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Assessment of HIV Related Symptoms among People Living with HIV/AIDS Attending ART Clinics in Bauchi State Nigeria

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Background: Human Immunodeficiency Virus infection and Acquired Immune Deficiency Syndrome (HIV/AIDS) are characterized by a multitude of symptoms that still persist even with the advent of Highly Active Antiretroviral Therapy HAART. As a result, this study aims to assess the physical and psychosocial symptoms related to HIV/AIDS among People Living with HIV/AIDS (PLWHA) in Bauchi state. A cross-sectional descriptive research design was used with a total sample of 384 PLWHA recruited through multistage sampling technique from eight ART centres in Bauchi state. The respondents were interviewed using a questionnaire developed from the revised signs and symptoms checklist for HIV, the HIV-related Symptoms Severity Scale (SSC-HIVrev), and HIV related social problem scale. The data collected was analysed using Statistical Package for Social Science students (SPSS) version 23.0. Frequency tabulation, descriptive statistics of mean and standard deviation were used. Most of the participants were affected by physical stressors; the most common symptoms were fever (77.1%), headache (69.8%) and fatigue (65.4%) in the physical dimension, worry/fear (60.9%) in the psychological dimension and grief (57.3%) in the social dimension. Based on these findings it can be concluded that despite the increasing access to ART manageable symptoms still exist. The assessment of these symptoms is essential alongside other virological outcomes as well as the coping strategies adopted to self-manage the symptoms.

Keywords: *HIV related symptoms, HIV/AIDS, people living with HIV/AIDS, Physical and Psychological Symptoms*

Background

Human immunodeficiency virus infection and acquired immune deficiency syndrome (HIV/AIDS) is a spectrum of conditions caused by infection with the human immunodeficiency virus (Kramer, *et al*, 2010). HIV is a retrovirus that primarily infects components of the human immune system such as $CD4^+$ T cells, macrophages and dendritic cells. It, directly and indirectly, destroys $CD4^+$ T cells (Alimonti, *et al*, 2003). HIV/AIDS is a disease with high prevalence and incidence, its negative impact on the individual and the society is at an alarming stage (Rani and Batra, 2015). Long term complications of the disease are multifactorial and can be related to the virus itself or to the adverse effects of antiretroviral treatment (Reust, 2011) the impact of the disease can be subdivided into; physiological (physical) and psychosocial stressors.

HIV infection is a common viral infection that affects humans and is one of the main causes of premature death, with tremendous growth, particularly in Africa and Developing countries. Health care professionals are placing many patients on a potent ART, with limited attention been given to side effects which have been reported with the use of all antiretroviral drugs and are among the most common reason affecting patient willingness to initiate medication, switching or discontinuing medication or non-adherence (Peters *et al*., 2014) Patient self-report of symptoms was significantly higher than symptoms recorded by the health practitioners during follow-up (Brand, 2015).

Treatment is recommended as soon as the diagnosis is made. Without treatment, the average survival time after infection is 11 years (WHO, 2015). Highly Active Antiretroviral Therapy (HAART) has produced a great deal of relief for HIV patients by decreasing morbidity and mortality from opportunistic infections. However, this positive impact of Antiretroviral Therapy (ART) also carries negative side effects, including metabolic abnormal changes termed lipodystrophy syndrome, cardiovascular diseases, nausea, vomiting, diarrhoea and hepatotoxicity which impede the management of HIV-infected patients (Ngala *et al*., 2015). The overall benefits of viral suppression and improved immune function as a result of effective antiretroviral therapy (ART) far outweigh the risks associated with the adverse effects of some antiretroviral (ARV) drugs. However, adverse effects have been reported with the use of all antiretroviral (ARV) drugs and, in the earlier era of combination ART, were among the most common reasons for switching or discontinuing therapy and for medication nonadherence (O'Brian, 2003). However, a commonly cited cause of poor adherence to highly active antiretroviral therapy (HAART) is adverse drug reactions (Max and Sherer, 2000).

Antiretroviral toxicity is an increasingly important issue in the management of HIV-infected patients (Bindu and Anusha, 2011). Mullira *et al*., (2010) stated that the most common adverse effects reported by HIV patients taking ART were tiredness, nightmares, mood swings, nausea, poor appetite, insomnia, vomiting and dizziness. The main strategies the patients used for coping with the side effects were those categorized under information-seeking, social-support seeking and positive-emotion-focused coping. However, Bindu and Anusha 2011 opined that each class of drug has its side effects; nucleoside/nucleotide reverse transcriptase inhibitors are associated with lactic acidosis, lipodystrophy, and hyperlipidemia; non-nucleoside reverse transcriptase inhibitors are associated with neuropsychiatric symptoms, rash, liver toxicity, and lipid abnormalities; and protease inhibitors are associated with gastrointestinal intolerance and glucose and lipid abnormalities. Treatment of HIV/AIDS patients with carved (a brand of ARV) may likely result in liver damage possibly cholestatic liver injury at prolonged treatment (Peters *et al*, 2014).

Treatment for HIV may have headaches, an upset stomach, fatigue, or aches, stress, dizziness, diarrhoea and pains as a short term while Lipodystrophy (fat redistribution), Insulin Resistance, Lipid abnormalities, Increases in cholesterol or triglycerides, Decrease in bone density, Lactic acidosis as long term side effects (Urison, 2014). Most recent figures have identified that, although with improved access to HAART, deaths due to AIDS and AIDS-related malignancies continue to decline (Foster and Fiddler, 2010). Moreover, there is an increase in non-AIDS-related mortality in children and adults with increasing attention turned towards the long-term impact of HIV itself and the side effects of antiretroviral therapy.

In Nigeria, Antiretroviral therapy (ART) has significantly reduced rates of morbidity and mortality in HIV-infected persons.

Nevertheless, patients also experience the adverse effects of antiretroviral drugs. ART regimens involve a combination of at least three drugs and this implies combined toxicities from the individual drugs (Agu, Opara and Ochei, 2012). People living with HIV/AIDS can face serious health threats from what are known as "*opportunistic" infections* (OIs). These infections are called "opportunistic" because they take advantage of the weakened immune system, and can cause devastating illnesses (United States Department of Health and Human Services, 2016; Entonu and Agwale, 2007)

Research conducted using the HIV-related Symptoms Severity Scale among patients on HAART reveals the percentages of symptoms such as numbness/tingling in hands/feet (61.04%) Feeling nervous (40.52%) Lack of energy (40.26%) Sweats (38.96%) Weight loss (38.96%) and Pain (51.17%) (Farrat, Gwyther, Dinat, Ntombi and Harding, 2012). A study shows that there was no association between the use of HAART and physical or psychological symptoms burden of HIV were pain was the most common symptom in the physical dimension with 82.6% prevalence and worry in the psychological dimension with 74.5% prevalence (Harding, Selman, Agupia, Dinat, Downing, Gwyther…Higginson *et al.,* 2012).

Methods

Study design

A quantitative descriptive cross-sectional research design was utilised for this study. to identify the physical and psychosocial symptoms related to HIV/AIDS among People Living with HIV/AIDS (PLWHA) in Bauchi state Antiretroviral (ART) Centre.

Study Area

Bauchi state has 20 Local Government Areas (LGAs); each local government has a General Hospital (GH) and each GH has an Antiretroviral (ART) Centre in it. Other centres are those in Abubakar Tafawa Balewa University Teaching Hospital (ATBUTH), Bauchi, Federal Medical Centre (FMC) Azare, Infectious Disease centre (IDC) Bayara, Medical Reception Station (MRS) Armoured Barracks, Bauchi and some private hospitals. There are currently 13,131 people receiving treatment in these centres, of which 1,002 are below 15years and 11,581 are 15years and older, the remaining 548 among those that lost to follow up and those that died during the reporting year. Eight ART centres were utilised for this study, and were selected using multistage sampling technique.

Study population

The population of the study comprised of people living with HIV/AIDS who were enrolled on ART in various health facilities in the state. There are 11,581 people living with HIV/AIDS who are 15years and older enrolled into the 23 ART centers at Bauchi state, out (BACATMA, 2016).

Sample size determination

A sample size of 384 PLWHA was derived using Cochrane formula

$$n = \frac{z^2pq}{d^2}$$

Where n- sample size

z- standard normal deviate at 95%, corresponding to 1.96

p- proportion or prevalence of factor of interest from a previous study

q- complementary probability of p = 1-p

d- degree of precision required = 5%

There is no any study that shows the exact prevalence of coping among PLWHA therefore 50% prevalence was utilized.

$$n = \frac{(1.96)^2 \times 0.5 \times 0.5}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.5 \times 0.5}{0.0025}$$

n = 384 PLWHA

Data collection

Questionnaire guided interview was utilized to collect information from the respondent in the ART Centres. the questionnaire was

developed from the revised sign and symptoms checklist for HIV (SSC-HIVrev) and HIV related social problem scale. Three (3) trained Research assistants were involved in the data collection for the period of 3 months

Data Analysis

Data analysis was computer aided using SPSS (IBM) Software (version 23.0). Descriptive statistics such as frequency distribution and tabulation, simple percentages, measures of central tendency (mean), measures of dispersion (standard deviation) were used

Ethical Consideration

Ethical clearance for the study was obtained from Bauchi State Ministry of Health Research Ethics Committee (MOH/GEN/S/1409/I). Informed consent was obtained from the respondents; anonymity and confidentiality were assured and maintained.

Results

Table 1: *Sociodemographic Characteristics of Respondents (n = 384)*

Variables		Frequency	Percentage (%)
Age (years)	15-30	104	27.1
	31-45	187	48.7
	46-55	58	15.1
	56-Above	35	9.1
Sex	Male	95	24.7
	Female	289	75.3
Marital status	Single	45	11.7
	Married	243	63.3
	Divorced	65	16.9
	Widow	31	8.1
Educational qualification	No formal education	135	35.2
	Primary	79	20.6
	Secondary	114	29.7
	Tertiary	56	14.6
Occupation	Civil servant	43	11.2
	Unemployed	94	24.5
	Farmer	15	3.9
	Private employee	32	8.3
	Self-employed	174	45.3
	Students	21	5.5
	Others	5	1.3
Religion	Islam	321	83.6
	Christianity	63	16.4

Table 1 shows that majority of the respondents fall within the age group of 31-45 (48.7%). It also shows the sex distribution of the respondents with female having the highest frequency of 289 (75.3%), Marital Status of the respondents, shows that 243 out of 384 (63.3%) are married. 135 (35.2%) had No formal education. The major religion is Islam with 83.6%.

Table 2: *Physical stressors severity, frequency and percentage affecting People Living with HIV/AIDS (PLWHA) in Bauchi state, 2017.*

Physical stressors	Mild	Moderate	Severe	Total	Mean	SD
Fatigue	127 (33.1%)	86 (22.4%)	38 (9.9%)	251(65.4)	1.08	0.98
Fever	157 (41.0%)	106 (27.7%)	32 (8.4%)	295(77.1)	1.21	0.89
Diarrhoea	96 (25.0%)	30 (7.8%)	10 (2.6%)	136(35.4)	0.48	0.75
Abdominal pain	124 (32.3%)	26 (6.8%)	8 (2.1%)	158(41.2)	0.52	0.72
Nausea	96 (25.1%)	54 (14.1%)	24 (6.3%)	174(45.5)	0.72	0.93
Vomiting	108 (28.1%)	34 (8.9%)	10 (2.6%)	152(39.6)	0.54	0.76
Shortness of breath	120 (31.3%)	62 (16.1%)	6 (1.6%)	188(49.0)	0.68	0.80
Sore throat	146 (38.2%)	28 (7.3%)	14 (3.7%)	188(49.2)	0.64	0.77
Mouth ulcer	122(31.8%)	32 (8.3%)	10 (2.6%)	164(43.7)	0.56	0.76
Numbness	126(32.8)	76(19.8)	4 (1.0)	206(53.6)	0.76	0.80
Headache	110(28.6)	130(33.9)	28(7.3)	268(69.8)	1.18	0.95
Dizziness	102(26.6)	62 (16.1)	42 (12.2)	206(54.9)	0.95	1.05
Chest pain	124(32.3)	50(13.0)	6(1.6)	180(46.9)	0.63	0.77
Coughing	86 (22.4)	100(26.0)	24 (6.3)	210(54.7)	0.93	0.98
Lack of appetite	114(29.7)	88 (22.9)	16(4.2)	218(56.8)	0.88	0.90
Constipation	114 (29.7)	48 (12.5)	18 (4.7)	180(46.9)	0.69	0.87
Weight loss	154 (40.0)	48(12.5)	4(1.0)	206(53.5)	0.68	0.73
Skin rash	120(31.3)	42 (10.9)	24(6.3)	186(48.5)	0.72	0.89
Blurred vision	130 (33.9)	54(14.1)	8(2.1)	192(50.1)	0.68	0.79
Gynaecological	111(28.9)	12(3.1)	10 (2.6)	133(34.6)	0.43	0.68

Table 2 above shows that fever has the highest frequency of 295(77.1%) followed by headache with 268(69.8%), The two most prevalent severe symptoms are dizziness 42 (12.2%) and fatigue 38 (9.2%). However only 11.2% of the respondents were symptom-free, eight respondents reported amenorrhea as their major physical problem while six reported infertilities as their burdensome physical stressor.

Table 3: *Psychological stressors affecting people living with HIV/AIDS affecting PLWHA in Bauchi state, 2017*

Psychological stressors	Mild Freq. (%)	Moderate Freq. (%)	Severe Freq. (%)	Total	Mean	SD
Difficulty concentrating	128 (35.9)	72 (20.3)	----	200 (56.2%)	0.71	0.76
Memory loss	138 (35.9)	78 (20.0)	16 (4.2)	232 (60.1%)	0.89	0.86
Fear/worries	146 (38.0)	48(12.5)	40(10.4)	234 (60.9%)	0.94	0.97

Table 3 shows that the psychological symptoms are the most prevalent but not severe in nature and most prevalent being fear with 234 (60.9%) and memory loss with 232 (60.1%).

Table 4: *Social stressors affecting PLWHA in Bauchi state, 2017*

Social problems	Problem Freq. (%)	Most serious problem Freq. (%)	Total Freq. (%)	Mean	SD
Marital problem	70(18.4)	24(6.3)	94(24.7)	0.31	0.58
Family problem	68(17.7)	39(10.2)	107(27.9)	0.38	0.67
Discrimination due to HIV	92(24.0)	41(10.7)	133(24.7)	0.45	0.68
Good information about HIV	142(37.0)	40(10.4)	182(47.4)	0.58	0.67
Loss/ death of someone due to HIV	152(39.6)	68(17.7)	220(57.3)	0.77	0.75

Table 4 shows that loss/death of someone due to HIV was the most common social problem encountered by people living with the disease with the frequency of 220 (57.3%) and in terms of severity 17.7% (n= 152)

Discussion

The findings of the study show that most of the respondents were within the age group of 31 -45years (48.7%) with the mean of 35.8 (SD 10) this fall within the sexually active age group, this is in accordance with Sambo *et al.,* (2012) in their studies among HIV/AIDS patients receiving free antiretroviral therapy (ART) in a tertiary health facility in North-Western Nigeria. The findings also showed that 56years and above has the lowest distribution with 9.1%.

Females are the majority 75.3% of the respondents. This is in line with the global statistics (which affirms that out of the total of 33.4 million people living with HIV in 2008, 15.7 million are females. This has been described as the feminization of the epidemic. Besides, in the study area, women are more vulnerable to HIV infection due to low condom use, gender inequality and economic disadvantage of women in the region (FMoH, 2010).

Married respondents have the highest number (63.3%) this is in agreement with kyaija *et al* 2010 in his study Personal coping strategies for managing the side effects of antiretroviral therapy among patients with an HIV/AIDS clinic in Uganda. Similarly, the findings tallied with the work of Harding *et al.,* (2012) in some countries of sub- Saharan Africa. This could be due to awareness campaigns done in the area on the protective effect of marriage in other to restrict multiple sexual partners.

Of all the participants a huge proportion had no formal education 35.2%, which is similar to findings in a study by Nair, 2007 conducted in India among PLWHIV; only 2.4% of his respondents had tertiary education. This may give an impression that HIV/AIDS is more among uneducated members of the community.

The majority of the respondents were self-employed (45.3%) which could be due to the fact that a huge number of the respondent are females and have no formal education.

The Islamic religion was dominant with 83.6% which could be due to the nature of the study area where the majority of the population are of the Islamic religion.

The findings of the study revealed that people living with HIV/AIDS in Bauchi state were faced with a trajectory of physical and psychological stressors despite being on HAART. The most common symptoms were fever, headache and fatigue in the physical dimension which is in agreement with a study by Peltzer and Mafuya, (2008) in Eastern Cape, South Africa and Harding *et al.,* (2012) in sub-Saharan Africa who variously stated that the most common symptom experienced by his participant was pain which comes in various forms. Recently, Brand, (2016) in Swakopmund, Namibia added that cough and peripheral neuropathy as the physical symptoms. However, a study conducted by Farrant *et al*, (2012) on South Africans attending HAART clinics indicated that frustration ("I don't look like myself") was the most common physical symptom. Again Kyaija *et al,* (2010) on Personal coping strategies for managing the side effects of antiretroviral therapy among patients at an HIV/AIDS clinic in Uganda shows that the most common symptoms reported were tiredness, nightmares, mood swings, nausea, poor appetite, insomnia, vomiting and dizziness. As, Highleyman, (2001) stated that fatigue is one of the most debilitating experiences by PLWHA which can be physical or psychological in nature.

The findings of the study showed that fear/worries, memory loss and difficulty concentrating were the most common psychological symptoms faced by the study participants this is in line with Farrant *et al*., (2012) who stated in his study among South Africans that the four psychological symptoms in the memory symptoms assessment scale short form (MSAS-SF) were the most prevalent and of high burden (sad, irritable, worrying and feeling nervous). The findings were also in agreement with Brand, (2016) who stated that the most common

symptoms indicated by his study participants were psychological in nature (worrying, felling sad and difficulty concentrating). Similarly, Peltzer and Mafuya, (2008) reported that fear and worries were among the top ten symptoms reported by PLWHA in their study conducted in Eastern Cape, South Africa. So also, Harding, (2012) conducted a multicenter study and the result shows that feeling sad and worrying were among the five most prevalent symptoms among HIV palliative care patients in sub-Saharan Africa. The current study also shows that the psychological stressors were the most prevalent but not the most burdensome. However, contrary to this study, Bhatia and Munjal, (2014) reported that the prevalence of depression in patients with HIV under ART was 58.75%, the prevalence of depression increased with the severity of symptoms, they further stated that unemployed, uneducated, unmarried, belonging to joint families, having no or low family income, migrants, having an indifferent or poor relationship with spouse, poor social support and had visited commercial sex workers had a greater prevalence of depression.

The findings on social problems affecting PLWHA showed that loss of a partner or relative to HIV, getting good information about the disease and discrimination due to HIV were the most common social problem faced by PLWHA in the study area, this is in contrary to the study by Mitchel, (2005) in her studies on sources of life stress and ways of coping in rural persons living with HIV infection in America which shows that the most serious problems faced by PLWHA are finances, difficulty maintaining one's life and relationship difficulties. The findings were also not in line with Harding *et al.*, (2012) where the result shows hunger as their major social problem (among HIV palliative care patients in sub-Saharan Africa). Similarly, Sambo *et al*, (2012) reported that despite free ART given to PLWHA they still incur significant out of pocket expenses while receiving treatment. Substance use and abuse are common among HIV positive individuals, with nearly 50% of persons living with HIV/AIDS reporting current or past histories of drug or alcohol disorders (Bing *et al*., 2001 in Durvasula and Miller, 2014) which is also contrary to the study findings. Hassan and Afolaranmi (2014) mention the most commonly used substances among PLWHA as alcohol, marijuana and cigarettes, and reasons behind the use of the substances as; feeling of euphoria, stress due to illness, frustration and increase work performance. Similarly, Valle *et al*., (2015) reported a high level of stigma among 68% of Spanish research participants using the HIV stigma scale which they consider as a life problem and it is in line with the current study.

Conclusion

The findings indicated that despite increasing access to ART, a high level of burdensome and manageable symptoms exist. The assessment of these problems is essential alongside the assessment of ART virological outcomes. Symptom assessment provides information that may be valuable in evaluating AIDS treatment regimens and defining strategies to improve quality of life. There is an urgent need for effective health care, home- and community-based as well as self-care symptom management to help patients and their families manage and control AIDS symptoms.

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