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Coping Strategies and Levels of Stress in Newly Diagnosed Persons Living with HIV/AIDS in Niger Delta Region, Nigeria

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Abstract

Increasing incidence of stress in people living with HIV/AIDS is attributable to uncertainty about cure. Improving the psychological wellbeing of the victims may raise hope and enhance a better quality of life.

The purpose of this study was to assess the coping strategies and levels of stress in persons living with HIV/AIDS in Niger Delta Region, Nigeria. This was a cross-sectional prospective study. A convenience sample of 375 newly tested HIV-seropositivity patients at the HIV Clinic, University of Uyo Teaching Hospital were assessed for coping strategies and the levels of stress at two points in time four weeks apart using the COPE and Perceived stress Questionnaires (PSQ). The mean age for males was 37.8±3.9 and females 29.2±1.7. Stress levels were less in respondents using adaptive coping strategies such as social supports mean score: 9.7±1.2 first assessment and 4.9±2.1 second ($t=1.71$; $p=0.001$); religion 8.5±1.2/ 5.1±2.1 ($t=2.43$; $p=0.0664$); humour 11.8±2.1/6.3±1.2 ($t=1.11$; $p=0.015$); acceptance 5.4±1.1/4.2±1.2 ($t=1.03$; $p=0.609$) and positive reframing 5.1±1.0/4.8±1.4 ($t=1.07$; $p=0.485$). The levels were increased in denial mean score: 13.5±2.1/17.5±2.2 ($t=4.09$; $p=0.001$); suppression of competing activities 8.4±1.8/9.9±2.1 ($t=1.705$; $p=0.545$); restraint 4.9±1.0/6.5±1.3 ($t=3.41$; $p=0.110$); planning 9.1±1.4/11.3±2.6 ($t=2.33$; $p=0.532$); self-distraction 9.1±2.7/9.9±2.0 ($t=0.376$; $p=0.065$) and behavioural disengagement 8.3±1.0/9.2±1.8 ($t=1.07$; $p=0.280$). Adaptive coping strategies were negatively correlated with levels of stress ($r=-0.415$, $p=0.001$). This study suggests that strengthening and promoting adequate coping strategies in people living with HIV/AIDS may serve as effective strategies for improving the psychological well-being and quality of life.

Keywords: Coping Strategies; HIV/AIDS; Psychological distress; Patients; Nigeria.

Introduction

HIV/AIDS epidemic is one of the most serious public and social challenges facing the world in recent times. It is reported to be a major cause of disease burden, especially in countries least able to put in place appropriate measures for its prevention and control¹. Evidence suggests that despite the emergence of anti retroviral therapy (ART), it has continued to be the most dreaded medical conditions worldwide². This may have explained why individuals being informed suddenly of HIV seropositivity often exhibit negative and maladaptive health behaviour, leading to increased levels of stress. The social and economic consequences especially in poor countries are overwhelming, with respect to impaired capacity building and diminished economic growth^{3,4}. In highly endemic sub-Saharan African countries, where more than 60% of people living with HIV/AIDS are living, adequate resources for care are lacking⁵. This may be due to the dearth of basic healthcare infrastructural facilities, resulting in poor standard of healthcare services. As a result, care of the people living with HIV/AIDS is primarily the responsibility of individuals and families. This could be disastrous in

that it may be difficult for these people to meet their health needs. This may have wider implications in the quantity (life expectancy) and quality of life of people living with the disease. Therefore, there is need to focus on self-inherent strategies, which if explored and used effectively can reduce associated distress in people living with HIV/AIDS.

Until recently improvement of quality of life in people living with HIV/AIDS in Nigeria, like in many developing countries was measured largely on the availability of anti-retroviral medications. However, in the face of increasing level of corruption, which has transcended all facets of life, affordability of these drugs is becoming increasingly difficult. The situation is compounded by the general lack of enthusiasm and unwillingness on the part of the international donors to continue to offer assistance. This has impacted negatively on the quality of life in people living with HIV/AIDS. It has therefore become imperative to focus on strategies that could enhance positive health behaviours and help people cope with the distress. The learning and use of these strategies seem to be crucial for the people living with HIV/AIDS, especially in Nigeria. This is because of the high level of poverty and the depreciating standard of healthcare facilities and services.

Coping strategies are dynamic cognitive and behavioural efforts used by individuals to adapt to the demands or burden resulting from chronic or life-threatening conditions⁶. This is important in many incurable conditions like HIV/AIDS, because emotional reactions to these illnesses are often influenced by health attitude⁷. These attitudes are

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known to determine the choice of various coping strategies that are often employed by individuals to lessen the impact of illness. The implication of health behaviours on disease progression has been widely reported^{8,9}. There is increasing evidence that an optimistic attitude is important in combating illness⁶. This attitude in most cases is often determined by adequate information and knowledge of the disease burden. One major challenge in the fight against HIV infection in many countries generally, has been the willingness of the people to accept the initial diagnosis. This has been known to have direct or indirect emotional and behavioural effects on the development and maintenance of the disease. Evidence has shown that persons who suddenly receive HIV-seropositivity diagnosis, often react with mixture of emotions as a result of unexpected information.^{7,10} This could be very traumatic and may trigger sudden disruption in a set of defenses built over the years by the individuals.^{11,12}

HIV-seropositivity diagnosis is very critical and has a great potential of influencing individual's health behaviour⁷. The interplay of physical, emotional and social consequences could have adverse impact on interpersonal relationships, leading to social isolation and stigmatization. Therefore, adequate coping strategies are important in several ways. Apart from reducing the impact of stress in people living with HIV/AIDS, other benefits include a better understanding of the problems, increase self-esteem, as well as maintenance of normal functions and performance². Evidence has shown that effective adaptation of these strategies could go a long way in improving the quality of life in people living with HIV/AIDS¹⁰. This is because these strategies enhance both problem-solving and emotion-reducing processes, which are necessary to alleviate the impact of stress in these people. There is also abundance of evidence that interventions that alleviate anxiety and depression and foster a fighting spirit could help people cope with lifethreatening conditions^{13,14}.

With the recent national HIV explosion, in which 13 of the 36 Nigerian states have an HIV prevalence of over 5%, Nigeria is ranked as having the second highest burden of HIV/AIDS in the world¹⁰. The cultural practices and lack of adequate information on sexual health tend to contribute to the localized epidemic reported mainly in the Niger Delta region including Akwa Ibom State^{4,15,16}. The implication is that adjustment to stress resulting from this dreaded condition has become a major concern in the region. Currently, no information is available in Nigeria on the coping strategies of people living with HIV/AIDS. The adverse socioeconomic difficulties in the region are pointers to the fact that both structural and functional social support systems may not be sufficient to improve the quality of life of people living with the disease. This study therefore is aimed at

assessing different coping strategies often employed and the levels of stress in people facing the challenge of being labeled with an initial HIV-seropositivity diagnosis in Niger Delta region of Nigeria. It is hoped that the findings will help in increasing awareness, as well as affording people living with HIV/AIDS better ways of dealing with this life-threatening condition.

Materials and Methods

Location of the study:

The study was carried out at the University of Uyo Teaching Hospital, located in Uyo, a community in southern part of Nigeria and capital of Akwa Ibom State. The State occupies the south-eastern corner of Nigeria and is one of the oil-producing states in Niger Delta Region. The hospital is the only tertiary and referral health institution in Akwa Ibom State and its environs with a population of 3.9 million people.

Participants:

Participants included all new patients in the HIV clinic who had undergone pretest counseling and later tested HIV-seropositive. A convenience sample of three hundred and seventy five newly tested HIV-seropositive persons from the clinic participated in the study. The sample size was determined using 5% HIV/AIDS prevalence with a 3% sample error. To allow for attrition, 375 newly confirmed HIV-seropositive persons from the clinic were recruited between January and June 2009 into the study.

Instruments:

Two instruments, the COPE and Perceived Stress Questionnaires were used to assess the coping strategies and also determine the stress levels of the participants in this study^{6,17}. These two instruments were fashioned into one questionnaire that consisted of three parts. The first part elicited information on sociodemographic characteristics, such as age, marital status, education, occupation and religion. The second part was the COPE Questionnaire, which is a 60-item survey questionnaire that measures 15 coping strategies. These strategies include active coping, planning, suppression of competing activities, restraint, seeking social support-instrumental and emotional, focus on and venting of emotions, behavioral disengagement, mental disengagement, positive reinterpretation and growth, denial, acceptance, religion, alcohol-drug disengagement, and humor. The means on the 15 dimensions ranged from 10.71 for females and 10.00 for males on the Acceptance dimension to 5.26 for males and 4.35 for females on the Alcohol-Drug Disengagement dimension. Standard deviations ranged from 4.03 on the Religion dimension for females to 1.32 on the Alcohol-Drug Disengagement dimension for males. The Cronbach alpha reliability on these scales ranged from .51 to .87. The third part of the questionnaire was

the Perceived Stress Questionnaire (PSQ). This comprises of 30-items that fell on factor analysis into 7 scales (harassment, overload, irritability, lack of joy, fatigue, worries, tension). The PSQ was developed to assess subjectively experienced stress. The PSQ Index and the scale values are mean values often calculated from the raw items scores and linearly transformed to values between 0 and 1. This instrument was originally validated in English-and Italian-speaking gastroenterological inpatients, outpatients, hospital employees and students. It has good reliability values and constructive validity.

Procedure:

This was a cross-sectional prospective study. Using a two stage assessment procedure, a convenience sample of 375 newly tested HIV-seropositive patients at the HIV clinic of University of Uyo Teaching Hospital completed the questionnaires after informed consent was obtained. The assessment was repeated four weeks later to compare the levels of stress. Respondents were asked to indicate by either ticking or marking the response choices on how much they used the coping strategies to handle stress on being labeled HIV seropositive. The response choices are: (1) =I usually don't do this at all, (2) =I usually do this a little bit, (3) =I usually do this a medium amount, (4) = I usually do this a lot. To assess the effects of HIV/AIDS, coping was examined longitudinally to demonstrate that particular ways of coping with stress precedes the outcome. At the same time, on the PSQ the respondents were also asked to rate how often an item applies to them in general on a 4-point scale of (1) = almost never, (2) =sometimes, (3) =often, and (4) = usually. The second assessment was repeated four weeks later to compare the levels of stress. The four weeks interval allowed the respondents to be exposed to intensive education on various coping strategies. This was done twice a week, for purposes of making them familiar and if possible employs these strategies. The approval for this study was obtained from the Ethical and Research Committee of the University of Uyo Teaching Hospital. Two nurses who were trained assisted in administering the questionnaires. Prior to the collection of the data, the two instruments were pretested in a pilot study by interviewing 30 patients in a Diabetic Clinic of the University of Uyo Teaching Hospital. This was done to acquire experience and determine its applicability in our environment. meaningful source of income.

Data analysis:

The results of the study were analyzed using the Statistical Package for Social Sciences (SPSS 17.0). Sample means and percentages were calculated with which simple frequency tables were created. Standard deviation from the mean was also calculated. Student 't' test was used to determine the difference

between the means, while correlations of perceived stress were done using Pearson's correlation analysis. The corresponding p-values were found to determine the level of statistical significance. The p-value of equal to or less than 0.05 was used to determine the level of statistical significance.

Results

Of the 375 patients assessed during the first week, 162 (43.2%) were males and 213 (56.8%) females, while 338 consisting of 135 (39.9%) males and 203 (60.1%) females were assessed after 4 weeks. Table 1 shows the sociodemographic characteristics of respondents. A total of 37 (9.9%) patients, consisting of 27 (7.2%) males and 10 (2.7%) females defaulted from the clinic and were excluded from the study (second assessment). Majority, 151 (40.3%) males and 196 (52.3%) females were below 49 years of age; 103 (27.5%) males and 130 (34.7%) females had at least secondary level of education; while 25 (6.7%) males and 34 (9.1%) females had no formal education. Fifty nine (15.7%) males were married, 41 (10.9%) single; while 62 (16.5%) were either separated, divorced or widowed. Similarly, 66 (17.6%) females were married; 57 (15.2%) single; while 90 (24.0%) were either separated, divorced or widowed. A total of 114 (30.4%) males were gainfully engaged; while 48 (12.8%) were unemployed. Similarly, 139 (37.1%) females were employed, while 74 (19.7%) had no meaningful source of income.

Table 1: Sociodemographic characteristics of the Respondents

Variables	Males n (%)	Subjects Females n (%)	Total n (%)
Mean age (yrs)	37.8±3.9	29.2±1.7	
Educational Level			
No formal education	25 (6.7)	34 (9.1)	59 (15.8)
Primary school	34 (9.1)	49 (13.0)	83 (22.1)
Secondary school	62 (16.5)	76 (20.3)	138 (36.8)
Higher school	41 (10.9)	54 (14.4)	95 (25.3)
Marital Status			
Never married	41 (10.9)	57 (15.2)	98 (26.1)
Married	59 (15.7)	66 (17.6)	125 (33.3)
Separated	26 (6.9)	44 (11.7)	70 (18.7)
Divorced	17 (4.5)	15 (4.0)	32 (8.5)
Widow(er)	19 (5.1)	31 (8.3)	50 (13.4)
Occupation			
Unemployed	19 (5.1)	11 (2.9)	30 (8.0)
Employed	25 (6.7)	59 (15.7)	84 (22.4)
Self-employed	39 (10.4)	42 (11.2)	81 (21.6)
Students	48 (12.8)	74 (19.7)	122 (32.5)
Business	31 (8.3)	27 (7.2)	58 (15.5)
Religion			
Christianity	23 (33.7)	219 (60.0)	342 (93.7)
Others	19 (5.2)	4 (1.1)	23 (6.3)

Table 2 shows the coping strategies of the respondents and the levels of perceived stress. The levels of stress were reduced during the second assessment in patients who used active coping strategies, and high in those with faulty coping strategies. There was a significant difference in subjects using social supports, mean value: 9.7 ± 1.2 in the first assessment and 4.9 ± 2.1 in the second ($t=1.71$; $p=0.001$) and use of humour $11.8 \pm 2.1/6.3 \pm 1.23$ ($t=1.11$; $p=0.015$). Similarly, the level of stress was significantly high in subjects using denial, with a mean value of 13.5 ± 2.1 in the first assessment and 17.4 ± 2.2 during second ($t=4.09$;

$p=0.001$). Stress levels were also reduced in other active coping strategies like religion, mean score: 8.5 ± 1.2 first assessment and 5.3 ± 2.1 second ($t=2.43$; $p=0.064$); positive reframing $5.1 \pm 1.7/4.8 \pm 1.4$ ($t=1.07$; $p=0.485$); and acceptance $5.4 \pm 2.7/4.2 \pm 1.2$ ($t=1.03$; $p=0.609$). The levels of stress levels were high in faulty strategies like suppression of competing activities with a mean score: $8.4 \pm 1.8/9.9 \pm 2.10$ ($t=.705$; $p=0.545$); restraint $4.9 \pm 1.0/6.5 \pm 1.3$ ($t=3.41$; $p=0.110$); planning $9.1 \pm 1.4/11.3 \pm 2.6$ ($t=2.33$; $p=0.532$); self-distraction $9.1 \pm 2.7/9.9 \pm 2.0$ ($t=0.376$; $p=0.065$) and behavioural disengagement $8.3 \pm 1.0/9.2 \pm 1.8$ ($t=1.07$; $p=0.280$).

Table 2: Differences in mean scores of the Respondents before and 4 weeks after assessment.

Coping strategies	Subjects' Levels of Stress			
	1 st ASS (N=375) APS Mean (SD)	2 nd ASS (N=338) APS Mean (SD)	t-test	P-value
Act. Cop. Strategy	11.5 ± 3.2	8.7 ± 1.3	2.71	0.001*
Sup. Comp. Activities	8.4 ± 1.8	9.9 ± 2.1	0.70	0.545
Planning	9.1 ± 1.4	11.3 ± 2.6	2.33	0.532
Restraint	4.9 ± 1.0	6.5 ± 1.3	3.41	0.110
Use of social support	9.7 ± 1.2	4.9 ± 2.1	1.71	0.001*
Positive reframing	5.1 ± 1.2	4.8 ± 1.1	1.07	0.485
Religion	8.5 ± 1.2	5.1 ± 2.1	2.43	0.664
Acceptance	5.4 ± 2.7	4.2 ± 1.2	1.03	0.609
Denial	13.5 ± 2.1	17.4 ± 2.2	4.09	0.001*
Behaviour disengagement	8.3 ± 1.0	9.2 ± 1.8	1.07	0.282
Use of humour	11.8 ± 2.1	6.3 ± 1.2	1.11	0.015*
Self distraction	9.1 ± 2.7	9.9 ± 2.0	1.07	0.485

*Statistically significant

ASS=Assessment

APS= Average Perceived Stress

Sup. Comp. =Suppression of competing

Act. Cop. = Active Coping

Table 3 shows bivariate analysis of respondents' coping strategies and perceived levels of stress. This revealed a statistically significant negative and positive association with adaptive and maladaptive coping strategies respectively. Active coping strategies was negatively correlated with stress $53/36.7$ ($r=-0.623$, $p=0.001$); use of social support $44.3/31.9$ ($r=0.411$, $p=0.001$); positive reframing $44.7/47.1$ ($r=0.219$, $p=0.025$); acceptance $49.3/33.9$ ($r=0.436$, $p=0.001$); planning ($r=0.105$; $p=0.520$), use of religion ($r=-0.010$, $p=0.090$); humor $51.1/47.3$ ($r=-$

0.310 , $p=0.632$). were interpreted as negatively correlated with perceived stress since the higher the scores the lower the levels of stress; while maladaptive coping strategies, such as suppression of competing activities $60.7/69.2$ ($r=0.345$, $p=0.001$); denial $78.4/88.3$ ($r=0.490$, $p=0.012$); restraint $62.1/64.8$ ($r=0.105$, $p=0.237$); self-distraction $65.1/66.4$ ($r=-0.091$, $p=0.306$) and behavioural disengagement $61.8/65.3$ ($r=0.405$, $p=0.001$) were positively correlated with perceived stress, that is the higher the scores, the higher the levels of stress.

Table 3: The relationships between of levels of stress on PSQ among the respondents

Coping strategies	Levels of stress on PSQ		r	P-value
	1 st Ass	2 nd Ass		
Active Coping Strategy	53.1	36.7	-0.623	0.001*
Suppression Comp. Activities	60.7	69.2	0.145	0.112
Planning	58.1	61.0	0.105	0.520
Restraint	62.1	73.4	0.120	0.233
Use of social support	44.3	31.9	0.411	0.001*
Positive reframing	44.7	47.1	0.219	0.025
Religion	54.8	51.0	0.337	0.032*
Acceptance	49.3	33.9	0.436	0.001*
Denial	78.4	88.3	0.490	0.012
Behaviour disengagement	61.8	65.3	0.105	0.201
Use of humour	51.1	47.3	0.521	0.003*
Self destruction	65.1	66.4	0.090	0.302

* Statistical significant

Discussion

The findings of this study show that adaptive coping strategies reduce psychological distress, while maladaptive increase the levels of stress in people living with HIV/AIDS. This study appears to be the first in Nigeria that seeks to reflect the coping strategies and the levels of stress among people living with HIV/AIDS. Increasingly, concerns have been raised about the care of people living with HIV/AIDS in Nigeria. The implication of this study in a culture that is ravaged with various socioeconomic problems rests on the need for a new verve in the effort to tackle this deadly and debilitating disease. There are indications that in view of the dwindling economic power and social drift that usually characterize the people living with HIV/AIDS, access and affordability of healthcare services are becoming more difficult. Therefore, despite the increasing efforts made to reduce the burden associated with HIV/AIDS, responsibility for care is still primarily that of individuals and families.

Given that HIV-seropositivity diagnosis is a potential stressor, those living with the disease are faced with many challenges. The quality of life has continued to be a major problem, because affected individuals are finding it increasingly difficult to meet their health needs. The sense of being unable to act and control associated adverse impact of HIV/AIDS, has made the appraisal of coping strategies central to the survival of affected individuals^{7,16}. Failure to explore and promote these strategies could have wider implications, considering the high level of poverty and poor infrastructural healthcare facilities and services in Nigeria. This could have a direct or indirect effect on the quality of life because of associated negative and risky health behaviours. Therefore, learning and use of coping strategies are of great importance in several ways. Among other things, it has the tendency

to stimulate consciousness in affected individuals to face the reality of their illness. And more importantly, it helps the people to have a better understanding of the problem, with a yearning for proper adjustment and adaptation.

The findings of this study also demonstrate the basic demographic characteristics of persons living with HIV/AIDS in Niger Delta region of Nigeria. In accordance with previous studies, majority of the participants were below 50 years of age, and more than half were females^{1,16,19}. The preponderance of females in this study suggests that women are more vulnerable to HIV/AIDS. Several factors including poverty, cultural disposition and taboos may have been responsible for increasing number of women. These factors operate by depriving women of their rights to make decisions on major sexual-related issues, such as early/forceful marriages and use of preventive measures including condom during sexual intercourse^{20,21,22}. Women also face social and economic inequalities, in terms of basic needs and opportunities, such as access to education, employment and social responsibility^{11,23}. The resultant lack of independence and poverty make them vulnerable to unhealthy means of living that could further expose them to sexually transmitted infections including HIV/AIDS.

Also in this study about one third of the participants were unemployed. The level of unemployment is not surprising, considering the fact that HIV/AIDS is common among low socioeconomic class, affecting young active people in their prime age of productivity. The prevailing economic realities and the social drift that characterise people living HIV/AIDS may have also contributed to the level of unemployment recorded in this study. These are clear social indicators that would impact adversely on the

care and quality of life in people living with the disease. The fact that 30% of Nigeria's estimated 160 million people resides in Niger Delta Region implies that the challenges could be overwhelming. This could have wider implications on the people because of the adverse social impacts, with respect to economic activities, national growth and development²⁴. Our study also shows that about 26% of the participants were never married and more than 20% had marital difficulties. This is in line with the findings in earlier studies²⁵. The marital difficulties could be explained in terms of prejudices and stereotypes people have against persons living with HIV/AIDS. Evidence suggests that HIV-related stigma and discrimination are major barriers to social affiliation and integration^{23,25}. There is also overwhelming evidence that negative and resentful attitude towards people living with the disease are rampant in many settings²⁶.

This study basically highlights major coping strategies and their effects on the levels of stress in people living with HIV/AIDS in Niger Delta region of Nigeria. Although different chronic illnesses and disabilities necessitate differential use of coping strategies, the HIV-seropositivity individuals employ various coping strategies because they are predispose to numerous psychological challenges. The impact of HIV/AIDS seems to be worse, because of the low socioeconomic status of the people affected and the difficulty in assessing health needs. In many instances, the expectations and realities of life are beyond these people. Therefore, the knowledge that people could live well by employing strategies that could lessen psychological distress, without much financial investment may be critical to care. This seems to suggest that there is need to continually explore various coping strategies, for purposes of improving the quality of life.

Evidence has shown components of general coping strategies among people with a wide range of chronic illnesses and disabilities^{13,14}. The different kinds of strategies used and the variation in the levels of stress in this study may be due to a number of factors, including the anguish of imminent death and stigma. Negative images projected by both the affected individuals and society encourage stigma, whether self or public. This could be distressing and may manifest in several ways including shame, guilt, and fear of isolation, rejection and judgment. There is abundant of evidence that stigma is an important factor militating against disclosure of HIV status because of fear of losing sexual contacts or overinvestment in sexual activities^{5,27}.

Our study also shows that the participants experience different levels of stress. The differential levels of stress seem to suggest that different coping strategies produce varying proportions and levels of stress. One major explanation for the variation in the

levels may be the differential ways of using the coping strategies. Secondly, since stress is an inevitable consequence of life, it may not only be due to the appraisal and emotional response to HIV-seropositivity diagnosis. Finally, the levels of stress may have been influenced by the degree and nature of social supports available. Evidence has shown that higher levels of social support could increase the occurrence of positive health behaviours, which are necessary to reduce the levels of stress in life-threatening conditions⁶. Even in people who appraise situations as stressful, the levels of stress may vary depending on how the individual deals with the event and the resultant emotion. Therefore, one may be tempted to conclude that coping strategies have significant impact on both life expectancy and the quality of life in people living with HIV/AIDS. It is also important to emphasize the impact of educational exposure on the level of stress. Education may play a significant role in the levels of stress experienced in any situation by individuals. A better educational level promotes awareness regarding the disease and access to appropriate health care services with a better treatment options²⁸.

The emotional reactions to initial HIV-seropositivity diagnosis and confirmation may have serious implications for psychosocial well-being of affected individuals. This may include non-adherence to treatment and eventual death^{18,29}. The impact of HIV/AIDS seems to be influenced by interplay of intense physical, emotional, as well as the socioeconomic demands on affected individuals and their families. Persons living with HIV/AIDS experience special difficulties, in terms of drive and motivation from increased psychological distress. This may manifest as anxiety and/or depression and could overwhelm the individuals³⁰. The resultant impact could have serious health implications, considering the low productivity, functional disabilities, and health hazards associated with anxiety and depression. Several studies have reported high rates of anxiety and depression in people living with HIV/AIDS^{31,32,33,34}. Evidence from previous studies also suggests that depression is highly correlated with HIV disease progression and decreased health-related quality of life^{34,35,36,37}. This may also be responsible for the poor living conditions usually seen in people living with HIV/AIDS.

We have also demonstrated in this that participants who accepted the diagnosis of HIV/AIDS experienced low levels stress. Although previous studies have shown that the initial HIV-seropositivity diagnosis usually increase tension and emotional vulnerability to stress, this finding appears to be the most important factor in active coping strategies⁷. This is because evidence has shown that individuals who are acquainted with the diagnosis of HIV/AIDS

infection seem to accept the challenges better³⁸. Although, this may take a longer time compared to other chronic illnesses because of social stigma, prejudice and discrimination, the finding is central to the adjustment and adaptation in people living with HIV/AIDS. On the other hand, denial, though often regarded as an adaptive defense mechanism may be effective and helps in reducing tension in the course of HIV/AIDS. However, this could be dangerous to the patients in the early phase of the disease because of the possibility of increasing negative health behaviours, including delay in seeking help and refusal of necessary investigations and management. With the twin problems of ignorance and poverty, which are common in Niger Delta region, denial could pose negative impact by enhancing increased rate of spread and transmission of HIV/AIDS.

Our study shows that people who employed religion exhibited lower levels of stress. This is important in view of the human misery that characterizes persons living with HIV/AIDS. Although, data on the impact of religion on HIV/AIDS is scarce in Nigeria, many researchers have acknowledged the role of spirituality in restoration, maintenance and promotion of health. A large number of studies suggest that spiritual aspects of individual play a role in physical and mental health^{39,40,41}. This is so because spirituality as one of the indices of quality of life assessment can actually be used to monitor the impact and progression of HIV/AIDS. Spirituality is common and most times, regarded as a significant behaviour used essentially for purposes of promoting resilience and a better quality of life⁴². Evidence has shown that spiritual activities alleviate depression by enhancing feelings of happiness and increase greater satisfaction with life⁴³. Even with the availability of anti-retroviral therapy (ART), people living with HIV/AIDS still used spirituality as a succour to psychological and emotional distress. It is possible why people resort to spiritualism, especially in Niger Delta region may be because of little or no financial investment. Many researchers viewed spirituality as an important buffer and act as a bridge between hopelessness and meaning in life^{44,45,46}. It helps people to adapt to the reality of their condition, and by so doing, enable them to cope and re-frame one's life and bring a sense of meaning and purpose to one's life. Evidence from previous studies has shown that it is an essential predictor of healthy life style, illness recoveries including surgeries⁴⁷.

This study has many limitations and the result cannot be generalized because the sample was not randomly selected and therefore not broadly representative. It is a self-report and subjective assessment of variables without neither diagnostic interviews nor operational diagnosis. There is also

lack of comparable data from previous studies in Nigeria to support the findings.

Conclusion

The findings of this study have shown that being an HIV positive can be a devastating experience in view of the difficulty in achieving total and complete cure. Therefore, people employ different coping strategies including maladaptive ones to deal with their stresses. The growing anguish of uncertainty about the future implies that there is need to examine and incorporate these strategies into the framework of management. This is important in view of the potential impact of HIV/AIDS and the poor socioeconomic representations of the people living with the disease. Apart from determining the disease progression and reduction in psychological distress, the identification of positive coping strategies may help in the choice of various psychosocial interventions for improved quality of life. The use of maladaptive coping strategies should be discouraged; because of their adverse effects in amplifying the suffering, utilization of healthcare services, high morbidity and mortality.

Since HIV/AIDS is attributable to social, economic and cultural factors, the findings of this study will help in increasing awareness on possible health attitudes that are central to the spread of HIV, trends in risk behaviour and changes needed to be made for control. One other major significance of this study lies in recognizing that in Nigeria, there is a burden of HIV/AIDS on the healthcare delivery system. Therefore, there is a great optimism that psychological distress in affected individuals can be effectively reduced through enhancement and use of positive coping strategies.

Finally, the nexus of HIV/AIDS and psychological distress implies that there is need to equip and improve our mental healthcare facilities and services to cope with ever increasing psychiatric comorbidities.

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