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Psychological distress, coping strategies and social support among HIV positive patients in Calabar, Nigeria

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Abstract

The Human Immunodeficiency Virus (HIV) infection substantially impacts psychological and emotional wellbeing via various mechanisms. The role of coping strategies and social support in the mental health of People Living with HIV (PLWH) is under-investigated. This study aimed to determine the prevalence of anxiety and depression and their relationship with coping and social support among PLWH. This cross-sectional study involved 251 patients selected using systematic sampling from the HIV Clinic of the General Hospital, Calabar, Nigeria. A sociodemographic questionnaire was administered along with the Hospital Anxiety and Depression Scale to measure anxiety and depression. Participants were also administered the 32-item Coping Strategies Inventory and the Oslo Social Support Scale to measure coping strategies and social support, respectively. The respondents were mostly female (72.5%) and had a mean age of 35.3 [SD=10.9]. The prevalence of anxiety and depression was 27.1% and 19.5%, respectively. Both anxiety and depression had significant negative associations with problem-focused engagement, emotion-focused engagement and problem-focused disengagement, and significant positive associations with emotion-focused disengagement ($p<0.01$). Social support was poor and had a significant negative association with anxiety, significant positive associations with problem-focused engagement, emotion-focused engagement and problem-focused disengagement, and significant negative associations with emotion-focused disengagement ($p<0.01$). Our study highlights the importance of coping strategies and social support among PLWH. Based on findings, adaptive coping and social support protect PLWH from deterioration in their mental health. In addition, PLWH with good social support might cope better with the diagnosis.

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Introduction

Worldwide, an estimated 37.6 million people live with Human Immunodeficiency Virus (HIV), and almost 25 million have died from the virus.[1] Seventy-one per cent of People Living with HIV (PLWH) reside in sub-Saharan Africa, a region that accounted for 75% of deaths and 65% of new infections in 2017.[2] Nigeria has the second-largest HIV epidemic in the world, with 1.8 million PLWH in 2020.[3] 13% between 2010 and 2019, a complete disruption of HIV treatment and prevention supplies caused by the COVID-19 pandemic likely resulted in additional deaths among Nigerians.[3,4] Overall, the burden of HIV infections remains significant globally, and merits continued research and interventions to improve clinical outcomes.

Whereas the physical health of PLWH has deservedly been focus of attention in treatment and preventive programs, their mental health has been neglected-[5] The psychological impact of HIV begins right from the moment the diagnosis is received. Coming to terms with it can be difficult and is further complicated by the experience of internalized, anticipated, and enacted HIV stigma.[6] Furthermore, a substantial body of research demonstrates higher

rates of mental health problems among PLWH compared to the general population. These conditions include suicidal ideation, depression, anxiety, post-traumatic stress disorder, psychosis and substance use disorder.[7]

Several factors are known to determine the risk for mental disorders among PLWH. The virus can trigger a neuro-hormonal cascade which results in cytokine imbalance that has been implicated in mood and cognitive impairments.[8] HIV is neurotoxic and causes monoamine dysregulation which has been related to depressive symptoms, including loss of motivation and energy, decreasing the hedonic drive.[9] Among PLWH, additional factors play a role, such as poor access or adherence to antiretroviral therapy, disease severity, stigma, discrimination and healthcare quality.[7] Factors affecting mental disorders in the general population, such as gender, adversity, discrimination, low social status, poor health status, disempowerment, loss of support systems and coping strategies, are also contributory.[10,11]

Coping, one of the determinants mentioned above, has been defined as "behavior directed towards the resolution or mitigation of a problem, intending to change the situation or its perceived implications, or of combating the negative emotions generated".[12] The psychological mechanisms of coping are termed coping strategies and are grouped by the Coping Strategies Inventory (CSI) based on the coping target and directionality of response. In the CSI, coping is categorized into engagement or disengagement strategies. Engagement refers to the actions taken in confronting stressors –an essential factor in limiting the long-term psychological and physiological effects of external stressors – while disengagement seeks to avoid the negative stimuli of such stressors, leading to short-term benefits but long-term problems.[13] These coping strategies could either be emotion-focused or problem-focused, with the latter seeking to eliminate sources of stress or work with the stressors themselves, while the former aims to regulate adverse emotional reactions to stress such as anxiety, fear, sadness, and anger.[13]

Social support has also been identified as a significant predictor of mental wellbeing among PLWH.[14] It is defined as "an exchange of resources between at least two individuals perceived by the provider or recipient to be intended to enhance the wellbeing of the recipient".[15] Optimal levels of social support are thought to improve mental wellbeing by lessening the psychological impact of adversity. In addition, it has substantial effects on physical health, improving immunity, endocrine and cardiovascular health, and generally reducing morbidity and mortality.[16]

Previous research has explored the relationship between coping strategies and mental health indicators such as anxiety and depression.[17] Generally, disengagement coping thwarts mental health, whereas engagement promotes mental wellbeing.[10] However, very few studies have examined all four secondary coping strategies as measured by the CSI *i.e.* Problem Focused Engagement (PFE), Emotion-Focused Engagement (EFE), Problem Focused Disengagement (PFD) and Emotion-Focused Disengagement (EFD), and their relationship to psychological distress among PLWH. Also, reports examining the association between social support and mental distress in PLWH are scarce. Studies on the association between coping, social support and mental health among PLWH are needed to guide clinical intervention and shape public health policies.

Recently, funding from international partners for HIV interventions has been reduced substantially.[18] This, especially in the harsh economic climate, puts the health and wellbeing of PLWH at greater risk. Poor mental health is known to worsen medication adherence, and in addition to the aforementioned factors would worsen the clinical outcome.[19] It is therefore essential to examine what factors protect mental health among PLWH in Nigeria. Our study thus aims to determine the relationship between the secondary dimensions of coping (as measured by the CSI), social support and mental health indicators (anxiety and depression) among PLWH in Calabar, Nigeria.

Materials and Methods

This study was conducted in the metropolitan city of Calabar, which comprises two local governments; Calabar South and Calabar Municipality. The city is the capital of Cross River State, one of the 36 subnational states that make up Nigeria. Calabar has one government-owned secondary care provider, the General Hospital, which has a capacity of 100 beds. It has a comprehensive HIV clinic that attends to about 50 patients daily.

The inclusion criteria were as follows: HIV-positive patients aged 18 and above, receiving care on an outpatient basis in the General Hospital, Calabar. Patients who were either too ill or did not give consent were excluded. In addition, patients who could not understand the English language were not recruited. Apart from physical debilitation, the HIV stage did not influence eligibility for participation.

This study was cross-sectional in design. Systematic sampling was used to select participants from consecutive attendees of the HIV clinic in the General Hospital, Calabar. Based on a proportion of mental disorders from a previous study, the sample size was estimated to be 241 at a confidence level of 95% and a desired precision of 5%.[19,20] This was increased by 5% to account for possible loss due to invalid questionnaires, bringing the required sample size to 253. It was estimated that it would take a month to recruit the necessary number of patients. The total population of PLWH seen in the clinic per month is approximately 1000. This number was divided by the required sample size of 253 to yield the interval used for systematic sampling. Thus, every fourth patient was approached for recruitment, and the information concerning the study objective was offered. Informed consent was obtained, and the study questionnaires were administered while patients were in the waiting room to be seen by the clinician. The study questionnaires were as follows:

1. Sociodemographic questionnaire: This was used to elicit basic sociodemographic information such as gender, age, educational attainment, marital status, *etc*.
2. Hospital Anxiety and Depression Scale (HADS): This is a 14-item instrument designed by Zigmond and Snaith to rapidly screen anxiety and depression. Due to its brevity, it is well suited to busy clinical settings.[21] It has two subscales, comprised of 7 items, each assessing anxiety and depression using a Likert scale. The possible scores range from 0-21 for each item, and according to the authors, a score of 0-7 should be interpreted as normal, 8-10 as mild,11-14 as moderate and 15-21 as severe. It is one of the most popular brief measures for screening both conditions. It is reliable and valid across cultures. It has been validated in Nigeria and used in several studies.[22]
3. The Coping Strategies Inventory (CSI): The CSI was designed by Tobin *et al.* to measure coping strategies that individuals adopt in response to stressors.[23] It has primary subscales comprising problem avoidance, wishful thinking, cognitive restructuring, expressing emotions, problem-solving, social contact, social withdrawal and self-criticism. The secondary subscales are obtained by summing the primary subscales as

follows: problem-focused engagement (problem-solving and cognitive restructuring); problem-focused disengagement (problem avoidance and wishful thinking); emotion-focused engagement (social contact and express emotions); and emotion-focused disengagement (social withdrawal and self-criticism. It has been used in many countries of the world, including Nigeria.[24,25]

4. The Oslo Social Support Scale (OSS-3): This is a brief 3-item measure of the social support a respondent receives from others. It inquires about the number of persons the respondent feels close to, how interested people are in him or her and the ease with getting help from others when needed. Each question uses a Likert scale, and the instrument has a possible score range of 3 to 14: 3–8 poor social support, 9–11 moderate social support, 12–14 strong social support. It has been validated in Nigeria and used in several studies worldwide.[26]

Participants were assisted by staff in filling the questionnaires as requested by the patients.

Data analysis

Sociodemographic variables were expressed as frequencies, percentages and means. In bivariate analysis, Pearson product-moment correlation was done to compare coping strategies, social support, anxiety, and depression. Analysis was done using the Statistical Package for Social Science (SPSS) version 21, and the alpha value was 0.05.

Results

A total of 251 patients were recruited for participation in the study. The sample comprised mostly females (72.5%), and most respondents were unmarried (65.3%). The mean age of respondents was 35.3 [SD=10.9] years. Most had attained at least secondary or tertiary education and were employed (details are shown in Table 1).

Close to 20% of participants scored above the threshold for depression, and over 25% had anxiety (details are shown in Table 2). Put together, 31 (12.3%) respondents were borderline cases for both anxiety and depression, while 12 (4.7%) met the criteria for both anxiety and depression. The levels of social support among study subjects were 45.8% for poor, 39.8% for moderate and 14.3% for good social support.

Correlations between the secondary subscales of the CSI, social support, anxiety and depression are shown in Table 3. With the exception of emotion-focused disengagement, anxiety had weak to moderate negative correlations with all secondary subscales of the CSI ($p<0.05$). Similarly, depression had weak to moderate negative correlations with all secondary subscales of the CSI ($p<0.05$) except emotion-focused disengagement. Social support had a weak negative correlation with anxiety ($p<0.05$) and weak correlations with all secondary coping strategies ($p<0.05$)

Discussion

The study aimed to determine the prevalence of psychological distress (using anxiety and depression as indicators) and its relationship with coping strategies and social support. Anxiety and depression were prevalent among study respondents. All four secondary subscales of the CSI had weak to moderate negative correlations with anxiety and depression except for the emotion-focused

Table 1. Sociodemographic variables of all respondents.

Variable	Frequency N=251	% -100%
Age (yrs)		
18-34	127	50.6
35 and above	124	49.4
Mean (SD)	35.3 (±10.98)	
Gender		
Male	69	27.5
Female	182	72.5
Marital status		
Married	87	34.7
Not married	164	65.3
Educational status		
Primary and below	63	25.1
Secondary	140	55.8
Tertiary and above	48	19.1
Employment status		
Employed	192	76.6
Unemployed	59	23.5

Table 2. Prevalence of anxiety and depression.

Variables	Case	Borderline	Non-case	Total
Anxiety only	68 (27.1)	57 (22.7)	126 (50.2)	251(100.0)
Depression only	49 (19.5)	87 (34.7)	115 (45.8)	251(100.0)
Anxiety and depression	12 (4.7)	31 (12.3)	208 (83.0)	251(100.0)

Table 3. Correlation coefficients and significant levels among selected variables (n=251).

Variable	1	2	3	4	5	6	7
1. Problem-Focused Engagement	1						
2. Emotion-Focused Engagement	0.80**	1					
3. Problem-Focused Disengagement	0.52**	0.48**	1				
4. Emotion-Focused Disengagement	-0.22**	-0.11	-0.20**	1			
5. Social Support	0.33**	0.34**	0.23**	-0.14*	1		
6. Anxiety	-0.49**	-0.38**	-0.28**	0.39**	-0.15*	1	
7. Depression	-0.32**	-0.21**	-0.49**	0.32**	-0.11	0.55**	1

*p<0.05; **p<0.01.

disengagement subscale. Social support was found to have a weak negative correlation with anxiety and weak to moderate positive correlations with coping strategies.

The prevalence of depression in this sample was 20%, similar to a prior study using the HADS with a prevalence of 21.3%.[27] Other studies recorded higher rates at 32%,[28] and 39.6%,[29] respectively. The level of anxiety at 27.1% was lower compared to rates of 32.6% and 34.4% from other studies. [28,29] The prevalence of anxiety was slightly higher in this sample at 27.1% compared to depression (20%). This is in contrast to a previous study, which recorded lower anxiety rates (32.6%) compared to depression, (39.6%).[29] Another study, however, had a higher rate of anxiety (34.4%) compared to depression (32.2%) which is similar to our research.[28]The variances in sample sizes, different diagnostic methods, and different study locations may be responsible for the disparities in the prevalence rates. Anxiety and depression were however higher compared to levels reported in the general population, underscoring their higher risk for mental disorder in PLWH.[29] The social support trend was reversed compared to a previous local report where the majority had good social support.[30] Our findings were, however, consistent with other studies that found a high level of poor social support in HIV.[31]

An association between coping styles and mental health outcomes among PLWH has been demonstrated in the literature.[10] However, different approaches are adopted for assessing coping, which limits comparisons across studies. Generally, adaptive coping is associated with better mental health, while maladaptive coping is linked with poorer mental health outcomes.[10] Similarly, this study found that all subscales of adaptive coping had weak to moderate negative correlations with both anxiety and depression, confirming previous research.

An exception to the trend above was the unexpected positive correlation between PFD and good mental health.[32] This is in contrast to studies examining the relationship between PFD and psychological distress among other study populations, which have found no relationship between PFD and mental health indicators,[33–35] while others found a negative relationship.[36,37] Disengagement coping, however, is known to be sometimes beneficial, especially in the short term and might explain this finding.[13] Alternatively, our result might call the cross-cultural validity of the PFD subscale into question. Further research is needed to investigate this more critically.

Social support is also known to have a positive relationship with mental health among PLWH,[14] explaining its negative correlation with anxiety and positive correlations with all secondary coping strategies.

While coping is a strategy implemented by the individual, social support is sourced from people in the patient's social environment. We found that both were correlated, keeping with previous research among PLWH.[38] Social support might improve the coping of PLWH or *vice versa*. More research is needed to investigate the nature of this relationship further.

Limitations

Our study was cross-sectional in design and thus cannot determine causal relationships between study variables. Also, self-report questionnaires might lead to reporting bias in study subjects. The gender distribution in our sample was skewed in favor of females, which might affect our results, with a possible preponderance of coping styles preferred by females. In addition, diagnostic interviews would have provided a more reliable diagnosis of anxiety or depression to safeguard against recall bias.

Conclusions

PLWH patients exhibited high levels of depression and anxiety (20% and 27.1%, respectively). Social support was poor, and adaptive coping strategies (PFE and EFE) had weak to moderate negative correlations with anxiety and depression. In contrast, EFD, a maladaptive coping strategy, had a weak to moderate positive correlation with anxiety and depression. Furthermore, we reported unexpected weak to moderate positive correlations between PFD, which is a conceptually maladaptive coping strategy, and mental wellbeing indicators (anxiety and depression score). Social support also had a weak correlation with anxiety and weak to moderate correlations with all secondary coping strategies. The findings from this study suggest that mental health services should be appropriately integrated into HIV care to effectively address the psychological needs of PLWH as they adjust to the challenge of living with a long-term and currently incurable disease. In addition, providing social support and increasing coping skills are beneficial for mental health and should be promoted. Further research is, however, needed to determine causal associations between study variables, investigate the role of PFD in mental health and assess the cross-cultural validity of the PFD subscale.

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