychological domain of quality of life per unit change in behavioral disengagement coping strategy, also behavioral disengagement coping independently shows 25% impacts on

psychological domain of quality of life. Similarly, humor coping strategy depicts an inverse 0.42 amount of change that occurred in psychological domain of quality of life per unit change in humor coping strategy, also humor coping strategy shows an impacts of 31% on psychological domain of quality of life. Likewise, acceptance coping strategy illustrates 0.47 amount of change that occurred in psychological domain of quality of life per unit change in acceptance coping strategy, meanwhile, acceptance coping strategy indications an impacts of 25% on psychological domain of quality of life. Religion coping strategy displays 0.31 amount of change that occurred in psychological domain of quality of life per unit change in religion coping strategy, besides religion coping strategy shows 18% impacts on psychological domain of quality of life of PLWHA.

Conversely, coping strategies did not significantly predict level of independence domain of quality of life (R=0.25, R^2=0.06; p>.05) However, behavioral disengagement (B=0.49, β=0.22; p<.05) independently and significantly predict level of independence domain of quality of life of people living with HIV/AIDS. The results shows even though coping strategies as a whole did not predict level of independent domain of quality of life, behavioral disengagement coping strategy independently and significantly predict level of independent dimension of quality of life, that is behavioral disengagement coping strategy contributed 0.49 amount of change that occurred in quality of life per unit change of behavioral disengagement coping, besides behavioral disengagement coping strategy shows 22% impacts on level of independent dimension of quality of life of PLWHA.

Coping strategies (R=0.50, R^2=0.25; p<.05) significantly predict Social Relationship domain of quality of life such coping strategies like self –distraction (B=-0.25, β=-0.17; p<.05), Substance Use (B=0.19, β=0.18; p<.05), Behavioral Disengagement(B=0.36, β=0.27; p<.05), Acceptance(B=0.40, β=0.29; p<.05), Religion (B=0.29, β=0.19; p<.05) significantly predict Social Relationship domain of quality of life of people living with HIV/AIDS. The results shows that coping strategies as a whole significantly predict social relationship domain of quality of life, as coping strategies shows 0.50 degree of relationship with social relationship domain of quality of life, 25% was the amount of proportion of social relationship domain of quality of life that can be explained by the relationships of the coping strategies. Additionally, self-distraction coping inversely contributed 0.25 amount of change that occurred in the social relationship domain of quality of life, per unit change in self –distraction coping. While self –distraction

coping independently shows -17% impacts on social relationship domain of quality of life. Also, substance use coping reveals 0.19 amount of change that occurred in the social relationship domain of quality of life, per unit change in substance use coping strategy. Also, substance use coping strategy depicts 18% impacts on social relationship domain of quality of life. Behavioral disengagement displays 0.36 amount of change that occurred in the social relationship domain of quality of life, per unit change in behavioral disengagement coping strategy. Likewise contributed 27% impacts on social relationship domain of quality of life. Acceptance coping demonstrations 0.40 amount of change that occurred in the social relationship domain of quality of life, per unit change in Acceptance coping strategy. Equally contributed 29% impacts on social relationship domain of quality of life. Moreover, religion coping strategy contributed 0.29 amount of change that occurred in social relationship domain of quality of life per unit change in religion coping strategy, besides, religion coping strategy shows 19% impacts on social relationship domain of quality of life of PLWHA.

Coping strategies (R=0.55, R^2=0.31; p<.05) significantly predict environment domain of quality of life. Also, Denial (B=-0.35, β=-0.15; p<.05), Use of Emotion (B=0.50, β=0.20; p<.05), Behavioral Disengagement (B=0.92, β=0.41; p<.05), Humor (B=-0.52, β=-0.26; p<.05), Acceptance (B=0.82, β=0.30; p<.05), Religion coping strategies (B=0.41, β=0.16; p<.05) independently predict environment domain of quality of life of people living with HIV/AIDS. From the results, coping strategies significantly predict environment domain of quality of life, as coping strategies shows 0.55 degree of relationship with social relationship domain of quality of life, additionally, 31% amount of proportion of environment domain of quality of life can be explained by the relationships of the coping strategies. In addition, denial coping strategy inversely contributed 0.35 amount of change that occurred in the environment domain of quality of life due to per unit change in denial coping. Also denial coping independently shows -15% impacts on environment domain of quality of life. Besides, use of emotion coping reveals 0.50 amount of change that occurred in the environment domain of quality of life, per unit change in use of emotion coping strategy. Also, use of emotion coping strategy depicts 20% impacts on environment domain of quality of life. Behavioral disengagement coping displays 0.92 amount of change that occurred in the environment domain of quality of life, per unit change in behavioral disengagement coping strategy. Equally behavioral disengagement coping contributed 41% impacts on environment domain of quality of life. Humor coping inversely contributed 0.52

amount of change that occurred in the environment domain of quality of life, per unit change in humor coping strategy. In the same way contributed -26% impacts on environment domain of quality of life. Moreover, acceptance coping strategy contributed 0.82 amount of change that occurred in environment domain of quality of life per unit change in acceptance coping strategy, besides, acceptance coping strategy shows 30% impacts on environment domain of quality of life. Religion coping strategy contributed 0.82 amount of change that occurred in environment domain of quality of life per unit change in religion coping strategy, likewise, shows 16% impacts on environment domain of quality of life of PLWHA.

In addition, coping strategies (R=0.51, R^2=0.26; p<.05) significantly predict spirituality domain of quality of life. Moreover, venting (B=-0.48, β=-0.22; p<.05), planning (B=0.33, β=0.16; p<.05), self-blame (B=0.32, β=0.19; p<.05) coping strategies independently predict spirituality domain of quality of life of people living with HIV/AIDS. The results shows that coping strategies significantly predict spirituality domain of quality of life, as coping strategies shows 0.51 degree of relationship with spirituality domain of quality of life, as well as 26% amount of proportion of spirituality domain of quality of life can be explained by the relationships of the coping strategies. Additionally, venting coping strategy inversely contributed 0.48 amount of change that occurred in the spirituality domain of quality of life due to per unit change in venting coping strategy. Also, venting coping independently shows -22% impacts on spirituality domain of quality of life. Besides, planning coping reveals 0.33 amount of change that occurred in the spirituality domain of quality of life, per unit change in planning coping strategy. By so doing, planning coping strategy depicts 16% impacts on spirituality domain of quality of life. Self-blame coping displays 0.32 amount of change that occurred in the spirituality domain of quality of life, per unit change in self- blame coping strategy. In the same way contributed 19% impacts on spirituality domain of quality of life of PLWHA.

Moreover, coping strategies (R=0.58, R^2=0.21; p<.05) significantly predict overall quality of life. Such coping strategies like Self –Distraction (B=0.11, β=0.21; p<.05), Active Coping (B=-0.14, β=- 0.21; p<.05), Acceptance (B=0.12, β=0.19; p<.05) and Religion (B= 0.08, β= 0.15; p<.05) independently and significantly predict overall quality of life of people living with HIV/AIDS. The result shows that coping strategies shows 0.58 degree of relationship with overall WHO-BREF quality of life. In other words, coping strategies shows 21% amount of proportion of overall WHO-BREF quality of life that can be explained by the relationships of the

coping strategies. Moreover, self-distraction contributes 0.11 amount of change that occurred in the overall WHO-BREF quality of life, per unit change in the self –distraction coping strategy, while self –distraction independently shows 21% impacts on overall WHO-BREF quality of life. However, active coping inversely shows 0.14 amount of change that occurred in overall WHO-BREF quality of life, per unit change in the active coping strategy. Likewise, active coping displays -21% independent impacts on overall WHO-BREF quality of life. acceptance coping displays 0.12 amount of change that occurred in overall WHO-BREF quality of life per unit change in the acceptance coping strategy, similarly, acceptance coping strategy independently shows 19% impacts on overall WHO-BREF quality of life. In addition, religion coping shows 0.08 amount of change that occurred in overall WHO-BREF quality of life per unit change in religion coping strategy, also religion coping strategy independently shows 15% impacts on overall WHO-BREF quality of life.

Table 2: *Showing descriptive statistics of domains of WHO-BREF quality of life*

Domains of Quality of Life	Mean	SD.	Median
Physical	13.57	3.77	14
Psychological	16.52	2.69	16
Level of Independence	15.14	3.97	15
Social Relationship	13.94	2.33	14
Environment	26.53	3.98	27
Spirituality	12.81	3.22	13

From table 2, the results shows the six domains of WHO-BREF quality of life which include physical, psychological, level of independence, social relationship, environment and spirituality domains. The results illustrates that environment domain (Ẍ=26.53, SD=3.98; median =27) have the highest mean and median scores, followed by psychological domain (Ẍ=16.52, SD=2.69; median =16), level of independence domain (Ẍ=15.14, SD=3.97; median =15), social relationship domain (Ẍ=13.94, SD=2.53; median =14), physical domain (Ẍ=13.57, SD=3.77; median =14) while patient recorded lowest mean and median scores in spirituality domain (Ẍ=12.81, SD=3.22; median =13).

4. Discussion

The present study examines coping strategies predicting dimensions of WHOBREF quality of life of PLWHA.

From the result, hypothesis one was confirmed, as coping strategies significantly predict physical domain. This finding is consistent with the outcome of Srivastava, Das, Kohli, Yadav, Prakash, et al. (2016) who reiterated in their study that coping resources related to physical domain of quality of life among PLWHA. These individuals tend to adopt copying strategies in other to maintain their physical capacity especially coping with their pain, discomfort and activities. PLWHA devised certain coping strategies to manage their daily work capacity, energy and fatigue which are paramount to their daily wellbeing.

Additionally, coping strategies significantly predict psychological domain of quality of life of PLWHA; this findings confirmed outcome from Jawad, et al., (2016)'s study. Jawad et al., (2016) found that coping strategies significantly connected with psychological aspect of quality of life, as PLWHA showed certain coping styles to handle their psychological facet of their quality of life, hence their coping strategies could predict their quality of life. This findings suggested that coping strategies employed by PLWHA could envisaged their ability to handle both positive and negative feelings about their health, emotional stability, their thinking and concentration which forms psychological dimension of their quality of life. Moreover, coping strategies significantly predict social relationship domain of quality of life. The finding supported Semba, Martin, Kempen, Thorne & Wu, (2005) who stated that coping mechanisms of PLWHA connects with their social aspect of quality of life; as they daily faced with countless social problems such as depression, stigma and labeling. PLWHA's coping methods foretell their perseverance to those social problems and improvement of their social relationship domain of quality of life. Also, how they cope indicates their personal relationship with others and their support system. Also, the result signifies that effective coping strategies predict an improvement in social relationship facet of PLWHA's quality of life.

Similarly, coping strategies significantly predict environment domain of quality of life. This outcome is in line with Lazarus and Monat, (1977)'s coping model and Fitzpatrick, Whall, Johnston & Floyd, (1982)'s study on maintenance of bio-psychosocial integrity. In these models, it was discovered that effective coping mechanisms enhances wellbeing through management of stress and improve life quality of chronic ill. This result confirmed Lazarus's findings on coping styles as bio-psychosocial predictors to quality of life, which improves interaction with a changing environment of health and illness. That is, various coping strategies employed by

PLWHA significantly predict their involvement and opportunities for recreation/leisure activities, physical safety and security, health and social care accessibility and quality.

Furthermore, coping strategies significantly predict spirituality domain of WHOBREF quality of life of people living with HIV/AIDS. This result confirmed Holmes, et al., (2015)'s findings, as coping strategy significantly influence quality of life of PLWHA, especially the spirituality domain. This result indicates that patient's engagement in a particular coping strategy enhances their concern about the future, personal belief of forgiveness and blame, the death dying of such patients. Likewise, the result supported Coleman & Holzemer, (1999) that improved quality of life and wellbeing can be linked with effective coping strategies. More so, coping strategies significantly predict overall WHOBREF quality of life of people living with HIV/AIDS. This result is in-line with Laar, et al.,(2015) who posited that coping mechanisms among patients living with HIV/AIDS leads to an improved quality of life. Also, this result confirmed Grant, Elliott, Weaver, Glandon, Raper & Giger, 2006) and Ekwall, Sivberg & Hallberg, 2007)'s findings that coping strategies adopted by PLWHA have been shown to be significant factors in health related quality of life.

However, coping strategies did not significantly predict level of independence domain of quality of life. This implies that adoption of various coping strategies did not determines their dependence on medical and treatment to function their daily activities at utmost capacity. Additionally, self –distraction coping strategy independently predict quality of life. This result confirmed Moneyham, et al., (1998) and Carretero, Burgess, Soler, Soler, Catalán, (1996) who stated that the use of avoidance coping strategy such as self-distraction associate with quality of life; that is, an increased use of self-distraction produces poorer social and physical functioning of health related quality of life. Also, active coping strategy independently and significantly predicts quality of life. This finding supported Yu, Hu, Efird, & McCoy, (2013) that active coping strategies predicted better health-related quality of life among PLWHA. Similarly, this result buttressed Fleishman, et al., (2000) that individuals who confronted stress with problem-solving strategy and behavior-modifying approaches significantly have better quality of life than those not using such coping style. Individual who takes action to make present health situation better and mostly concentrating efforts in doing something about the health condition significantly determines their health related life quality.

Furthermore, acceptance coping strategy significantly predicts quality of life among PLWHA. The result reinforced acceptance and reality model for health condition. Individual who accepts the reality of the fact that something has happened in his/her and try to learn to live with such health condition have the tendency to have better quality of life. Hence acceptance of health conditions determines life's worth add value especially among PLWHA. Also, religion coping strategy independently and significantly predicts overall WHO-BREF quality of life of people living with HIV/AIDS. This outcome sustained Holmes, et al., (1997)'s view that improved quality of life have been linked with religion coping style, as those who embraced religion coping strategy tends to be more spiritual and spirituality has been found to be an important contributor to feelings of well-being among PLWHA. Also this result supported Tarakeshwar, et al., (2006), who discovered that religious coping plays an important role in the quality of life of PLWHA. Coleman & Holzemer, (1999) stated that religious coping influences quality of life in particular ways and equally possible that patients who experience better quality of life also turn to religious resources for coping with their illness and other stressors. Consequentially, these results buttressed Jawad, et al., (2016)'s findings that specific coping strategies like self-distraction, active coping, venting, humour, positive reframing, acceptance and religion serves as positive predictors of quality of life of PLWHA.

In hypothesis two, the results illustrates that environment domain have the highest mean and median score, followed by psychological domain while patients recorded lower and lowest mean and median scores in social, physical and spirituality domains respectively, in WHO-BREF quality of life. This findings partially supported by Imam, et al., (2011) who found that PLWHA scored higher in the domains of social relationship and psychological, while lowest in spiritual domain of QOL. On the contrary, this findings negate the discovery of Smith, et al., (2013) where the highest medians scores of domains of QOL of PLWHA were found be physical domain and lowest psychological domain and disconfirmed the findings of Liping, et al., (2015) who suggested that among PLWHA, there are record of relatively lower scores in their social relation and environmental domains. But partly confirmed by Bello, & Bello, (2013)'s study where overall highest mean scores for health related quality of life were found to be physical and psychological domain while lowest in social domain. Also, the result supported Folasire, et al., (2012) who reported highest mean scores in the psychological but the lowest score was observed in the social domain.

4.1 Conclusion

The study shows that coping strategies significantly predict physical, psychological, social relationship, environment, spirituality domains and overall WHO-BREF quality of life of people living with HIV/AIDS, which was in line with the previous studies (Semba, et al.,2005; Grant, et al., 2006; Holmes, et al., 2015; Srivastava, et al., 2016; Jawad, et al., 2016). However, coping strategies did not significantly predict level of independence domain of quality of life. Specifically, self –distraction, active, acceptance and religion coping strategies independently and significantly predict overall WHO-BREF quality of life of PLWHA. These findings validate previous works by Moneyham, et al., (1998); Tarakeshwar, et al., (2006), Yu, et al., (2013); Jawad, et al., (2016). Also, highest and lowest mean score was recorded in environment and spiritual domains of WHO-BREF quality of life respectively; which maintained the conclusions of Imam, et al., (2011); Folasire, et al., (2012); Bello, & Bello, (2013).

4.1.2 Scope for Future Research

This study suggests that future studies should focus on other psychological variables that could predict domains and overall quality of life of PLWHA. Also, subsequent studies should incorporate PLWHA for both regular and irregular attendants of medical care. Consequently, longitudinal study is further required to explore changes in coping strategies and quality of life.

4.1.3 Limitation

This study was a cross-sectional study which doesn't allow drawing conclusion about the degree of causal relationship between outcomes variables and independent variables. The respondents were actively seeking routine medical care, those who don't keep regular clinic or visit could not be included. Also, all the predictors of quality of life could not be included in this study but only coping strategy.

4.2 Implication for Practice

The result of this study has specified that coping strategies predicting physical, psychological, social relationship, environment, and spirituality domains and overall QoL, excluding level of independence domain of QoL of PLWHA. Coping strategies such as self – distraction, active, acceptance and religion coping strategies were specifically importance in the improvement of quality of PLWHA. This highlights the significance of various coping strategies in the prediction, assessment and subsequent improvement in the domains of quality of life of PLWHA. This finding has implications for clinical practices especially as it relates to

psychotherapy. Accurate assessment of patient enhances clinicians including psychotherapist in the decisions concerning the specific areas of need, planning interventions to address those needs in other improve quality of life of PLWHA.

4.3 Recommendation

The study recommends that supporting and educating PLWHA on coping strategies enhances domains and overall quality of life. Also, regular assessment of patients' coping strategies and enhancement of patient's spirituality aspect of quality of life may be a ways of improving the worth of patient's health. Experts and researchers in the area of quality of life should include coping strategies in the possible factors predicting quality of life PLWHA.

References

Aldwin, C., and Revenson, T. A., (1987). Does coping help? A re-examination of the relation between coping and mental   health. *Journal of Personality and Social Psychology*, 53, 337- 348. https://doi.org/10.1037/0022-3514.53.2.337

Andrykowski, M.A., Brady, M.J., & Hunt, J.W. (1993). Positive psychosocial adjustment in potential bone marrow transplant recipients: cancer as a psychosocial transition. *Psycho-Oncol* 2: 261–276. https://doi.org/10.1002/pon.2960020406

Basavaraj, K.H., Navya, M.A & Rashmi, R.,(2010). Quality of life in HIV/AIDS. *Indian Journal of Sexual Transmission Diseases.* 31(2): 75–80. https://doi.org/10.4103/0253-7184.74971

Beck, E.J, Miners, A.H, & Tolley K. (2001).The cost of HIV treatment and care: A global review. *Pharmacoeconomics.* 19:13–39. [PubMed] https://doi.org/10.2165/00019053-200119010-00002

Bello, S. I., and Bello,I. K., (2013). Quality of life of HIV/AIDS patients in a secondary health care facility, Ilorin, Nigeria. *Proceeding (Bayl Univ Med Cent).* 26(2):116–119 https://doi.org/10.1080/08998280.2013.11928933

Breitbart, W., McDonald, M.V, Rosenfeld, B, Monkman, N.D, & Passik, S. (1998). Fatigue in ambulatory AIDS patients. *Journal of Pain Symptom Manage.* 15:159–67. [PubMed] https://doi.org/10.1016/S0885-3924(97)00260-1

Breznitz, S. (Ed.). (1983). The denial of stress. New York: International Universities Press.

Carretero, M.D, Burgess, A.P, Soler P, Soler M, & Catalán, J. (1996). Reliability and validity of an HIV-specific health-related quality - of - life measure for use with injecting drug

users. *AIDS*. 10: page 1699–1705. [PubMed] https://doi.org/10.1097/00002030-199612000-00015

Carver, C. S., and Scheier, M. E. (1985). Self-consciousness, expectancies, and the coping process. In T. Field, P. M. McCabe, & N. Schneiderman (Eds.), *Stress and coping 3 :*page. 305-330). HiUsdale, N J: Erlbaum.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. Journal of Personality and Social Psychology, 56, 267-283. https://doi.org/10.1037/0022-3514.56.2.267

Carver, C.S. (1997). You want to measure coping but your protocol's too long. Consider the Brief COPE. *International Journal of Behavioral Medicine.* 4, 92-100 https://doi.org/10.1207/s15327558ijbm0401_6

Coleman, C.L, and Holzemer, W.L. (1999). Spirituality, psychological well-being, and HIV symptoms for African Americans living with HIV disease. *Journal of Association of Nurses AIDS Care.* 1999;10: 42–50. [PubMed] https://doi.org/10.1016/S1055-3290(06)60231-8

Cummins, R.A., (1997). Comprehensive quality of life scale-adult. Australia: Deakin University. Department of Health and Human Services. *Health Resources and Services.* Available at http://www.hrsa.gov/about/budget/budgetjustification

Ekwall, A.K, Sivberg, B, & Hallberg, I.R, (2007). Older caregivers' coping strategies & sense of coherence in relation to quality of life. *Journal of Advanced Nursing.* 57, 584–596. https://doi.org/10.1111/j.1365-2648.2006.03994.x

Fauci, A.S.(1999). The AIDS Epidemic: Considerations for the 21st Century. *N. England Journal of Medicine*; 341:1046–1050. [PubMed] https://doi.org/10.1056/NEJM199909303411406

Fitzpatrick, J.J., Whall, A.L., Johnston, R.L., & Floyd, J.A. (1982). *Nursing Models and Their Psychiatric Mental Health Applications.* Bowie, Maryland: Prentice-Hall Publishing and Communications Company.

Fleishman, J., Sherbourne, C.D., Crystal, S., Collins, R.L., Marshall, G.N., & Kelly (2000). Coping Conflictual Social Interaction, Social Support and mood among HIV –infected. *American Journal Applied Social Psychology*: 28, 421-53 https://doi.org/10.1023/A:1005132430171

Folasire, O.F, Irabor, A.E, & Folasire, A.M. (2012).Quality of life of People living with HIV and AIDS attending the Antiretroviral Clinic, University College Hospital, Nigeria. *African Journal of Primary Health Care & Family Medicine.* 4 (1), pages.294-298 https://doi.org/10.4102/phcfm.v4i1.294

Friedland J, Renwick R, McColl, M. (1996). Coping and social support as determinants of quality of life in HIV/AIDS. *AIDS Care* 8: 15-31. https://doi.org/10.1080/09540129650125966

Grant, J.S, Elliott, T.R, Weaver, M, Glandon, G.L, Raper, J.L & Giger, J.N (2006). Social support, social problem-solving abilities, and adjustment of family caregivers of stroke survivors. *Archives of Physical Medicine and Rehabilitation.* 87, 343–350. https://doi.org/10.1016/j.apmr.2005.09.019

Holmes, W.C, Bix, B, Meritz, M, Turner, J., & Hutelmyer C. (1997). Human immunodeficiency virus(HIV) infection and quality of life: The potential impact of Axis I psychiatric disorders in a sample of 95 HIVseropositive men. *Psychosomatic Medicine.* 59:187–92.[PubMed] https://doi.org/10.1097/00006842-199703000-00011

Imam, M.H., Karim, M.R., Ferdous, C., &Akhter S., (2011). Health related quality of life among the people living with HIV. *Bangladesh Medical Resources Council Bulletin,*37: 1 -6 Inc.: New York, New York. https://doi.org/10.3329/bmrcb.v37i1.7791

Jawad, S., Shalaweh, S., Kamal, W., & Roman, N.V. (2016). The relationship between quality of life, psychological distress and coping strategies of persons living with HIV/AIDS in Cairo, Egypt. 2016 Australasian sexual health, HIV/AIDS Conference.

Jurado, R., Morales,I., Taboada, D., Denia, F., Mingote,J.C., Jiménez, M.A., Palomo, M., & Rubio, G. (2011). Coping strategies and quality of life among liver transplantation candidates. *Psicothema. Vol. 23, No 1, pp. 74-79*

Karkashadze, E., Gates, M.A.,Chkhartishvili, N., DeHovitz, J., & Tsertsvadze,T.,(2017). Assessment of quality of life in people living with HIV in Georgia. *International Journal of STD & AIDS.* Vol. 28(7) 672–678 https://doi.org/10.1177/0956462416662379

Kohli, R.M., Sane, S., Kumar, K., Paranjape, R.S., & Mehendale, S.M. (2005). Modification of Medical Outcome Study (MOS).*Indian Journal Medical Resources.122:297*–304.

Laar, A., Manu, A. Laar, M, El-Adas, A., Amenyah, R., Atuahene, R., Quarshie, D., Adjei, A., & Quakyi, I. (2015).Coping strategies of HIV-affected households in Ghana. *BMC Public Health.* Vol. 15:16. page 1-9 https://doi.org/10.1186/s12889-015-1418-x

Lazarus RS (1993) Coping therapy and research: past, present, and future. *Psychosomatic Med.* 55: 234-247. https://doi.org/10.1097/00006842-199305000-00002

Lazarus RS, and Folkman S.,(1984). Stress, appraisal, and coping. New York: Springer; 1984.

Lazarus, R.L., and Monat, A. (Eds). (1977). *Stress and coping: An anthology.* New York: Columbia University Press.

Lee, M. (2012) Religious Coping, Depression, and Quality of Life in People Living with HIV/AIDS. A Dissertation Submitted to the Faculty of Drexel University in partial fulfillment of the requirements for the degree of Doctorate in Philosophy Department of Clinical Psychology.

Liping M, Peng X, Haijiang L, Lahong J, & Fan L (2015) Quality of Life of People Living with HIV/AIDS: A Cross-Sectional Study in Zhejiang Province, China. PLoS ONE 10(8): e0135705. https://doi.org/10.1371/journal.pone.0135705

McCrae, R. R. (1984). Situational determinants of coping responses: Loss, threat, and challenge. *Journal of Personality and Social Psychology,* 46, 919-928. https://doi.org/10.1037/0022-3514.46.4.919

McCrae, R. R., & Costa, P. T., Jr. (1986). Personality, coping, and coping effectiveness in an adult sample. *Journal of Personality,* 54, 385--405. https://doi.org/10.1111/j.1467-6494.1986.tb00401.x

Minazzato, L., Amodio, P., Cillo, U., Zanus, G., Schiff, S., & Bombonato, G., et al. (2009). Subjective satisfaction and quality of life in patients prior to listing for liver transplantation. *International Journal of Artificial Organs, 32*(1), 39-42 https://doi.org/10.1177/039139880903200105

Moneyham, L, Hennessy, M, Sowell R, Demi A, Seals B, & Mizuno Y. (1998). The effectiveness of coping strategies used by HIV-seropositive women. *Res Nurs Health.* 21:351–62. [PubMed] https://doi.org/10.1002/(SICI)1098-240X(199808)21:4<351::AID-NUR7>3.0.CO;2-E

Moos, R.H., (1986). Coping with the life crises. An integrated approach New York. Plenun Press. https://doi.org/10.1007/978-1-4684-7021-5

Osamika, B.E. & Mayungbo, O.A (2017). Stages of HIV/AIDS, Marital Status and Perceived Quality of Life. *Asian Journal of Multidisciplinary Studies*, 5(4)

Roger, C. McIntosh, Monica, & Rosselli, (2012). Stress and Coping in Women Living with HIV:A Meta- Analytic Review *AIDS Behav* 16:2144–2159

Santos, P, R.,(2010). Correlation between coping style and quality of life among hemodialysis patients from a low- income area in Brazil. *Hemodialysis International*; 14:316–321 https://doi.org/10.1111/j.1542-4758.2010.00449.x

Schmitz, M.F, & Crystal, S.(2000). Social relations, coping, and psychological distress among persons with HIV/AIDS. *Journal of Applied Social Psychology.* 30:665–83. https://doi.org/10.1111/j.1559-1816.2000.tb02818.x

Seligman, M. E., (2002). *Authentic Happiness.* Free Press: A Division of Simon and Schuster, Inc.: New York.

Semba, R.D, Martin, B.K, Kempen, J.H, Thorne, J.E, & Wu, A.W.(2005). Ocular Complications of AIDS Research Group. The impact of anemia on energy and physical functioning in individuals with AIDS. *Arch Intern Med.* 165(19):2229–2236. https://doi.org/10.1001/archinte.165.19.2229

Smith, G.M, Neupane, S.P., Utsav,T., Sagar,K., Santosh, T.,& Sashi, S., (2013). Quality Of Life Among People Living With Acquired Immune Deficiency Syndrome Receiving Anti-Retroviral Therapy: A Study From Nepal. *HIV/AIDS – Research and Palliative Care,*5. Pp277-282 https://doi.org/10.2147/HIV.S50726

Srivastava, K., Das,R.C., Kohli, R. Yadav,P., Prakash,J & Saha, A.(2016). A Cross-Sectional Study of Adaptation, Coping and Quality of Life in the HIV Seropositive Cases. *Journal Psychiatry,* Volume 19 • Issue 5, Pages, 1-5 https://doi.org/10.4172/2378-5756.1000386

Tarakeshwar, N., Vanderwerker, L.C., Paulk, E., Pearce. M.J., Kasl,S.,& Prigerson,H.,(2006). Religious Coping is Associated with the Quality of Life of Patients with Advanced Cancer. *Journal Palliatives Medicine*. 9(3): 646–657 https://doi.org/10.1089/jpm.2006.9.646

The WHOQOL Group. (1995).The World Health Organization quality of life assessment (WHOQOL): position paper from the World Health Organization. *Soc Sci. Med.* 41(10):1403–1409. https://doi.org/10.1016/0277-9536(95)00112-K

UNAIDS (2016) Fact Sheet, November, 2016

UNAIDS. Global Report: UNAIDS report on the global AIDS epidemic 2013.

United Nations General Assembly Special Session (UNGASS) (2011). UNGASS Country Progress Report: Nigeria.

Walker, N, Grassly, N.C, Garnett, G.P, Stanecki, K.A, & Ghys, P.D. (2004). Estimating the global burden of HIV/AIDS: What do we really know about the HIV pandemic? *Lancet*. 363:2180–5. [PubMed] https://doi.org/10.1016/S0140-6736(04)16511-2

WHOQOL (World Health Organization's Quality of Life Instrument) HIV Group.(2003). Initial steps to developing the World Health Organization's Quality of Life Instrument (WHOQOL) module for international assessment in HIV/AIDS. *AIDS Care*.15 (3):347-57. https://doi.org/10.1080/0954012031000105405

World Health Organization Quality of Life (WHOQOL) Group. WHO Definition of Quality of Life. (1995, 1998). Available at http://www.who.int/about/definition/en/print.html. Retrieved on 25th January, 2018.

Yu, Y., Hu, J., Efird, J. T., & McCoy, T. P. (2013). Social support, coping strategies and health-related quality of life among primary caregivers of stroke survivors in China. *Journal of Clinical Nursing, 22(*15-16) 2160-2171. https://doi.org/10.1111/jocn.12251

Zinkernagel, C, Ledergerber, B, Battegay, M, Cone, R.W, Vernazza, P, & Hirschel, B. (1999).Quality of life in asymptomatic patients with early HIV infection initiating antiretroviral therapy: Swiss HIV Cohort Study. *AIDS*.13:1587–9. [PubMed] https://doi.org/10.1097/00002030-199908200-00024