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PSYCHOLOGICAL PREDICTORS OF QUALITY OF LIFE AMONG PEOPLE LIVING WITH HIV/AIDS IN NIGERIA

Zulkiflu Musa Argungu[1*], Ado Shehu[2] and Deborah J.Y.[3]

[1]Department of Nursing Sciences, Faculty of Health and Allied, Usman Danfodiyo University, Sokoto, Nigeria.
[2]Department of Nursing Sciences, Maryam Abacha American University of Niger Maradi.
[3]Asokoro District Hospital, Julius Nyerere Street Asokoro Abuja, Nigeria.
[*]Corresponding Author: Tell: +2348069316225. Email: zeekteema@gmail.com

ABSTRACT: ***Background:*** *In high-income countries, psychological trauma is much more common in people living with HIV/AIDS (PLWHA) than the general population, and trauma is associated with worse current health and functioning. there is a dearth of research on the subject matter that has investigate the trends of psychological challenges facing PLWHAs in Nigeria and to compare their self-efficacy, depression, psychosocial well-being and quality of life among women people living with HIV/AIDS (WLWHAs) and men people living with HIV/AIDS (MLWHAs) in a developing country lie Nigeria.* ***Objectives****. This study examined and compared self-efficacy, depression, well-being, and quality of life among PLWHA in a developing country like Nigeria.* ***Method.*** *The cross-sectional predictive correlational design was used to select a final sample of 133 participants.* ***Result.*** *Compared to MLWHAs and WLWHAs reported lower levels of well-being (6.2 versus 10.3), higher levels of depression (17.9 versus 14.6), and poorer quality of life. Self-efficacy was similar among women (21.1) and men (22.4) LWHAs. A higher level of depression among WLWHAs was associated with much lower levels of subjective well-being and quality of life (physical health and psychological health).* ***Conclusion****. The findings suggest that WLWHAs face psychological problems and mental health challenges beyond those experienced by MLWHAs. Intervention programs dedicated to improving mental health and quality of life are greatly needed for HIV infected women.*

KEYWORDS: HIV/AIDs, Psychological Trauma, Antiretroviral Treatment, Quality of Life

INTRODUCTION

In high-income countries, studies of people living with HIV/AIDS (PLWHA) have consistently demonstrated a high lifetime prevalence of traumatic life experiences. (Whetten, Reif, Whetten, & Murphy-McMillan, 2008). In the broad US cohort of women with or at high risk of HIV, 66 per cent experienced domestic violence and 31 per cent experienced childhood sexual assault. Those figures are substantially higher than the rates of domestic violence (25%) and childhood sexual exploitation (13 %) in the general population over their lifetime (Kilpatrick & Saunders, 2000; Tjaden & Thoennes, 2000). In a broad sample of HIV patients in the US Deep South, 30 percent of participants reported sexual abuse and 20 percent reported childhood physical abuse; overall, 91 % of respondents reported at least one lifelong potentially traumatic encounter (Whetten et al., 2006; Pence et al., 2007).

HIV remains a threat to public health among adult populations in the US (Centers for Disease Control & Prevention, 2018b). 17 per cent of new HIV infections were among people 50 years of age and older in 2016 (Centers for Disease Control & Prevention, 2018b). Majority of HIV-positive adult infections appears to be sexually acquired (Metcalfe, Schofield, Milosevic, & Peters 2017). In the population of an urban health centre in New York City, 21% of newly diagnosed patients were 50 years of age and older, with approximately 70% being diagnosed with AIDS at the same time (Ellman, Sexton, Warshafsky, Sobieszczyk, & Morrison, 2014).

Sub-Saharan Africa (SSA) is now the region most affected by the HIV epidemic worldwide. More than half of the 36.9 million people diagnosed with HIV are estimated to be living in SSA (UNAIDS, 2018). More than three decades after the diagnosis of HIV, sub-Saharan Africans still account for more than 56 per cent of new cases of infection (UNAIDS, 2018). The incidence of the disease in SSA varies from country to country. Nevertheless, attention is drawn to the prevalence of HIV and AIDS among women in the country. Nigeria ranks second, after South Africa, with the largest number of cases worldwide. The progress report of the World Health Organization (WHO) reported that the prevalence of HIV infection among Nigerian women was 3.4% compared to a prevalence rate of 2.6% among men (Avert, 2017).

The use of highly active antiretroviral therapy (HAART) has turned HIV infection into a chronic disease (Kharsany & Karim, 2016). Moreover, the chronicity is associated with mental, psychological and physical difficulties (Tiwari, 2015). Chronic health problems are known to generate emotional and psychological demands at the same time due to the stress of symptoms, treatment strategies and the impact of living with multiple diseases High rates of psychological trauma are common among people living with HIV (Tiwari, 2015). Moreover, females experience more psychological stress in terms of gender (Zunner, 2016). Psychological trauma among PLWHA can be unique to HIV and non-HIV disease. Common psychological distress may involve deprivation, stigma, prejudice, abuse, and unemployment (Ashaba et al., 2017). PLWHA's psychological stress may be linked with individuals' negative physical and psychosocial well-being (Ashaba et al., 2017) as well as the development of psychiatric disorders (Ashaba et al., 2017; Scott et al., 2016). Qualitative evidence showed that psychological stress among PLWHA would compromise the connection and adherence to HIV treatment, decrease the quality of life associated with health, and increase the risk of HIV transmission and depression.

Despite the increasingly growing number of women living with the virus globally, so far little work has compared women living with HIV/AIDS (WLWHAs') psychosocial wellbeing with men living with HIV/AIDS (MLWHAs) (Sankar, Nevedal, Neufeld, Berry, & Luborsky, 2011). In addition, there is barely much understood about how HIV can influence the psychosocial functioning and well-being of PLWHAs in Nigeria and other African countries.

We conducted a survey of PLWHAs in Nigeria to consider the psychological problems faced by adults living with HIV, and also to collect baseline data for further studies. In line with other HIV research (High et al., 2012), we described PLWHAs as males and females at age 18 and above. The goal of this study was to investigate the trends of psychological challenges facing PLWHAs in Nigeria and to compare their self-efficacy, depression, psychosocial well-being and quality of life among WLWHAs and MLWHAs in Nigeria.

METHOD

This quantitative study examined and compared the self-efficacy, depression, well-being, and quality of life among women and men living with HIV/AIDS (WLWHAs and MPLWHAs) in Nigeria. The study protocol and consent procedures were reviewed and approved by the Research Ethical Committee Ministry of Health, Kebbi State, Nigeria, written informed consent was obtained from all study participants prior to data collection.

Research Design and Study Sites

The cross-sectional design was conducted in two selected hospitals in Kebbi state, Nigeria. Kebbi state is one of the 36 states in Nigeria. It is in the north-west geopolitical region of the country. The state has 21 local government areas distributed across its three geo-political zones. The major languages spoken in the state are Hausa and Fulani. The hospitals where the data were collected were Sir Yahaya Memorial Hospital, Birnin Kebbi and Medical Center, Kalgo. These hospitals are located each in Kebbi Central of the state, respectively. The two hospitals are public healthcare facilities that provide health care including care for people living with HIV. Individuals from rural and urban settings access HIV care in these selected hospitals.

Study Population

The target population for this study was PLWHAs attending three selected hospitals in Niger state, Nigeria. A cluster sampling strategy was used to select the two hospitals across the three geopolitical zones of Kebbi state in northern Nigeria. The inclusion criteria were as follows: Eligibility criteria included PLWHAs who were at least 18 years old and able to participate in a face-to-face interview, and have been enrolled on ART for not less than 3 months.

Measures/Instruments

In addition to gathering basic demographic information, four well-validated scales were administered to measure the quality of life, overall self-efficacy, subjective well-being and depression. The demographic items and scales were originally drafted in English. The four instruments are as follows.

World Health Organization Quality of Life Assessment (WHOQOL-BREF)

The WHOQOLBREF consists of 26 items that measure four QOL-domains: physical health (pain, energy, sleep, mobility, activities, medication, and work), psychological health (positive and negative feelings, cognitions, self-esteem, body image, and spirituality), social relationships (personal relationships, social support, and sexual activities), and environmental aspects (safety and security, home environment, finances, health and care, information, leisure, physical environment, and transport). Interviewees responded to these items on a five-point Likert scale. The four-domain scores indicated an individual's perception of the quality of life in each particular domain. Domain scores were scaled in a positive direction (i.e., higher scores indicate better quality of life). Cronbach's reliability alpha of the measurement domains was between 0.43 and 0.85 (0.79 in physical health, 0.76 in psychological health, 0.43 in social relations, and 0.85 in the environment) in older PLWHAs (0.83 in physical health, 0.84 in psychological health, 0.64 in social relations, and 0.83 in the environment). The domain score was calculated as the mean score of items within each domain (Skevington, Lotfy, & O'Connell, 2004). Cronbach's alpha (CA) was used to test for internal consistency. The CA

was calculated for each subdomain separately. A coefficient of 0.70-0.80 indicates fair internal consistency, 0.80-0.90 indicates good internal consistency and 0.90 indicates excellent internal consistency (Horne, Hankins, & Jenkins, 2001)

Self-Efficacy Scale

The general scale of self-efficacy (GSE) is a scale of 10 parts used to assess perceived self-efficacy (Zhang & Schwarzer, 1995). Participants replied on a four-point scale from "not at all true (1)" to "exactly true (4)." Cronbach's alpha was 0.87 in older PLWHAs, and 0.84 in younger PLWHAs. Cronbach's alpha was 0.87 in PLWHAs. A composite score was determined by summing the response value of the 10 objects. The cumulative scores ranged from 1 to 40 with higher self-efficacy ratings. In samples drawn from 23 nations, GSE had Cronbach's Alpha that ranged between.76 and .90 (Schwarzer & Jerusalem, 1995).

WHO Well-Being Index

The well-being index of the WHO has been used to assess subjective well-being rates (Bech, Olsen, Kjoller, & Rasmussen 2003). This index consisted of five measurement items on a six-point scale ranging from "at no time (0)" to "all of the time (5)." Sample items included, "I felt happy and in good spirits" and "My everyday life was packed with things that interest me." Cronbach's alpha was 0.95 in PLWHAs. By adding the sum of the five items a composite score was determined. Higher ratings stand for improved well-being.

Center for Epidemiological Studies Depression Scale

Center for Epidemiological Studies Depression Scale (CES-D) is a 10-item scale designed to measure depressive symptoms experienced in the past week (Kohout, Berkman, Evans, & Cornoni-Huntley, 1993). Answers ranged from 0 to 3: 0 = rarely or none of the time (less than 1 day); 1 = some or a little of the time (1-2 days); 2 = sometimes or moderately (3-4 days); and 3 = most or all of the time (5–7 days). The total CES-D score was calculated by adding scores for all 10 items ranging from 0 to 30. Cronbach's alpha was 0.78 in PLWHAs and higher scores indicate greater depression.

Data Analysis

Chi-square tests were used to determine statistical differences in demographic variables (i.e., gender, education, and marital status) between older and younger PLWHAs. Pearson's correlation coefficients were calculated to measure bivariate correlations. The comparisons of psychosocial and mental health between older and younger PLWHAs were conducted using Student's *t* tests, given that the normality assumption was not violated; otherwise, a logarithmic transformation was applied to remove skewness. General linear models were used to estimate and compare adjusted means of HIV knowledge, self-efficacy, depression, well-being, and quality of life after accounting for gender, education, marital status, current ART treatment, and self-reported years since HIV diagnosis.

RESULT

Demographic Characteristics of the Participants

The results in Table 1 show the demographic distribution of the respondents. A total of 150 participants (PLWHAs) were invited to participate in the study. Of these, 17 PLWHAs declined participation for a reason best known to them, resulting in a total of 133 PLWHAs (63 WLWHAs and 70 MLWHAs). The mean age of WHWHAs was 38.7 years old (range: 24–40 years old) and 27.0 (range: 20–55) for MLWHAs. Across both age categories of PLWHAs, length of time between HIV diagnosis and the interview ranged from 1 month to 11.5 years, with a median of 18 months (10 months among WLWHAs and 14 months among MLWHAs). Compared to the WLWHAs, MLWHAs were more likely to be married (52% and 63%). No statistically significant differences were found for the variables: age, education, and a number of years after HIV diagnosis among WLWHAs and MLWHAs.

Comparisons of Psychosocial and Mental Health between WLWHAs and MLWHAs.

Comparisons of Psychosocial and Mental Health between WLWHAs and MLWHAs. Using BID scale, a cut-off score of 10 or more to identify participants as having depressive symptoms (Andresen, Malmgren, Carter, & Patrick, 1994), the prevalence of depressive symptoms was 73.02% (46/63) of WLWHAs and 48.7% (28/70) of MLWHAs (X^2= 5.92, P = 0.02). WLWHAs reported lower levels of well-being (6.2 versus 10.3) and higher levels of depression (17.9 versus 14.6) compared to MLWHAs. There were no significant differences in self-efficacy (21.1 vs. 22.4) among WLWHAs and MLWHAs respectively.

Three of the four quality of life domains (physical health, psychological and social relations) were significantly lower among WLWHAs compared to MLWHAs. However, the environmental quality of life scored almost the same for both groups (8.1 versus 9.0; P = 0.41) (Table 2). Among WLWHAs, depression was negatively associated with well-being and quality of life in two areas: physical and psychological health. Subjective well-being was positively linked to the quality of life in all four domains. The perceived general self-efficacy was not statistically related to depression, well-being, and quality of life (Table 3).

Table 1. Demographic Characteristics of two Subsamples

	WLWHAs∗ number Mean (SD) or n (%)	**MLWHAs∗ number Mean (SD) or n (%)**	***P* value**
Sample size	63	70	
Age (Range: 18-60)	38.7(11.2)	32.2 (10.2)	0.61
Education			
No school	9 (14.3)	3 (4.3)	0.07
primary school	13 (20.6)	13 (18.6)	
secondary school	33 (52.4)	37 (52.9)	
tertiary institution	8 (12.6)	17 (24.2)	
Marital status			
Single	11 (17.5)	9 (12.9)	0.02
Married	32 (50.8)	28 (40.0)	
Divorced	15 (23.8)	16 (22.8)	
Widowed	2 (3.2)	17 (24.3)	

Years after HIV diagnosis			
<1	33 (52.4)	23 (32.9)	0.20
1-2	20 (31.7)	34 (48.6)	
≥3	13 (15.9)	13 (18.5)	
Being on ART			
Yes	39(62)	49(70)	0.49
No	24(38)	21(30)	

**Women living with HIV/AIDS, Men living with HIV/AIDS.*

Table 2. Distributions of HIV, Self-Efficacy, Well-Being, Depression and Quality of Life

	Crude mean (SD)		*P*	Adjusted mean[2]		*P*
	WLWHAs	**MLWHAs**	**value**	**WLWHAs**	**MLWHAs**	**value**
Self-efficacy[1]	21.1 (3.4)	22.3 (3.4)	0.34	21.1	22.4	0.33
Depression	13.6 (5.6)	10.8 (6.5)	0.03	17.9	14.6	0.03
Well-being	6.8 (5.6)	11.7 (6.3)	<0.02	6.2	10.3	<0.01
Quality of life:						
Physical health	10.4 (2.8)	12.2 (2.9)	<0.01	10.3	11.9	<0.01
Psychological[1]	10.1 (2.4)	11.4 (2.8)	0.02	9.5	10.9	0.01
Social relationships	12.0 (2.5)	13.0 (2.6)	0.05	11.8	12.9	0.05
Environment[1]	10.5 (2.7)	10.8 (2.4)	0.41	8.1	9.0	0.41

[1] Logarithmic transformation was applied.
[2] Adjusted for age, education, and marital status, being on ART, and years after HIV diagnosis
WLWHAs= women living with HIV/AIDs, MLWHAs = men living with HIV/AIDs

Table 3: Correlations of Self-Efficacy, Depression, Well-Being, and Quality of Life among WLWHAs

	Depression	**Well-being**	**Physical**	**Psychological**	**Social**	**Environment**
Self-efficacy[1]	0.17	−0.27	−0.11	0.14	0.23	0.22
Depression		−0.53**	−0.57**	−0.61**	−0.05	−0.12
Well-being			0.74**	0.63**	0.32*	0.34*
Quality of life:						
Physical health				0.72**	0.33*	0.36*
Psychological[1]					0.39**	0.56**
Social relationship						0.41*
Environment[1]						1.00

*$P \leq 0.05$.
**$P \leq 0.01$

DISCUSSION

Although the relationships psychological challenges and HIV/AIDS have been established among people living with HIV in China (Lui et al., 2014) little is known about this relationship among PLWHAs in SSA in general and Nigeria in particular. Following a scoping review between January and July 2020, there were no publications on the psychological challenges facing PLWHAs in Nigeria and to compare their self-efficacy, depression, psychosocial well-being and quality of life to WLWHAs and MLWHAs. To the best of our knowledge, only few studies explored the psychological challenges facing PLWHAs in Nigeria and to compare their self-efficacy, depression, psychosocial well-being and quality of life to WLWHAs and MLWHAs in Nigeria.

Our findings show that compared to WLWHAs, MLWHAs exhibited significantly higher symptoms of depression, poor well-being, and poor quality of life in three areas: physical health, psychological health, and social relationships. We also found that a higher level of depression among WLWHAs was associated with a much lower level of subjective well-being and quality of life (physical and psychological).

Overall participants in our study were found to experience symptoms of clinical depression regardless of age. This finding is consistent with reports from the USA that the rate of depression in HIV-positive adults is twice that in the general population (Kennard et al., 2013). WLWHAs, however, reported higher levels of depression than their male counterparts. As a psychosocial burden, depression is likely to add formidable challenges for older PLWHAs to coping with HIV and seeking social support. In view of these obstacles, it is not surprising that PLWHAs had depressive symptoms in our sample. In addition, the level of depression reported in this study was much higher among older adults than commonly found in non-HIV-related depression research in China. Similarly, the quality of life experienced by PLWHAs in this study was also lower than the general population study in China tends to report. For example, average scores of 15.8 in physical health, 14.3 in psychological health, 13.7 in social relations and 13.2 in the environmental field have been reported in a study of Chinese adults (Skevington et al., 2004).

Our data also show that WLWHAs had a lower quality of life in this study than MLWHAs reported in other studies. Shan et al. (2011) reported that the physical, psychological, social and environmental scores were 12.9, 12.4, 14.0 and 12.5, respectively, among WPLWHAs aged between 29 and 60 years. In addition to the age effects of a somewhat male sample, this difference could be due to different stages of disease progression, effects of antiretroviral therapy, or other psychosocial factors. Although AIDS-defining diseases can be reduced from ART, the likelihood of developing HIV-associated non-AIDS conditions, such as cardiovascular disease, lung disease and cancer, may increase with age. The interaction of ageing, chronic disease and psychological problems will continue to affect the ageing process, quality of life and well-being of WLWHAs if there is no effective intervention in this vulnerable population.

In contrast to our expectations, the rate of general self-efficacy among women and men LWHAs is comparable to that recorded in a study conducted in Hong Kong (Leung & Liu, 2011). The mean self-efficacy score was 25.3 for participants aged less than 40 years, 25.9 among those aged 40–59 and 25.8 among those aged 60 years and over. Despite experiences of significant adversity, individuals with high resilience may have positive adaptation or coping

skills (Luthar & Cicchetti, 2000). Resilience as an adaptive mechanism is considered essential for effective ageing (Jeste et al., 2013; Lamond et al., 2008). The relationship between self-efficacy, resilience and successful ageing is seen as a dynamic process and not a static one; therefore, it is important to examine the processes by which burdensome and adverse situations can lead to positive adaptations (Allen, Haley, Harris, Fowler, & Pruthi, 2011). While resilience has been shown to affect the quality of life and good health management among HIV-positive people in the USA, few, if any, empirical studies have longitudinally investigated the dynamic development of resilience and its impact on ageing with HIV in Nigeria or Africa in general.

Limitations

Several limitations of this study should be noted. First, because of the nature of the preliminary study with small sample size, we could not fully investigate and address potential psychosocial factors that contribute to depression and quality. Life through a more detailed and in-depth analysis of data. Large-scale studies are needed to examine the interactions between ageing and psychological and mental health factors among PLWHAs. Second, a single study site with an intentionally selected convenience sample can restrict the generalizability of our findings. Third, the study relied on self-reported data and could, therefore, be subject to both recall and social bias.

CONCLUSION

Findings show that WLWHAs registered lower well-being and experienced higher depressive symptoms and lower quality of life relative to MLWHAs. When combined with normal ageing processes and AIDS-related disorders, the psychosocial and mental health problems faced by WLWHAs that go far beyond those of their men HIV-infected counterparts.

Conflict of Interest

No conflict of interest has been declared by the authors

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