

Depression status, behavioral lifestyle and coping strategies among persons living with HIV/AIDS in Sokoto, Nigeria

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ABSTRACT

Background: Depression is common and a problem of public health importance worldwide. In Nigeria, clinical depression has been reported to be the most common mental illness among people living with HIV/AIDS (PLWHA). Assessment of the burden of depression and the coping skills of PLWHA is believed to be crucial to the prevention and control of the problem among them. This study was conducted to determine the depression status, behavioral lifestyle and coping strategies among PLWHA in Sokoto, Nigeria. **Materials and Methods:** This was a cross-sectional study among 419 PLWHA (selected by systematic sampling technique) attending the ART clinic of Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria. A structured interviewer-administered questionnaire was used to collect data on the research variables. Data were analyzed using IBM SPSS version 20 statistical computer software package. **Results:** Majority, 227 (54.2%) of the 419 respondents had depression, and different forms of unhealthy dietary habits were prevalent among them ($\geq 70.0\%$). Only 84 (20.0%) and 147 (30.3%) of the 419 respondents perform regular moderate exercise and moderate intensity work respectively. Males had higher depression levels, while females had better coping skills, but the differences were not significant ($p > 0.05$). **Conclusion:** This study showed high prevalence of depression and unhealthy behavioral lifestyle, with use of both adaptive and maladaptive coping skills among PLWHA in Sokoto, Nigeria. Care providers should design gender sensitive interventions for preventing depression and maladaptive coping strategies among PLWHA.

Keywords: Depression status, behavioral lifestyle, coping strategies, PLWHA

INTRODUCTION

Depression is common and a problem of public health importance worldwide with more than 300 million people affected.¹ It affects an estimated one in 15 adults (6.7%) in any given year, and it has been estimated that one in six people (16.6%) will experience depression at some time in their life.² It is the largest cause of disability worldwide with more than 80% of the disease burden being among people living in low and middle income countries, and it is also among the most frequently observed psychiatric disorder among HIV/AIDS patients.³⁻⁵

Although, the overall prevalence of depression is difficult to estimate across the globe due to the wide variations in prevalence, it has been estimated to range from 20 to above 70%.³⁻⁵ In Nigeria, clinical depression has been reported to be the most common mental illness

among people living with HIV/AIDS with the prevalence ranging from 0-47.8%.⁶ A study conducted in south-eastern Nigeria reported high prevalence of depression (27.8%) and suicide risk (7.8%) among HIV positive persons,⁷ while a similar study among people living with HIV/AIDS in North-central Nigeria reported 56.7% prevalence of depression.⁸

There is increasing evidence that major depression impacts negatively on the course of HIV infection.⁹ The negative impact of depression on the course of HIV may manifest in maladaptive self-care behaviors such as sexual risk taking, substance abuse and poor adherence to highly active anti-retroviral therapy (HAART).⁸ Poor adherence to antiretroviral treatment (ART) regimes results in increased risk of developing viral resistance. Depression keeps people out of the workplace, reduces

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Received: 02-09-2019

Revised: 10-11-2019

Published: 18-11-2019

productivity at school and work, and has tremendous negative effects on the economy. People who suffer from depression are nearly 28 times more likely to miss work because of emotional disability.¹⁰ Depression has also been associated with increased risky behaviors, noncompliance to treatment, and higher risk for comorbid survival.³⁻⁵

Coping refers to expending conscious effort to solve personal and interpersonal problems, and seeking to master, minimize or tolerate stress or conflict, and coping mechanisms are commonly termed coping strategies or coping skills.¹¹ Coping strategies are either adaptive or maladaptive in nature. Adaptive or constructive coping strategies improve functioning and these include: anticipation (i.e. when one reduces the stress of some difficult challenge by anticipating what it will be like and preparing for how one is going to cope with it)¹²; and social coping (this involves focusing on the positive side of life, observing adequate sleep and regular physical exercise among other techniques).¹³ Maladaptive coping strategies on the other hand reduce symptoms while maintaining and strengthening the disorder, and they include: anxious avoidance (i.e., when a person avoids anxiety provoking situations by all means; escape (in which people want to flee the situation at the first sign of anxiety)¹⁴; and substance abuse. It is believed that individuals diagnosed with HIV infection may be overwhelmed and socially isolated and therefore prone to use maladaptive coping strategies, which could result in depression or negative health behaviors that amplify disease progression.¹⁵

Lazarus and Folkman also classified the coping styles that people employ when attempting to resolve or remove a stressor into two groups, namely, problem-focused and emotional focused coping.¹⁶ Problem-focused coping involves altering or managing the problem that is causing the stress and is highly action focused. Individuals engaging in problem-focused coping focus their attention on gathering the required resources (i.e. skills, tools and knowledge) necessary to deal with the stressor. This involves a number of strategies such as gathering information, resolving conflict, planning and making decisions.¹⁶ In general problem-focused coping is best, as it removes the stressors and deals with the root cause of the problem, providing a long term solution. Problem-focused coping appears to be the most adaptive coping style as it is associated with reduced psychological distress. The three problem-focused coping strategies identified by Folkman and Lazarus¹⁶ include taking control, information seeking, and evaluating the pros and cons.

Emotion-focused coping styles are quite varied, and they all seek to lessen the negative emotions associated with the stressors such as embarrassment, fear, anxiety, depression, excitement and frustration. Emotion-focused coping is well suited for stressors that seem uncontrollable (e.g., a terminal illness diagnosis, or the loss of a loved one), and it can take a range of forms such as seeking social support, acceptance and venting of emotions etc.¹⁷ In addition, emotion-focused coping involves releasing pent-up emotions, distracting oneself, managing hostile feelings, meditating using systematic relaxation procedures, reappraising the stressors in a positive light, accepting responsibility, using avoidance, exercising self-control and distancing.^{16,18}

The widespread use of highly active antiretroviral therapy (HAART) that became available in 1996 has transformed HIV infection from a terminal illness to a chronic disease, thus increasing survival time for HIV-seropositive people; but while they live longer, they inevitably have to cope with other social and mental health problems (particularly depression) which are often overlooked by their care providers. Determination of the burden of depression among persons living with HIV/AIDS and their coping strategies is therefore crucial to curbing the problem among them. This study was conducted to determine the depression status, behavioral lifestyle and coping strategies among persons living with HIV/AIDS in Sokoto, Nigeria.

MATERIALS AND METHODS

Study Design, Population and Area

A cross-sectional study was conducted among persons living with HIV/AIDS attending the anti-retroviral therapy (ART) clinic of Usmanu Danfodiyo University Teaching Hospital (UDUTH), Sokoto, Nigeria, in July and August 2017. The hospital is a tertiary healthcare facility and it is also one of the designated care centers for persons living with HIV/AIDS in Sokoto state, Nigeria. All those who consented to participate were considered eligible for enrollment into the study, while those who were too ill to respond to the questions in the questionnaire and those with a past history of mental illness were excluded.

Sample Size Estimation and Sampling Technique

The sample size was estimated at 419 using the statistical formula for calculating the sample size for descriptive studies,¹⁹ a 57% prevalence of depression among HIV patients in a previous study,⁸ a precision level of 5%, and an anticipated 90% response rate. The eligible participants were selected by systematic sampling

technique using the list of clients attending the clinic during the period of the study to constitute the sampling frame. The clinics are held from Mondays to Fridays, and about 500 clients are seen monthly (i.e., an average of 25 clients are seen on each clinic day). One of 2 patients presenting consecutively at the clinic and meets the eligibility criteria was recruited into the study over a period of two months until the required sample size of 419 was obtained.

Data Collection and Analysis

A structured interviewer-administered questionnaire was used to obtain information on the socio-demographic characteristics of the study participants and behavioral measurements. The questions on behavioral measurements (lifestyle) were adapted from the WHO STEPS Instrument (Core and Expanded).²⁰ The Patient Health Questionnaire-9 was used to screen the patients for depression, while the Ways of Coping Questionnaire was used to assess the respondents coping strategies. The Patients Health Questionnaire (PHQ-9) is a multipurpose instrument for screening, diagnosing, monitoring and measuring the severity of depression. It is a brief, 9-item, patients self-report depression assessment tool that was derived from the interview-based PRIME-MD.²¹ Psychometric evaluation of the PHQ-9 revealed a sensitivity ranging from 62-92% and a specificity between 74-88%.⁸ The responses to each of the 9 items that assessed depression in the respondents were scored as: not at all (0), several days (1), more than half the days (2), and nearly every day (3). The total depression score was obtained by adding up the scores of the 9 items; this gives a minimum total score of “0” and a maximum total score of “27”, based on which depression level was graded as no depression (1-4), mild (5-9), moderate (10-14), moderately severe (15-19) and severe (20-27).²²

The “Ways of Coping Questionnaire” has 8 scales namely: *Confrontative coping*- describes aggressive efforts to alter the situation. It also suggests a degree of hostility and risk taking; *Distancing*- describes efforts to detach oneself; *Self-controlling*- describes efforts to regulate one’s own feelings; *Seeking social support*- describes efforts to seek informational and emotional support; *Accepting responsibility*- acknowledges one’s own role in the problem and trying to put things right; *Escape-avoidance*-describes wishful thinking and behavioral efforts to escape or avoid; *Planful problem-solving*- describes deliberate problem-focused efforts to alter the situation; and *Positive reappraisal*- describes efforts to create positive meaning by focusing on personal growth. Each scale has sub scales to assess the respondents coping strategies.

The responses are scored as follows: Not used = 0, Used somewhat = 1, Used quite a bit = 2, and Used a great deal = 3. The raw score for each item on the scale were added to get a total score. The raw scores describe the coping effort for each of the eight types of coping. High raw scores indicate that the person often used the behaviors described by that scale in coping with the stressful event.

On the other hand, relative scores describe the proportion of effort represented for each type of coping and can be expressed as a percentage that ranges from 0 to 100. Relative scores are calculated as follows: First, calculate the average response per scale by dividing the total raw score by the number of items in the scale. For example, if the raw score for *Confrontative coping* = 15 then the average response = 2.5 (i.e., 15/6) because there are 6 items on this scale; and then sum-up the average responses per scale across all the scales. Finally, the average response for each scale is then divided by the sum of the average responses per scale across all the scales to obtain the relative score for the scale. The raw scores for each sub scale were converted to a relative score and interpreted based on ranking method (as per the test manual). Hence, the lesser the score indicates that the individual adapted that particular way of coping more than other coping styles. Data were analyzed using IBM Statistical Package for the Social Sciences (SPSS) version 20.0 software. Quantitative variables were summarized using mean and standard deviation, while categorical variables were summarized using frequencies and percentages. One Way analysis of variance (ANOVA) was used to compare differences between the coping strategies of males and females. All levels of significance were set at $p < 0.05$.

Ethical Consideration

Institutional ethical clearance was obtained from the Ethical Committee of Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria. Permission to conduct the study was obtained from the Management of the hospital; and informed written consent was also obtained from the participants before questionnaire administration.

RESULTS

Age and sex distribution of respondents

The mean age of the 419 respondents was 37.1 ± 10.0 years with a larger proportion (40.1%) in the 30 to 39 years age group, followed by those in the 40 to 49 years age group (23.9%); and majority of respondents (66.8%) were females (Table 1).

Table 1: Age and sex distribution of Respondents

| Variables | Frequency (%) n = 419 |
|--------------------|-----------------------|
| Age groups (years) | |
| < 20 | 3 (0.7) |
| 20-29 | 90 (21.5) |
| 30-39 | 168 (40.1) |
| 40-49 | 100 (23.9) |
| 50-59 | 48 (11.5) |
| ≥60 | 10 (2.4) |
| Sex | |
| Male | 139 (33.2) |
| Female | 280 (66.8) |

Respondents' depression status

Majority, 227 (54.2%) of the 419 respondents had depression, with 179 (42.7%) having mild depression, 46 (11.0%) having moderate depression, and 1 (0.2%) each having moderately-severe and severe depression (Table 2).

Table 2: Respondents' depression status

| Variables | Frequency (%) n = 419 |
|------------------------------|-----------------------|
| Depression status | |
| Mild depression | 179 (42.7) |
| Moderate depression | 46 (11.0) |
| Moderately-severe depression | 1 (0.2) |
| Severe depression | 1 (0.2) |
| None | 192 (45.8) |

Respondents' behavioral lifestyle

Close to a tenth, 38 (9.1%) of the 419 respondents currently smoke cigarette, while few of them (2.1%) currently use a smokeless tobacco (2.1%), and consumed alcohol in the last 12 months (6.7%) and 30 days (4.5%). Majority of participants practiced unhealthy dietary habits such as consuming fatty food daily (70.2%), and eating less than 3 servings of fruits and vegetables daily (72.1%). Only about a third of respondents (30.3%) do moderate intensity work, while a fifth of them (20.0%) engage in regular moderate intensity sport and leisure activities (Table 3).

Respondents' coping strategies

Males had a higher level of depression and tended to use self-control and seeking support coping styles more than females; while females tended to use the other coping styles more than males (Table 4). However, there was no significant difference ($p > 0.05$) between males and females in their levels of depression and the coping strategies used by them (Table 5).

Table 3: Respondents' behavioral lifestyle

| Variables | Frequency (%) n = 419 |
|---|-----------------------|
| Tobacco use | |
| Currently smoke cigarette | 38 (9.1) |
| Currently use a smokeless tobacco (snuff, chewing, etc) | 9 (2.1) |
| Alcohol consumption | |
| Consumed alcohol in the last 12 months | 28 (6.7) |
| Consumed alcohol in the last 30 days | 19 (4.5) |
| Dietary pattern | |
| Consume fatty food daily | 294 (70.2) |
| Eat less than 3 servings of fruits daily | 302 (72.1) |
| Eat less than 3 servings of vegetables daily | 302 (72.1) |
| Means of transport to work daily | |
| Trek to work | 40 (9.5) |
| Bicycle | 4 (1.0) |
| Motorcycle | 148 (35.3) |
| Car | 84 (20.0) |
| Other physical activities | |
| Engage in regular moderate intensity sport and activities | 84 (20.0) |
| Do moderate intensity work | 127 (30.3) |

Table 4: Summary of respondents' mean scores on depression and coping styles

| Variables | Male | Female |
|--------------------------|--------|--------|
| Depression | 6.1223 | 5.5536 |
| Coping styles | | |
| Confrontative coping | 0.1219 | 0.1118 |
| Distancing | 0.1394 | 0.1358 |
| Self-control | 0.1273 | 0.1422 |
| Seeking social support | 0.1421 | 0.1448 |
| Accepting responsibility | 0.1393 | 0.1314 |
| Escape-avoidance | 0.1466 | 0.1427 |
| Planful problem solving | 0.1472 | 0.1447 |
| Positive re-appraisal | 0.0391 | 0.0498 |

DISCUSSION

The high prevalence of depression among the respondents in this study (54.2%) contrasts with the finding in a study in South-eastern Nigeria²³ where a relatively lower proportion of participants (39.1%) were found to be depressed. This could be due to differences in the socio-economic status in the participants, as majority of the participants in this study were housewives, whereas most (91.9%) of the participants in the other study were gainfully employed. Lower rates of depression have been reported among PLWHA in developed countries as compared to developing countries.²⁴ Studies conducted in the United States of America majorly reported relatively lower depression prevalence rates ranging from 8.5% to 25.6%.²⁵⁻²⁷

Table 5: Summary of ANOVA on depression and coping styles among respondents

| Variables | Source of variation | Df | Sum of Squares | Mean Square | F | p value |
|-------------------------------|---------------------|-----|----------------|-------------|-------|---------|
| Depression (PHQ-9) | Between Groups | 1 | 0.397 | 0.397 | 0.031 | 0.861 |
| | Within Groups | 417 | 5378.104 | 12.897 | | |
| Coping styles | | | | | | |
| Confrontative coping (CC) | Between Groups | 1 | 30.045 | 30.045 | 3.015 | 0.083 |
| | Within Groups | 417 | 4156.117 | 9.967 | | |
| Distancing (D) | Between Groups | 1 | 3.642 | 3.642 | 0.279 | 0.597 |
| | Within Groups | 417 | 5436.911 | 13.038 | | |
| Self-control (SC) | Between Groups | 1 | 12.045 | 12.045 | 0.805 | 0.370 |
| | Within Groups | 417 | 6242.160 | 14.969 | | |
| Seeking social support (SSS) | Between Groups | 1 | 0.388 | 0.388 | 0.028 | 0.867 |
| | Within Groups | 417 | 5778.313 | 13.857 | | |
| Accepting responsibility (AR) | Between Groups | 1 | 2.691 | 2.691 | 0.439 | 0.508 |
| | Within Groups | 417 | 2554.942 | 6.127 | | |
| Escape-avoidance (EA) | Between Groups | 1 | 11.816 | 11.861 | 0.463 | 0.497 |
| | Within Groups | 417 | 10651.526 | 25.543 | | |
| Planful problem solving (PPS) | Between Groups | 1 | 12.395 | 12.395 | 0.960 | 0.328 |
| | Within Groups | 417 | 5385.839 | 12.916 | | |
| Positive re-appraisal (PR) | Between Groups | 1 | 13.823 | 13.823 | 0.588 | 0.443 |
| | Within Groups | 417 | 9796.864 | 24.494 | | |

The higher prevalence of depression in developing as compared to developed countries is believed to be related to the higher levels of psychosocial problems and illness burden among PLWHA in the developing countries, such as being blamed for cause of illness, stigmatization, discrimination and social isolation.²⁸ In addition, the belief that a diagnosis of HIV is tantamount to a death sentence also contributes to the higher levels of depression in the developing countries.

The prevalent unhealthy dietary habit and poor physical activity among the respondents in this study could be due to the high prevalence of depression among them, as depression is known to affect how individuals feel, think and behave, and can also lead to a variety of emotional and physical problems.² The finding of better coping skills among females in this study as compared to males (with women having lower mean scores in all the scales) is in consonance with the finding in a study among HIV-positive people in Kolkata, India in which women also had lower mean scores as compared to males.²⁹ On the contrary, a study conducted at a referral hospital for the treatment of people living with HIV/AIDS in Northeast Brazil³⁰ reported better coping skills among males as compared to females. Whereas, the differences in the levels of depression and the respective coping skills between males and females in this study

were not significant, a study that also found gender disparities in depression severity and coping attributed them to women's lower social status and limited access to resources.³¹ It is therefore necessary for care providers to design gender sensitive interventions for preventing depression and maladaptive coping strategies among PLWHA.

CONCLUSION

This study showed high prevalence of depression and unhealthy behavioral lifestyle, with use of both adaptive and maladaptive coping skills among PLWHA in Sokoto, Nigeria. Care providers should design gender sensitive interventions for preventing depression and maladaptive coping strategies among PLWHA.

Acknowledgements

The authors appreciate the Management of Usmanu Danfodiyo University Teaching Hospital, Sokoto, Nigeria, and all the patients that participated in the study for their cooperation.

Source of support

Nil.

Conflict of interest

None declared.

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How to cite this article: Oko RE, Awosan KJ. Depression status, behavioral lifestyle and coping strategies among persons living with HIV/AIDS in Sokoto, Nigeria. *Int Arch Med Health Res* 2019; 1(3): 57-63.