Burnout and Resilience as Predictors of Depression and Anxiety among HIV Naïve Patients in Nigeria

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Abstract

Studies have demonstrated that individuals living with severe and chronic illnesses, such as HIV, experience heightened vulnerability to mental health issues, specifically depression and anxiety. This study examined the effect of burnout and resilience as predictors of depression and anxiety among HIV naïve patients in Nigeria. 1022 participants were sampled using a multistage sampling technique from hospitals across the Federal Capital Territory, Abuja where HIV/AIDS care services are provided. Instruments used for data collection were the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Scale (GAD-7), Conor Davison Resilience Scale (CD-RISC 2), and Professional Fulfilment Index (PFI). Data collected was analyzed using descriptive statistics and multiple linear regressions on SPSS version 26. Results indicated that burnout positively predicted depression R = .677, R2 = .459, [F (3,977) = 274.934, P<.01], and anxiety R = .721, R2 = .520, [F (3,984) = 53.966, P<.01] among participants. Similarly, resilience also predicted depression R =194, R2 = .038, [F (1,996) = 38.774, P<.01], and anxiety R =194, R2 = .038, [F (1,996) = 38.774, P<.01] among study participants. The study further revealed that burnout and resilience significantly and jointly predicted depression R =.680, R2 = .463, [F (2,977) = 419.748, P<.01], and anxiety R =.697, R2 = .486, [F (2,984) = 464.106, P<.01] among participants. Based on the study findings, it is recommended that there is a need to integrate routine mental health screening and care into all HIV testing and treatment at ART centres to strengthen HIV prevention and care outcomes.

Keywords: Anxiety, Burnout, Depression, HIV/AIDS, Naïve Patient, Resilience.

Introduction

The human immunodeficiency virus (HIV)/acquired immunodeficiency syndrome (AIDS) epidemic remains a public health challenge in Nigeria, and it is a leading cause of morbidity and mortality in sub-Saharan Africa including Nigeria. The country has the highest HIV/AIDS burden with an estimated 3 million people living with HIV (PLHIV) in 2015 [1] and in 2020, this figure increased to an estimated 206,139,589 people living with HIV in the country [2]. The newly diagnosed HIV-positive patient (also known as HIV naïve patient) represents a challenge for both public health experts and clinicians, in terms of proper management.

The stress associated with having a severe and chronic illness, as well as the neurological effects of HIV, has been shown to increase

susceptibility to mental health challenges particularly depression and anxiety among PLHIV [3]. Depression manifests as a mood disorder marked by persistent feelings of sadness, despair, and diminished interest in once-enjoyable activities. The risk of depression is notably elevated among PLWH when compared to the general population, as evidenced by a study in the United States reporting a prevalence of elevated depressive scores at 58% among PLWH compared to 33% among HIV seronegative individuals [4].

Anxiety on the other hand is characterized by heightened disproportionate feelings of nervousness, fear, and dread with increased frequency and intensity. Anxiety symptoms in HIV-infected individuals stem from uncertainties regarding the disease's progression, clinical trajectory, and fears associated with pain, suffering, physical deterioration, treatment, and mortality [3].

Psychosocial factors such as burnout and resilience could be implicated in the development and course of depression and anxiety in HIV naïve patients. Defined as a psychosomatic syndrome characterized by emotional exhaustion, feelings of depersonalization, and reduced personal accomplishment [5], burnout has been studied mostly about depression and anxiety in the non-HIV population. The important correlations among burnout, anxiety and depression among a sample of 194 Italian health caregivers working in HIV/AIDS [6]. A study found that emotional exhaustion and cynicism were positively related to anxiety symptoms, whereas professional efficacy was negatively related to anxiety symptoms [7]. That is, the more emotionally exhausted, cynical, and less efficient toward his/her work an individual feels, the more anxious he/she will be. Burnout and anxiety symptoms are significantly correlated with each other, with the strongest link existing between anxiety and emotional exhaustion[8].

Resilience on the other hand is generally defined as the capacity to maintain mental health by managing the negative psychological impact of stress and adversities like news of a positive HIV diagnosis [6]. It is a measure of the stress and coping ability of an individual. International research has documented how resilience is negatively associated with depression, anxiety, and behavioural problems, but positively associated with psychological well-being and quality of life [9, 10]. Resilience has also been identified as a mediator of health disparities and a mechanism for improving HIV outcomes [11]. Among 295 Community health workers, respondents were from Benin, Colombia, Guatemala, and Spain the median standardized resilience score was 58.33 for the standardized depression score and 19.05) for the standardized anxiety score. Standardized resilience score was negatively correlated with standardized anxiety score and standardized depression score [12]. However, all these studies were conducted on healthcare workers rather than HIV populations, making the nature of the association between these variables and depression and anxiety in HIV naïve patients not very clear.

Statement of the Problem

Over the last decade, Nigeria has made significant progress in controlling the HIV epidemic, with a decline in new infections and increased treatment coverage [13]. However, more work is needed to achieve the 90-90-90 targets set by the joint United Nations Programme on HIV/acquired immunodeficiency syndrome for 2030, and a multi-pronged approach is required to address the social and mental health determinants that drive the epidemic in Nigeria. The increasing mental health issues among HIV naive is an emerging public health concern with the potential of burdening the already busy healthcare systems and the scarce human resources in mental healthcare in resource-limited settings like Abuja. Mental health issues

especially depression and anxiety exacerbate the many social and economic barriers to accessing adequate and sustained healthcare. They are among the most challenging barriers to achieving the end of the HIV pandemic in Nigeria.

In addition, the prevalence of HIV in Nigeria poses significant challenges, especially for individuals who are HIV-naïve. This population may experience mental health issues, such as depression and anxiety, given the stressors associated with living in a high HIV-prevalence environment. Despite all these, research on mental health among People Living with HIV/AIDS (PLWHA) focused more on those already on medication with limited literature addressing the mental health status of HIV-naïve individuals, especially in Abuja-Nigeria. In addition, many studies on burnout, resilience, depression and anxiety mostly focused on the HIV healthcare workers and not the patients themselves [7; 13; 15]. Extending the study variables to HIV naïve patients will bring information that is unique to the population under study. It is against this background that the current study is conceived to bridge this gap by investigating burnout and resilience as predictors of depression and anxiety among HIV-naïve individuals in FCT, Abuja Nigeria.

Materials and Methods

Study Design

A descriptive cross-sectional research design was used to collect data from HIV-naïve patients at a single point in time. The study investigated burnout and resilience as predictors of depression and anxiety among HIV-naïve patients in Abuja, Nigeria and the aim was to determine if burnout and resilience predict depression and anxiety.

Study Area

The study was carried out at the Federal Capital Territory (FCT), Abuja Nigeria. Abuja, the capital city of Nigeria, serves as a unique and significant study area for research on burnout and resilience as predictors of depression and anxiety among HIV-naïve patients. This is because Abuja is one of the fastest growing cities in Nigeria with a major population are people who range from 15-49 years of age. This age range falls into the category of sexually active age according to [16]. This makes them vulnerable to sexually Transmitted Infections including HIV. Geographically situated at the centre of Nigeria, Abuja is bordered by Nasarawa State to the northeast, Niger State to the west, and Kaduna State to the northwest.

Study Population

The study population consists of HIV naïve patients living in the Federal Capital Territory (FCT), Abuja. FCT, Abuja is a diverse and representative group reflecting the multicultural and cosmopolitan nature of the capital city. Abuja's population is known for its ethnic, cultural, and socioeconomic diversity, making it an ideal setting for a comprehensive study on the predictors of depression and anxiety among HIV-naïve individuals.

Inclusion and Exclusion Criteria

The study will include individuals who have been diagnosed with HIV but have not started taking medication at the time of enrolment in the research. Participants aged 18 years and above will be included. Individuals who provide informed consent to participate in the study will be included, ensuring their willingness and understanding of their involvement. In addition, participants from various regions or healthcare facilities across Nigeria will be included to ensure diversity and representation of the target population.

HIV-negative patients, individuals below 18 years of age were excluded from the study due

to ethical and legal considerations. Persons who did not provide informed consent or were unable to provide consent (e.g., due to cognitive impairment) were excluded from the study. Patients with severe mental health conditions or cognitive impairments that could hinder their participation or understanding will also be excluded. Individuals who could not understand the study's language or required translation services unavailable in the research were excluded. Finally, participants with severe physical health conditions that may significantly impact their mental health or ability to participate may be excluded.

Sampling Technique and Sample Size

A multi-stage sampling technique was used to obtain thousand and twenty-two (1022) representative participants from facilities providing ART services within Abuja, FCT. The first stage involved the selection of Municipal Council Area and equivalence of LGAs in the State (e.g. 3 out of 6 in FCT by simple random sampling employing simple balloting). The second stage involved listing all HIV programmes and selection of 8 numbers. By simple random sampling, simple balloting was employed to allocate questionnaires equally to the programmes. In the third Stage, in a selected programme running clinic days, 2 out of 5 days were selected by simple random sampling employing simple balloting. Fourth Stage, a list (sampling frame) of PLHIVs attending the clinic on a day is obtained from the triage nurse. A systematic sampling of one in 3 PLHIVs on the list was selected and this continued till the sample size was achieved.

Data Collection Tools

Data collection was accomplished through the use of semi-structured interviewer-administered questionnaires. Instruments used for data collection were the Patient Health Questionnaire (PHQ-9), Generalized Anxiety Scale (GAD-7), Conor Davison Resilience Scale (CD-RISC 2), and Professional Fulfilment Index (PFI).

The Patient Health Questionnaire (PHQ) is a self-administered questionnaire for common mental health disorders and was used to specifically measure symptoms of depression [17]. The Generalized Anxiety Scale (GAD-7) was used to assess anxiety symptoms in HIV naïve patients. It is a seven-item instrument that is used to assess the severity of Generalized Anxiety Disorder [18]. Connor Davidson Resilience Scale (CD-RISC 2) is a two-item scale forming part of the longer CD-RISC [19]. This short scale is useful as a brief measure of resilience in this study. Professional Fulfilment Index (PFI) is designed to assess respondents' perceived burnout and professional fulfilment [20].

The questionnaire was pre-tested at a health facility in Lokoja, Kogi state providing ART services sharing similar characteristics with the study area to determine its suitability in the main population. The study instrument was translated by language experts to Hausa, Yoruba and Igbo for eligible semi-literate respondents and backtranslated to English. The content validity of the questionnaire was ensured by using standardized National HIV tools as a guide while preparing the questionnaire and through consultation and review by my supervisors.

Data Collection Procedure

The data was collected using a semi-structured interviewer-administered questionnaire. Data were collected from HIV naïve patients at the pre-test and post-test counselling units and ART sections of the selected hospitals where HIV care and support services are provided. These hospitals were National Hospital, Federal Medical Centre Jabi and other selected district general hospitals within Abuja. In administering the research questionnaire, the researcher divided the 12 research assistants into three groups of four to visit the units and departments within these

hospitals. Upon reaching any of the hospitals, the researcher sought the permission of the Doctor and Matron in charge of each unit to administer the questionnaire to those who were newly diagnosed with HIV or were coming to initiate ART therapy for the first time and were willing to respond to the items of the questionnaire.

Only those who voluntarily consented to participate in the study were administered with the research tools. Information gathered through the questionnaire encompassed socio-demographic characteristics, symptoms of depression, anxiety, and factors such as burnout and resilience among HIV naïve patients.

Data Analysis

Descriptive statistics and multiple linear regressions were used to analyze the data collected. Descriptive statistics was used to analyze the demographic variables such as sex, age, working status, and education. Multiple linear regressions were used to analyze the

hypotheses. The data were analyzed using SPSS version 26.

Ethical Considerations

The Federal Capital Territory Ethical Review Committee approved the study, and permission to enter the facilities was sought from the medical officer in charge. Before the administration of the questionnaire, participants were fully informed regarding the purpose of the study. A written and verbal informed consent form was obtained from the participants before administration of the questionnaire. The form stated clearly that participation was voluntary, and participants could discontinue the activities at any point in time. Confidentiality was ensured as no identifiers were included in the questionnaire.

Results

Inter-correlation among Study Variables

Table 1 below provides details information about the inter-correlation among the study variables.

Table 1. Inter-correlation among Study Variables

Variable	1	2	3	4	5	6	$\overline{X}$	SD
Emotional exhaustion	-						1.9	2.5
Interpersonal disengagement	0.609**	-					2.3	3.6
Professional fulfilment	0.480**	0.583**					2.2	3.0
Resilience	0.174**	0.152**	0.269**	-			2.7	2.1
Depression	0.562**	0.593**	0.566**	0.229**	-		4.2	5.1
Anxiety	0.467**	0.546**	0.583**	0.231**	0.763**	-	3.2	4.2

The results presented on Table 1 revealed that there is a significant positive relationship between emotional exhaustion and depression (r= .562; p<.05), implying that patients who experience high emotional exhaustion are more likely to have increased depression. Similarly, correlational analysis revealed a significant positive relationship between emotional exhaustion and anxiety (r= .467; p<.05),

implying having high emotional exhaustion could result to increased anxiety. In the same vein, interpersonal engagement is significantly and positively related to depression (r= .593; p<.05) and anxiety (r= .546; p<.05), which means that high interpersonal disengagement would consequently result in depression and anxiety. Additionally, the result indicated professional fulfilment is significantly and

positively associated with depression (r= .566; p<.05) and anxiety (r= .583; p<.05), this indicates that patients with high professional fulfilment are more likely to experience increased depression and anxiety. More so, resilience is also significantly and positively related to depression (r= .229; p<.05) and anxiety (r= .231; p<.05), implying that patients with high resilience are more likely to have increased depression and anxiety. Lastly, depression was significantly and positively related to anxiety (r= .763; p<.05), this means that patients with high depression are more likely to experience high anxiety.

Table 2 reveals the results of the influence of burnout on depression and anxiety analyzed using multiple linear regression.

Table 2. Multiple Linear Regression Showing Results for the Influence of Burnout and Resilience on Depression and Anxiety among Patients.

DV	Variables	R	R^2	df	F	β	t	Sig
Depression	Constant	0.677	0.459	3,977	274.934		7.862	0.000
	Emotional Exhaustion					0.257	8.418	0.000
	Interpersonal Engagement					0.279	8.502	0.000
	Professional Fulfilment					0.265	8.790	0.000
Anxiety	Constant	0.721	0.520	3,984	53.966		4.727	0.000
	Emotional Exhaustion					0.439	15.496	0.000
	Interpersonal Engagement					0.095	3.088	0.002
	Professional Fulfilment					0.317	11.450	0.000
Depression	Constant	0.194	0.38	1,996	38.774		28.786	0.000
	Resilience					0.194	6.227	0.000
	Constant	0.229	0.52	1,996	54.966		9.773	0.000
Anxiety	Constant	0.229	0.52	1,996	54.966		9.773	0.000
	Resilience					0.229	7.414	0.000

The result in Table 2 above revealed that burnout significantly and positively predicted depression R = .677, R^2 = .459, [F(3,977) = 274.934, P<.01], implying the more patients experience burnout, the more they are to experience increase depression. Further observation indicated that burnout accounts for 45.9% of the variance in depression among patients. Independently, emotional exhaustion (t = 8.418; β= .257, p<.01), interpersonal disengagement (t = 8.502; β= .279, p<.01) and professional fulfilment (t = 8.790; β= .265, p<.01) had made significant contribution to the model. Similarly, the result also shows that burnout significantly and positively predicted anxiety among participants R = .721, R^2 = .520, [F (3,984) = 53.966, P<.01], which means that increased burnout can result in increased anxiety symptoms among patients. The result also revealed that burnout accounts for 52.0% of the variance in anxiety among patients. Based on this finding, the null hypothesis ($H0$) is rejected and the alternate hypothesis (Ha) is accepted

Table 2 above also presents the result of the influence of resilience on depression and

anxiety among HIV naïve patients which was analyzed using multiple linear regressions.

The result in Table 2 above shows that resilience significantly and positively predicted depression R =194, R^2 = .038, [F (1,996) = 38.774, P<.01], implying that the more resilient patients are, the more likely they are to experience depression. The result further indicated that resilience accounts for 3.8% of the variance in depression among patients. Similarly, resilience significantly and positively predicted anxiety among patients R =.229, R^2 = .052, [F (1,996) = 54.966, P<.01], which means more resilience can lead to more anxiety among patients. Based on this finding, based on this finding, the null hypothesis ($H0$) is rejected and the alternate hypothesis (Ha) is accepted.

Table 3 is the results of multiple linear regressions showing the influence of burnout and resilience on depression and anxiety among naïve patients.

Table 3. Multiple Linear Regression Showing Results for the Influence of Burnout and Resilience on Depression and Anxiety among Patients.

DV	Variables	R	R^2	df	F	β	t	Sig
Depression	Constant	0.680	0.463	2,977	419.748		4.057	0.000
	Burnout					0.659	27.341	0.000
	Resilience					0.075	3.105	0.002
Anxiety	Constant	0.697	0.486	2,944	464.106		2.766	0.006
	Burnout					0.678	28.839	0.000
	Resilience					0.068	2.904	0.004

The result in Table 3 revealed that burnout and resilience significantly and jointly predicted depression R =.680, R^2 = .463, [F (2,977) = 419.748, P<.01]; and anxiety R =.697, R^2 = .486, [F (2,984) = 464.106, P<.01] among participants. With this finding, the alternated hypothesis (Ha) is confirmed, and the null hypothesis ($H0$) is not confirmed.

Discussion

This study assessed burnout and resilience as predictors of depression and anxiety among HIV naïve patients in FCT, Abuja, Nigeria. The outcomes of this study revealed that there was a significant positive influence of burnout on depression. This implies that the more respondents experience burnout, the more they are likely to experience an increase in symptoms of depression. Further observation indicated that burnout accounts for 45.9% of the variance in depression among patients. Independently, emotional exhaustion, interpersonal disengagement and professional fulfilment made significant contributions to the model. Similarly, the result also shows that there is a significant positive influence of burnout on anxiety among respondents. This means that the higher the symptoms of burnout, the higher the symptoms of anxiety among respondents. The result also revealed that burnout accounts for 52.0% of the variance in anxiety among respondents. Based on this finding, this hypothesis is accepted.

This finding is consistent with the study [8] which found that emotional exhaustion and cynicism (burnout) were positively related to anxiety symptoms. That is, the more emotionally exhausted, cynical, and less efficient toward his/her work an individual feels, the more anxious he/she will be. It is also similar to the results of Turnipseed [9] who also found that burnout and anxiety symptoms were significantly correlated with each other, with the strongest link existing between anxiety and emotional exhaustion.

The results of hypothesis two showed that resilience significantly and positively predicted depression among participants. This implied that the more resilient participants are, the more

likely they will experience symptoms suggestive of depression. The result further indicated that resilience accounted for only 3.8% of the variance in depression among participants. Similarly, resilience significantly and positively influenced anxiety among patients. This means more resilience can lead to more symptoms suggestive of anxiety among participants. This finding is contrary to the outcomes of many studies which found that resilience is negatively associated with depression and anxiety but positively associated with psychological well-being and quality of life [13, 12, 14]. Although unanimous findings from previous studies revealed that resilience can play a critical role in buffering the negative effects of disasters and catastrophes such as the diagnosis of HIV, it was not confirmed in this study. One possible reason for the disparity in this finding with previous studies could be the use of different tools for data collection.

Conclusion and Recommendation

Burnout and resilience independently and jointly predicted depression and anxiety among HIV naïve patients in FCT, Abuja Nigeria. There is a need to integrate routine mental health screening and care into all HIV testing and treatment centres in FCT, Abuja to strengthen HIV prevention and care outcomes. This can be achieved through the involvement of specialized mental healthcare professionals like psychiatrists and clinical psychologists to ensure continuous screening and treatment for mental health problems and disorders in HIV/AIDS populations.

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The present study is not without limitations. First, the study was limited to cross-sectional investigation and cannot explain causality or changes in the relationships over time. Secondly, the self-report measure could have made it possible for faking, thereby affecting the validity of the study findings. Finally, prospective participants were unwilling to provide information about their health due to fear of stigma and discrimination.

Conflict of Interest Disclosure

There is no conflict of interest regarding this publication.

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Authors Contribution

The study was conceived and designed by Christie Awunor and Folajinmi Oluwasina. Data analysis and first draft of Manuscript was conducted by Christie Awunor, Simeon Itodo and Folajinmi Oluwasina.

Christie Awunor, Folajinmi Oluwasina, Aisha Giwa, Adedoyin Olanlesi-Aliu, Simeon Itodo, Edith Babarinde and Mercy Audu, reviewed and revised the initial draft manuscript, and approved the final draft before submission.

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