LAGOS JOURNAL OF GENERAL & APPLIED PSYCHOLOGY

A Publication of the Nigerian Psychological Association, Lagos Chapter

Vol. 1 No. 1 December, 2020

LJGAP DECEMBER 2020

LJGAP AIM AND SCOPE

Lagos Journal of General and Applied Psychology is a peer-reviewed academic journal published by the Nigerian Psychological Association, Lagos Chapter. The journal publishes academic articles that deal with different problems from all the units of psychology. LJGAP accepts manuscripts supported by the full spectrum of established methodologies in psychological research. The journal offers a rapid and time-bound but qualitative review and publication of research works that advance the frontier of knowledge in theoretical and applied psychology with the aim of improving life and benefiting society.

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8 Harvey Road, Yaba Lagos
Website: www.npalagos.org/journal
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ISSN:

EDITORIAL COMMENT

The Nigerian Psychological Association, Lagos State Chapter welcomes you to the 1st edition of the Journal **Lagos Journal of General and Applied Psychology.** The articles in this edition include *Psycho-Criminogenic Variables and substance use as predictors of prison distress among male convicts in South Western*; *Assessing the efficacy of adaptive coping skill-oriented psycho-education among males experiencing prison distress in a correctional institution; Religiosity and depressive symptoms among non-psychiatric patients in Obafemi Awolowo University Teaching Hospital Clinic; Influence of academic motivation and psychological well-being on student's academic locus of control;* and lastly the need for physiotherapist to consider the screening of their patients for the presence of psychological distress like anxiety, depression etc. among chronic pain patients in Lagos State University Teaching Hospital for effective management of psychological distress in Nigeria.

Dr. Suleiman T.F
Edition in Chief

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ASSESSING THE EFFICACY OF ADAPTIVE COPING SKILL-ORIENTED PSYCHOEDUCATION FOR TREATMENT OF DISTRESS AMONG MALE CONVICTS IN A CORRECTIONAL INSTITUTION

By

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Abstract

Several studies on prison environment in Nigeria have focused extensively on institutionalization and overcrowding as predispositions to mental illness among prisoners. However, the emotional disturbance experienced in prison with respect to application of psychological intervention in Nigerian correctional institutions is almost neglected in academic research and correctional psychology. This follow-up study adopted pre and post-test quasi- experimental designs to investigate the effectiveness of adaptive coping skill oriented psycho-education in treatment of prison distress among inmates found to have scored higher on distress. Thirty convicted male inmates that were found to have scored higher on measure of prison distress in the assessment phase were selected for the intervention. Participants were randomly grouped into experimental and control groups based on their baseline scores. Results revealed significant difference in post-test scores of participants in experimental group and control group on measure of prison distress ($F(1,27) = 380.26$, $p<.05$, $\eta^2 = 0.93$). It was observed that 93% of variance observed in the posttest prison distress averaged scores. The marginal descriptive and post-hoc analysis revealed that inmates exposed to adaptive coping skill oriented psycho-education expressed lower prison distress compared to the inmates in the control group ($_{scheffe} = -19.50$, $p<.05$). This implies that the multi-stage adaptive coping skill oriented psycho-education has greater effectiveness in reducing distress among prisoners found to have scored high on prison distress.

Background to the study

The experiences of prison inmates in most developing countries, Nigeria inclusive, have been that of a tale of woe (Oshodi, 2010). The living condition of prisoners in Nigerian Penal Institutions is quite pathetic and detrimental to the physical and mental well-being of inmates. It has been observed that the prison culture of deprivation, torture, and overcrowding, poor sanitation coupled with poor feeding, medical service and denial of contact with families and friends in most underdeveloped countries falls short of the United Nations standards for the treatment of inmates (Adetula, 2011). Imprisonment conditions often predispose prisoners to experience stress-related psychological disorders, in which case, the stressor pushes individual prisoner beyond his ability to adapt effectively.

According to the American Psychiatric Association Diagnostic Statistical Manual for classification of mental illness (DSM-IV-TR, 2000), individuals suffering from stress-related disorders are extremely irritable, anxious, apathetic or depressed. Prisoners often experience sleep disturbance, loss of appetite and physical discomfort. These stressors could be as a result of confinement, restriction of movement, assault and unhealthy relationship among inmates. Results of studies conducted in the last two decades have shown increased prevalence of mental disorders among prisoners compared with the rates observed in the general population (Fazel & Lube, 2010). This lends credence to the fact that there are ten times more individuals with mental disorders in prisons or jails than those housed in mental hospitals (Haney, 2017).The growing prison population therefore means that there may be more people in prison with mental illness more than ever before.

Analysis of qualitative data collected by the researcher in four-sets of focus group discussions (FGD) conducted to explore patterns of challenges convicted prisoners are facing under incarceration revealed widespread physical and emotional disturbances in form of sadness, anxiety, headache, nightmare and sleeplessness (Ajala, Osinowo and Sylvester, 2017).

These responses accounted for 50.6% of total behavioural complaints of prisoners across diverse imprisonment status which includes number of convictions, nature of offence committed and length of imprisonment. The behavioural outcome emanating from Focus Group Discussion

(FGD) conducted with twenty convicted prison inmates showed diverse prison maladjustment experienced by inmates in the course of incarceration. The qualitative data collected revealed that 70% of the convicted inmates reported that they felt sad most of the time behind bars because of restrictions and negative treatment; 60% reported that they felt angry and exhibited verbal abuse on their colleagues often; 55% reported that they experienced intense fear in the evening; 30% reported incessant headache owing to sleeplessness; 25% reported having nightmares while 20% reported loneliness. From the analysis of sampled prisoners, the prevalence index of distress in Agodi Correctional Centre, Ibadan Oyo State is approximately 50.6%. Analysis of various strategies reported by inmates with which they have been coping with these prison challenges showed that: 75% of the prisoners spent a great deal of their time thinking about a way out of incarceration; 45% engaged in prayer; 25% of inmates engaged in learning a trade; 60% made use of drugs; 30% took to counseling while 15% engaged in dancing and playing. This in part explains issues associated with the incessant jail break in Nigerian prison yards (Ajala, Osinowo and Sylvester, 2017),

Since imprisonment has been linked with stress, substance use, anxiety and suicidal ideation among prisoners, it becomes imperative for institutions to devise a way of aiding coping of inmates. According to this formulation made by Lazarus (1981), coping efforts can be directed towards regulation of emotional distress caused by prison stressors as it acts as a buffer between life stress and illness. Invariably, occurrences and feedback from inmates in Nigerian correctional centres have brought into focus the use of maladaptive coping strategies including psycho-active drugs use by inmates. This suggests that adequate research attention has not been paid to prison distress in Nigerian correctional and rehabilitation institutions with respect to application of psychological interventions. It stands to be reasoned that an adaptive coping strategy for instance can be used to mitigate the effects of the distress by making prisoners work through problems and challenges of imprisonment so as to come to terms with diverse challenges and learn adaptive coping skills. These aforementioned issues form the bedrock and focus of this study.

It has been observed empirically that people differ greatly in their reactions, coping styles and resources. In other words, individuals' appraisal and responses to diverse life stressors and

challenges are quite different, irrespective of the nature of challenge they face (Lazarus, 1991).Incarceration or imprisonment is a challenge which underlines necessity for adaptation on the part of prisoners. Quite a lot of things have been identified as assisting in prison adaptation. Occasional visits by relatives and friends, for instance, provide a prisoner with support which encourages him to adjust better (Walker and Smith, 2001). Prisoners who were provided with adequate support seem to be more confident and optimistic, with higher expectations than those who did not receive similar support.

Individual appraisal of the stressor comes first in the list of choice of coping style. Individual appraisal of a coping style simply refers to how the individual perceives the stress factor. The individual's appraisal is so important that the extent to which many other factors are used depends on this single item. In most cases, this process involves selection and implementation of a viable coping style or strategy after appraisal. Effective coping might be based on the relative maturity of the individual under distress. For instance, prisoners are faced with the stress of choice of coping styles. Some of these prisoners are more likely to use their experience to seek information from relatives, friends, and other inmates and seek opinion of prison welfare health officers on the appropriate choice of coping style that will enhance their wellbeing.

Grosholz and Semenza (2019) opined that individuals in prison dealing with chronic conditions experience "cold affect," which is associated with increased self-control and better ability to weigh costs and benefits. While these individuals might be angry and frustrated with the state of their health, they might have become accustomed to being ill and have the appropriate coping mechanisms in place to handle the associated strain. On the other hand, those suffering from acute physical conditions are more likely to experience "hot affect," which leads to more impulsive behavior and increasingly irrational decisions. In addition, the resources that are available at the period of occurrence of stress are also important in determine the choice of coping resources in the individual's internal and external environment (p.3).

Psychoeducational model is a humanistic approach to changing behavioural patterns, values, interpretation of events, and life outlook of individuals who have adjustment difficulty. It as an intervention measure and a carefully packaged plan and is spontaneously implemented

and modified to meet the need of an individual or group of individuals in crisis (Redl, 1966). The emphasis of this orientation is not only on observable changes in behaviour, but also on an individual's perceptions of reality and feelings. According to this model, inappropriate behaviour is viewed as an individual's maladaptive attempt to cope with the demands of the environment. Appropriate behavioural pattern is consequently developed to help the individual to recognize the need for change and display better behavioural choices. In essence, and as it is often in practice, a "teacher" (psycho-educator) helps a "student" (individual in crisis) to accurately understand himself (and others), the futility of the present pattern of behaving, and the need to adopt adaptive pro-social responses. This model opines that this positive behavioural change is more likely to occur when "the teacher" is able to develop and maintain positive and mutually respectful interaction with "the student". Interventions based upon psycho-educational model rely heavily on the teacher's ability to develop a trusting and accepting relationship with the student.

The extent to which coping could be used to adapt to a confined environment has been empirically studied. Jordan (2012) carried out a study using 2,500 male inmates in Alcatraz, to assess the extent to which coping strategies affect the adaptation, adjustment and well-being of inmates. The results revealed a complex relationship between the coping strategies, adjustment and well-being of male inmates, and beneficial institutional opportunity and changes. This finding is in consonance with the result of a study conducted by Hall (2013) on mechanism of coping and relationship between co-occurring disorders, the prison environment and prison misconduct among offenders with co-occurring mental health and substance use disorders. This included those that engaged in prison misconduct and maladaptive coping with stress. In addition, time spent in prison was found to have significant impact on these relationships. These researchers observed that coping pattern significantly mediated the relationship between mental health illness and prison misconduct which consequently suggested that coping assessment and intervention may be successful pathways to reduce prison misconduct and increase adjustment, especially for offenders with mental illness. Empirically, it has been observed and reported that disciplinary infractions in prison is a predictor of recidivism (Gendreau, Little & Goggin, 1996), whereas participation in prison educational programmes and maintenance of family ties are associated with reduction in recidivism and negative affects (Hairston, 2009).

Statement of Hypothesis

The researchers put forward the stated hypothesis:

Post-test scores of participants exposed to adaptive coping skill-oriented psychoeducation intervention on measure of prison distress will be significantly lower than their counterparts in the control group.

Method

Design

This phase of this study utilized a post-test quasi-experimental design with intervention and control groups. This became necessary because of the need to assess the efficacy of adaptive coping skill-oriented psycho-education on treatment of prison distress. The choice of this intervention was informed by the need made manifest during the qualitative study. This design enabled the researchers to observe the difference between the experimental and control groups on the measured behaviour after treatment of intervention group.

Setting

This intervention study was carried out in Agodi Correctional Centre, Ibadan. The choice was based on the sizable number of prisoners that scored higher on prison distress scale coupled with cordial relationship and cooperation of prison staff which guaranteed conducive environment for the intervention study.

Participants

Thirty prisoners with mean score of ≥49.04 on measure of prison distress who met the inclusion criteria were randomly selected for this study.

Inclusion criteria – The participants:

i. Have participated in the assessment/survey study
ii. Have a mean score of ≥49.04 on measure of prison distress
iii. Signed participant consent form after reading through.
iv. Have a minimum of 12 years of education (SSCE)
v. Must have been in prison for a minimum of six months
vi. Could understand English language.

Exclusion criteria: The major exclusion criteria at this phase of the study included:

i. Those that did not participate in the assessment study.

ii. Those with a mean score of ≤ 49.04 on measure of prison distress.

iii. Those that have primary school certificate.

iv. Those that have not spent up to six months in prison.

Instrument: FGD question guide

The researchers were guided by Interview Guide for Focus Group Discussion (FGD) in the construction of the open-ended questions (in accordance with functional axis of DSM-IV, APA, 2004). The Focus Group Discussion question guide was developed by the researchers to gain as much information as possible on distress experienced under imprisonment. Seven open-ended, structured and unambiguous questions were formulated, face-validated by professionals in psychology, arranged, and used in a logical sequence. The developed items were presented to professionals in psychology; one clinical psychologist and one correctional psychologist independently for assessment of face validity. Some of the questions that were included in the FGD included: For how long have you been in this place? Do you like prison environment? If yes, explain how? If no, why do you think you are not enjoying the environment?

KII- Question guide

Interview guide was also developed by the researchers to gain as much information as possible on prison environment, rules and regulation as well as challenges facing prisoners from prison officials. Five open-ended, structured and unambiguous questions were formulated, validated by experts in psychology, arranged, and used in a logical sequence. Some of the questions that were included in KII include: Is your prison different from school? If yes, why? and if no, how? Can you tell some of those things you do to prisoners to make them happy and adapt to prison life?

Recruitment procedure

Participants were convicts that participated in the assessment phase of the study. Those convicts that scored one standard deviation above the mean score on measure of prison distress in the assessment phase of the study were recruited and were guided. This was followed by random allocation into experimental and control group using simple balloting technique. Fifteen "yes"

and fifteen “no” were written on pieces of paper and rolled together for each participant to pick from. Those that picked “yes” were assigned to experimental group while those that picked “no” were assigned into control group respectfully. All participating convicts at this level of study were evaluated using the battery of questionnaire used in the assessment phase of the study with a view of making the two groups comparable on all other characteristics except on adaptive coping skill oriented psyho-education to which intervention group was exposed. The convicts’ scores on the baseline screening was used to match them into experimental and control groups.

The experimental group: This group which consisted of fifteen (15) prisoners participated in psychoeducation/intervention as described by Sullivan (2010), using multi-modal adaptive coping skill oriented psycho-education. Measurement of psychological factors and dependent variables was taken at baseline and at the end of the 4th week.

The control group: This group which consisted of fifteen (15) prisoners participated in conventional prison daily briefing, but not exposed to the adaptive coping skill-oriented psychoeducation. Measurement of psychological and dependent variables was taken at baseline and at the end of the 4th week.

Instruments and measure for experimental study

The instruments employed during the assessment stage of the study were used to tap information on factors which could predict prison distress at the survey stage. This information served as pre-test.

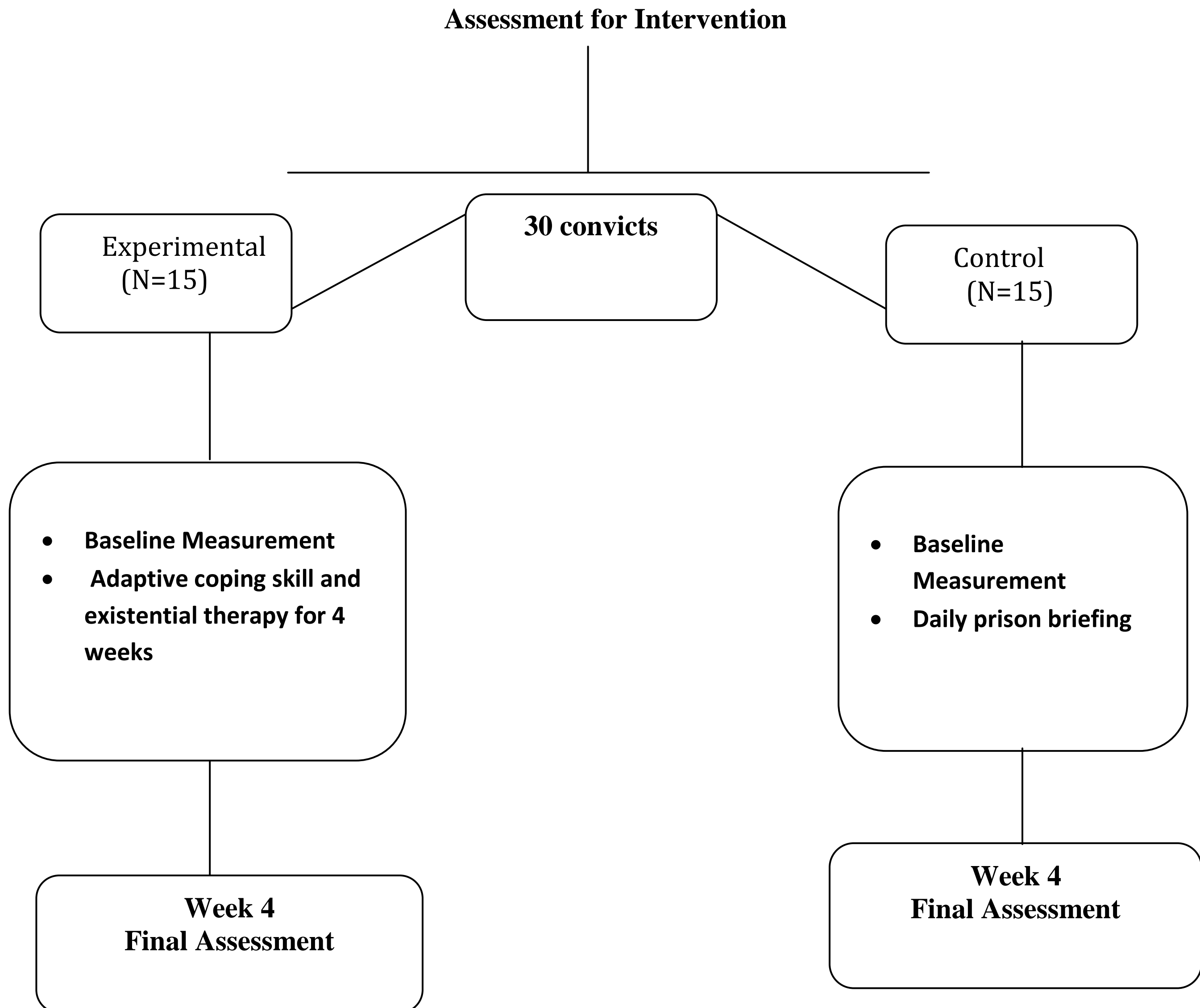

Figure 1: Flow chart for the study

Intervention

This is a cognitive programme based on a non-injury model, where return to normal activity is the main goal. It is a method of inducing changes in a person's behaviour, thoughts and feelings. In this study, intensive adaptive coping skill-oriented information provided ran through four weeks, aimed at boosting prisoners' adaptive coping skill to reduce distress experience. This psychoeducation technique consisted of a two-hour weekly lecture series in eight modules on provision of relevant information to the identified convicted prisoners observed to have scored high on measure of prison distress (≥49.04) with control group not being exposed to the

intervention. Modules 1-2 incorporated essence of prison yards and behavioural expectations (critical issues include reasons for imprisonment and prison etiquette). Modules 3-5 entailed perceived psychological challenges and ways of coping with imprisonment distress (critical issues include prison experience, disposition and adaptive skill for coping); modules 6-8 encompassed enhancing purposeful living (critical issues include enhancing meaning and purposefulness of life in imprisonment). At the end of each of the sessions, inmates in experimental groups were given assignment on issues reflected upon which were later examined by all members of the group during the beginning of subsequent sessions.

Prison Distress: This is defined as emotional disturbance experienced by individual prisoner in response to incarceration as measured by Prison Distress Scale (PDS) developed by Ajala, Osinowo and Okhakume (2017) to assess individual prisoner's current subjective emotional response to incarceration.

Post-test

This was carried out one week after the intervention has been concluded. Participants in the experimental and control groups were assessed on the independent and dependent measures.

Results

The hypothesis which stated that post-test scores of participants exposed to adaptive coping skill psychoeducation intervention on measure of prison distress will be significantly lower than their counterparts in the control group was tested using one-way ANCOVA. The result is presented below:

Table 1: Summary Table of ANCOVA of related measures showing comparison of Posttest scores of Intervention and Control Groups on measures of Prison Distress

Sources	Sum of Squares	Df	Mean Square	F	Sig.	η^2
Prison Distress	4.332	1	4.332	0.764	0.390	0.002
TREATMENT	2154.814	1	2154.814	380.26	< .001	0.932
Residual	153.001	27	5.667			

The result on the table above showed that there was significant difference in post-test scores of participants in the intervention group and the control group on measure of prison distress

(F(1,27) = 380.26, p<.05, **η^2 = 0.93**). It was observed that 93% of variance observed in the posttest prison distress averaged scores. The result of post-hoc test is presented below:

Table 2: Summary Table of Marginal means Post Hoc Tests of effect of Treatment on Prison distress

TREATMENT	Mean	SE	N	Mean Difference	SE	T	p scheffe
Psychoeducation group	33.45	0.615	15	-16.96	0.870	-19.50	< .001
Control group	50.42	0.615	15				

The marginal descriptive and post hoc analysis revealed that inmates exposed to adaptive coping skill oriented psycho-education expressed lower prison distress scores compared to the inmates in the control group ($_{\text{scheffe}}$ = -19.50, p<.05). This implies that the adaptive coping skill oriented psycho-education has greater effectiveness in reducing distress among inmates found to have scored high on prison distress. This stated hypothesis is thereby accepted.

Descriptive Plot Showing Posttest Prison Distress of Intervention and Control Groups

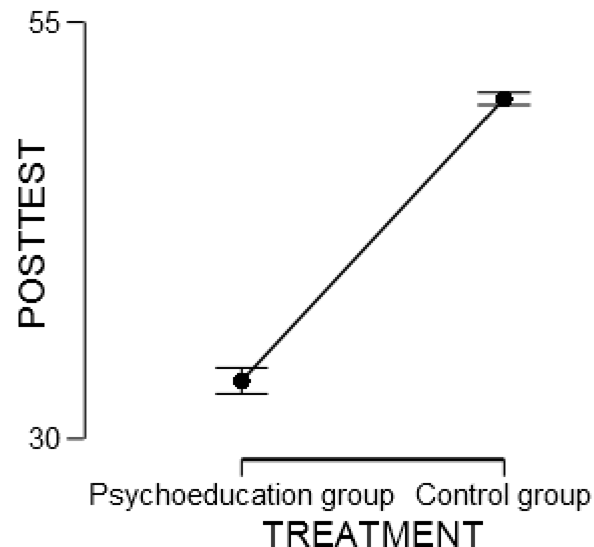

Fig 2: Profile plot showing the differences between the treatment and averaged prison distress scores.

It is evident from the plot that the intervention group reported lower prison distress scores (mean= 33.45) compared to their counterparts (mean=50.42) in the control group.

Discussion

The hypothesis which stated that post-test scores of participants exposed to adaptive coping skill oriented psycho-education on measure of prison distress will be significantly lower than their counterparts in the control group was confirmed. The result showed significant influence of adaptive coping skill psycho-education on scores of inmates in experimental group on the measure of prison distress. This implies that inmates in the experimental group scored significantly lower on measure of prison distress compared to inmates in the control group. This result lends credence to the effectiveness of adaptive coping skill-oriented psycho-education as a veritable intervention tool for reducing prison distress. This finding is consistent with the result of a study carried out by Jordan (2012) to assess the extent to which coping strategies affect the adaptation, adjustment and well-being of inmates among 2,500 male inmates in Alcatraz. This researcher observed a complex relationship between the coping strategies, adjustment and well-being of male inmates. This finding is further buttressed by the result of a study conducted by Hall (2014) on mechanism of coping and relationship between co-occurring disorders, the prison environment and prison misconduct among offenders with co-occurring mental health and substance use.

These researchers observed that coping pattern significantly mediated the relationship between co-occurring mental health illness and prison misconduct which consequently suggested that coping assessment and intervention may be successful pathways to reduce prison misconduct and increase adjustment, especially among inmates with mental illness.

Conclusion

This study, like other previous studies on prison community, brought to limelight the extent of emotional disturbance inmates experience in correctional centres. The nature of rehabilitation environment in Nigeria is such that it impacts negatively on emotional wellbeing of inmates. The behavioural outcome of this study reinforced the effectiveness of adaptive coping skill-oriented psychoeducation as a veritable tool for reducing distress and enhancing purposeful living among inmates.

Limitation of the study

This intervention study, like any other scientific study, has its own limitations. Prominent among the limitations include: the study area and size of participant. It was conducted at Agodi Correctional Centres, Ibadan with attendant large number of inmates that scored high on measure of prison distress in the assessment study. There is the need to extend this study to cover correctional centres in the remaining geo-political zones in the country for comparison and assessment of facilities available to convicted prisoners.

REFERENCES

Adetula G. (2011). The prison subsystem culture: Its attitudinal effects on operatives, convicts and the free society. *Ife Psychologia*. 18(1):232-251.

Ajala, M.A., Osinowo, H.O., Okhakume, S.A., Ineme, M.E., & Oyeleke. J.T. (2017), Following Psychometric Procedures: The Development and Validation Prison Distress Scale (PDS). *Journal of Social Sciences and Public Policy.* Vol. 9, Issue 4, 54-67.

DSM-IV-TR.(2000). Diagnostic Statistical Manual of Mental Disorders, 4th ed., Text Revision.

Fazel, S., &Lubbe.S. (2010). Prevalence and characteristics of mental disorders in jails and prisons. *Current Opinion in Psychiatry*, 18(5), 550-554.

Gendreau, P., Little, T. & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology*, 34, 575-607.

Grosholz, J. M., & Semenza, D. C. (2018). Assessing the relationship between physical health and inmate misconduct. *Criminal Justice and Behaviour 45* (10), 1527-1546.

Hairston, C. (2009). Family ties during imprisonment: Important to whom and for what? *Journal of Sociology & Social Welfare*, 18, 87-104.

Hall, B. C. (2013).*Mechanism of coping style in the relationship between occurring disorder, the prison environment and prison misconduct*. PhD thesis, Seattle Pacific University.

Haney, C. (2017). “Madness” and penal confinement: Some observations on mental illness and prison pain. *Punishment & Society, 19*(3), 310- 326.

Jordan, P. (2012). Coping strategies, adjustment and wellbeing of male inmates in prison environment. *Internet Journal of Criminology*, 4, 20-23.

Lazarus, R. (1981). *Psychological stress and coping process*. N.Y: McGraw-Hill.

Oshodi J.E. (2010). Nigerian Prisoners. An Open letter to Mr. President. *The PUNCH Newspaper (*August 10, 2010).

Redl, F. (1966).*When we deal with children*. New York: Free Press.

Walker, I. and Smith, H. (2001).*Relative Deprivation*: *Specification, Development and Integration.* Cambridge University Press.

RELIGIOSITY AND DEPRESSIVE SYMPTOMS AMONG NON PSYCHAITRIC PATIENTS IN OAUTHC

By

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Abstract

The study examined the influence of religiosity on depressive symptoms among Non-psychiatric patients in Obafemi Awolowo University Teaching Hospital Complex (OAUTHC) Ile-Ife. The study was a cross-sectional survey using primary data. The study sample consisted of 402 inpatients and outpatients drawn from the General Outpatient Department, Obstetric and Gynaecological, Surgical and Medical wards of OAUTHC. Two standardized Psychological Instruments namely Beck Depression Inventory (B.D.I.) and Religious Orientation Test (ROT) were used to elicit data from the respondents, t- test was used to analyse the data collected. The result showed that religiosity has a significant influence on the level of depressive symptoms patients self-reported, as deeply religious patients had less depressive symptoms than superficially religious patients (F [402} =3.78, P > .95). This means, the more religious a patient is, the less the symptoms of depression he/she experiences. The study concluded that religiosity contributed to the level of depressive symptoms patients self-reported.

KEY WORDS: *Depressive Symptoms, Inpatients, Non-Psychiatric Patients, Religiosity.*

Introduction

Depression dates back to ancient times, it is common in all societies of the world and much more common than most people assume (Asuni, Schoenberg, &Swift, 1994). It is among the more common mental illnesses, with estimated prevalence between 5% and 20% (Ayeni, 2002; Koeing, 2002 et al; Maravigla, 2004 & Smith & Weissman, 1992). About 300 million (4.4%) of the world's population are estimated to be depressed (WHO, 2017). According to WHO prevalence data, about 3.9% of the Nigerian population are estimated to suffer from depression (WHO, 2017). Depressive disorder is a serious illness especially when it affects an individual

with moderate or severe intensity for an extended period. It can result in the individual performing poorly at home, school or work (WHO, 2013). At the height of its severity, depression often leads to suicide with about 800, 000 deaths resulting from suicide every year (WHO, 2018). Suicide is a leading cause of death for individuals between 15 to 29 years(WHO, 2016).Unipolar disorders are much more common than bipolar disorders. The ratio of unipolar disorder to bipolar disorder is at least 5: 1(WHO, 2016). Major depressive disorder is far more common in women, among younger people and relatives of depressive patients (Cuellar, Johnson & Winters, 2005). Risk of developing mood disorder also varies with race, with higher rates in Caucasians (Americans and Europeans) than in blacks (Africans and sub-Saharan Africans), WHO (2017).

The most frequently diagnosed mood disorder is major depressive episode (Tollefson, 2009; Keller, 2008; Easton, 2007; Buchwald and Rudick-Davies, 2007). According to WHO (2017), the burden of depression and mental illness in general is on the increase worldwide, estimate of the burden of depression among Nigerians is 7.5%.

The present study was interested in the influence religiosity has on the experience of depressive symptoms in patients in other hospital departments other than psychiatric units. According to Merriam- Webster's Collegiate Thesaurus (1998), religiosity is being devout, holy, pietistic, pious and prayerful. Chambers Century 21st Dictionary Revised Edition (2004) views religiosity as following the rules or forms of worship of a particular religion very closely.

Religiosity can be difficult to define (Groome, 1998). For instance, theology views religiosity from the angle of faith (Groome &Corso, 1999), on their part, religious educators, concentrate on generally accepted theory or practise of religion (Groome, 1998), while Psychologists focus on being pious, devoted and holy (Cardwell, 1980). The influence of religiosity on the course and

development of mental illness specifically depressive illness has been described in literature. According to Koenig, George and Peterson (1998) greater commitment to religion results in a shorter reduction time of depressive symptoms among older patients on admission. Studies have shown that in many physical illnesses like cancer, more religious commitment results in better mood and other psychological measures of wellbeing, (George, Ellison & Larson, 2002; Koenig, George & Peterson,1998; Maraviglia, 2004).

The above facts and figures are an indication that depression is a major mental disorder worldwide. Depression is associated with enormous morbidity, mortality, disability, functional impairment and costs (WHO, 2017). Depression and anxiety are often experienced after surgeries (Balestrieri, Bond, Clayton & Dumas, 2002). It may also, compromise the immunity of individuals afflicted with chronic illness (Yi *et al*., 2006; Kilbourn, Justice, Rollman, Bruce and Keller, 2002). Balestrieri and colleagues observed that 195 (19%) out of 1039 were identified as depressed by medical and surgical general hospital physicians (Balestrieri, Bond, Clayton& Dumas, 2002). The study explored the level of religiosity and religious practices and its association with the level of depressive symptoms. The more religious an individual suffering one disease or the other such as cancer is, the better his mood and other psychological domains (Koenig, George and Peterson, 1998; George, Ellison and Larson, 2002; Maraviglia, 2004). Nigerians are known to be highly religious people, though there have been few formalised studies, Makanjuola (1987) pointed out that but for the services of religious establishments; the few available mental health facilities in the country would have been inundated.

Although there is research evidence to estimate religiosity's influence on health, most of these studies, were carried out among physically healthy participants in the general population (Gall & Grant, 2005; Marks, 2005; Mahoney, 2005; Regnerus, 2003; Koenig and Larson, 2001), there is

a dearth of studies on the influence religiosity has on those suffering from a disease or illness. If religious commitment leads to healthy outcomes in those that are healthy, we may also assume that religion also results to same outcome among patients who are suffering one physical illness or the other. Research has also found that a lot of people become more religious when they are ill, (Koenig, 2001; Koenig, & Larson, 2001). From the foregoing, the present study determined the relation between religiousness and depressive symptoms in non-psychiatric patients, hence this study.

This study is linked to the explanation of behavioural theory by John B. Watson with his publication titled 'Psychology as the Behaviourist Views It' in 1913. According to the behaviour theory of depression, stress is a predisposing factor to depression because it compromises the coping resources available to people. Physical illness is a major stressor that gives rise to depression. The present study involved measuring the level of depressive symptoms among individuals experiencing one physical illness or another. This can result to self-blame about their illness or regretting some of their actions in the past especially, if they actually contributed directly or indirectly to their present state of health. For instance, if one was careless about his/her health in the past. Participants may now rely on religious involvement like praying, singing and other religious activity as a way of reducing the negative feeling they are experiencing which invariably might help them control or reduce their depressive symptoms.

A review of literature, concerning the prevalence of depressive symptoms, among patients attending non psychiatric units in hospitals suggest that, non-psychiatric patients experience some form of depressive symptoms. Poe, Fred, Lowell, Henry and Fox (1980) examined the level of depression in clients who reported to the General Hospital using 192 patients. Both men

and women who were seen in the General Hospital Outpatient Clinic were participated in the study, 52% of the 192 patients who were seen during a routine psychiatric consultation were found to be depressed. There was a higher incidence of depression among patients for whom psychiatric consultation was requested, supporting the view that patients who do not report to non-psychiatric units also experience symptoms of depression. Sherry, Susan and Stewart (2005), longitudinally examined the prevalence and cause of depressive symptoms a year after a cardiac event, using 913 myocardial infarction patients in twelve coronary care units. Data was elicited after six months and at twelve months, using cardiac rehabilitation (CR) participation, medical adherence and Beck Depression Inventory (BDI). At baseline 31.3% had elevated depressive symptoms, 25.2% had depressive symptoms at six months and 21.7% had it after a year. Results revealed that subjects experienced less depressive symptoms in their first year of outpatient care because of treatment. Sood, Singh and Gargi (2006) evaluated mental illness in older inpatients using 528 clients (age 65 years and above) on admission in different departments of teaching hospitals in India within a year period. Consultants in each department made diagnosis based on ICD-10 criteria while assessment was done using Present State Examination (PSE-ninth edition, 1974) and Psycho geriatric assessment scales (PAS). A final assessment was done by a consultant in the Department of Psychiatry. Data was analysed using Chi-square and the results showed that, 260 (49%) out of the 528 patients had co-morbid psychiatric illness, with the most common mental illness being depression (25.94%). Adjustment disorders accounted for 11%, while4.54%, 3.6%, 3%respectively had anxiety disorders, dementias and delirium. Finally, 0.8% and 0.4% were diagnosed with bipolar disorders and substance-related disorders respectively.

Research on mental disorders is growing steadily in Nigeria since the ground-breaking epidemiological studies carried out by Lambo and his colleagues in the 1960s. Adewuya, et al. (2008) studied the prevalence of depression as correlates of heart failure in Nigerians, using 105 clients from the cardiovascular section diagnosed with heart failure at Wesley Guild Hospital (WGH) and State Hospital Ile-Ife (ISH) and found 28 (27.5%) of the patients also suffered from major depression. Ihezue and Kumaraswamy (1985) in their study of the level of depression among 132 first attendants at University of Nigeria Teaching Hospital Enugu general outpatient clinic using a Self rating Depression Scale (SDS) by Zung found 28% self-reported experiencing depressive symptoms. Mildly depressed patients accounted for 14% while 11% had scores that indicated moderate depression. The remaining 3% self-reported clinically significant scores to qualify to be referred to the psychiatric department of the hospital.

Studies on Religious Coping by Williams, Larson, Buckler, Hechman, and Pyle, (1991) suggest that being a religioner is a good coping resource for avoiding major depressive illness. Coping with depression with religiosity, remained constant despite, controlling for extraneous variables that predispose people to depression such as, functional status, social support, age and a history of psychiatric problems (Idler & Kasl, 1992).

This study hypothesized that deeply religious patients would self-report significantly less depressive symptoms than superficially religious patients in non-psychiatric units/departments.

METHOD

Research Design

A cross-sectional survey design of both inpatients and outpatients in four Departments/Units involved in the study was employed. This is because the present study was interested in

determining the influence the independent variable (religiosity) has on the dependent variable (depressive symptoms). The descriptive strategy gave information about the presence or absence of depressive symptoms among participants and t- test was used to analyse the hypothesis.

Participants

The sample for the present study, comprised 402 patients made up of patients in the general outpatient department, Obstetrics and Gynaecological, Medical, and Surgical wards of the OAUTHC, Ilesa and Ile-Ife, calculated to be 14,899. Going by Leslie's (1965) formula $n = \frac{Z^2 \ P(1-P)}{d^2}$ and using the general population prevalence of depression of 5.2%, Amoran, Lawoyin & Lasebikan (2007), standard deviation of 1.96% and a precision level of 0.05, a sample size of 320 was required. This was rounded up to 402.

The sample for the study consisted of 402 patients who could read and write drawn from the General Outpatient Department (160), with a mean age of 38.8 years (standard deviation of 10.7), Obstetrics and Gynaecology Department (127), with a mean age of 34.2 years (standard deviation of 10.21), Surgical Ward (70), with a mean age of 33.7 years (standard deviation of 10.6), and Medical Ward (45), with a mean age of 37.9 years (standard deviation of 10.3). Two hundred and forty-four (244) that is (61%) of the participants were females while One hundred and fifty-eight (158) that is, (39%) were males.

Instruments: A pencil and paper research protocol that had items that elicited demographic information while Beck Depression Inventory (BDI), developed by A. T. Beck (1972) measured depressive symptoms and the Religious Orientation Test (ROT) developed by Egbe Idehen (2000) measured patient's religious orientation. BDI is a 21-item scale describing human feeling with short statements. All items have 5 statements to which participants are expected to tick the

statement that describes their present feeling. Each item is arranged in ascending order of 0, 1, 2c, 2b, and 3, according to severity symptoms experienced. Scoring is done by summing up the number ticked for each item by the participant to obtain a total score and interpreted as 30-63 severe depression, 20-29, moderate- severe, 16-19 mild/moderate, 10-15 mild, and 0-9 normal range. Steer and Beck (1988) pointed to scores from 19 upwards on the BDI suggest depressive symptoms among normal adult persons. An even-odd item correlation of 0.86 was established along with Spearman Brown correlation of 0.93. Split half reliability ranging from .78 to .9 was reported by Beck (1987) while internal consistency showed significant relationship between BDI total score and each item.

The Religious Orientation Test (ROT) consists of items phrased in the interrogative format. Response differs in order, depending on each question. Each item carries a response category in form of a Likert scale, with options as follows; not at all religious, not very religious, fairly religious, quite religious and very religious. The items are scored and summed across all the 6 items to obtain the total score for Religious Orientation. Thus, the higher the scores the more superficial religious orientation while lower scores indicate a deep religious orientation. The test-retest reliability of the ROT, with a sample of 160 respondents over a six (6) week period was 0.75, p. < .01. Internal consistency for ROT was assessed with the Cronbach's alpha among 736 respondents involved in the main study.

Procedure

Questionnaires were administered to potential respondents on clinic days of each of the departments involved in the study and in the wards for those on admission during the period of the study. Adequate information about the study objectives was provided to patients in their

respective units. The research protocol was then distributed to those that consented to participate in the study. A three (3) months period of administration of the questionnaire was given by the OAUTHC Ethical and Research Committee.

Guiding Statement of Hypothesis Deeply religious participants would self-report significantly less symptoms depression than superficially religious participants.

Result

To test this hypothesis, norms were first calculated for the scores on the religious orientation test (ROT). Then the median split-half method was used to categorize the patients into the deeply and superficially religious groups as recommended by the author of the scale. The median for this sample is a score of 11. Therefore, participants who scored 6 to 11 were categorized as deeply religious while those with scores of 12 to 26 were classified as superficially religious. The mean scores of these two groups on the BDI were then compared by means of the t-test for independent samples. The results of this analysis are presented in Table 2 the result of the analysis.

Table 1.t-testshowing Comparison between Religiosity Groups on Depression.

Group	N	Mean	SD	df	t	p
Deep	234	30.92	8.14	400	3.78	.000
Superficial	168	34.49	10.82			

Table 2 Religiosity and Demographic Variables.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.29	3	2.76	.030	.993
Within Groups	36211.16	398	90.98		
Total	36219.45	401			

The result indicates that the deeply religious participants (X = 30.919, SD = 8.137) self-reported statistically significant less symptoms of depression than the superficially religious participants

($X = 34.494$, $SD = 10.817$; $t\{402\} = 3.781$, $P < .05$), therefore the hypothesis was accepted. This finding suggests that, the deeply religious might be better able to cope with depressive Symptoms than the superficially religious.

Discussion

The study was carried out in four units/departments in the OAUTHC. The findings of this study revealed an interesting outcome. The present study found that, religiosity influenced the self-reported symptoms of depression among participants as deeply religious patients reported less symptoms of depression than the superficially religious patients. This finding is supported by Koening et al. (1992) in their finding suggesting that depression and disability are positively correlated and weakened progressively among individuals who used religion for coping but strongest among the least religiously involved participants. Also, in support of this finding is Garther, Larson and Vacher – Maybery (1990) who reviewed past research findings on religious commitment as correlates of mental health and found 81% of the studies reviewed suggested a reduction in suicide rate among those who are religiously committed. Also, Williams, Larson, Buckler and Hechman and Pyle (1991) found that major depression was less common in participants using religious beliefs as a coping resource. An explanation of the outcome of the result could be found in the strong belief in divine intervention and involvement of such patients in prayers and fasting as part of the way out of their illness.

The findings of the present study suggest the experience of depressive symptoms among clients may be prevalent in non-psychiatric units. According to Yi et al (2006) and Kilbourn, Justice Rollman et al. (2002) depression is related to immune function and mortality among individuals afflicted with chronic illness. The implication of the findings above is that patients who are

more religious may cope better with co morbid disorders that their primary medical conditions might precipitate. The study implies that inpatients and outpatients of OAUTHC being treated for physical illnesses also experience depressive symptoms. The study also has implication for Doctors, Psychologist, nurses and other health professionals especially those serving in non-psychiatric units and hospitals for the need to observe other complaints or symptoms in their patients apart from their presenting complaints. The results of this study also suggest that religion to an extent may help individuals suffering from diverse medical health conditions to control their experience of depressive symptoms.

Conclusion

Conclusively, the present study made an attempt to find out the influence religiosity on the level of depressive symptoms patients suffer from non-psychiatric units in OAUTHC. Interestingly, the study established that patients attending non psychiatrics departments categorized as being more religious self-reported less symptoms of depression, suggesting that religion might just be one of the ways they control depressive symptoms. The study concluded that religiosity contributed to the level of depressive symptoms patients self-reported.

Limitation of the Study

Only educated patients participated in the study because the questionnaires required respondents to complete the form themselves, so only those who can both write and read in English Language took part in the study which limits the versatility of response elicited. Patients whose score on the BDI put them in the range of moderate/severe and severe depression could not be referred or managed because of ethical agreement. More understanding of factors or reasons that might cause depressive symptoms in patients will go a long way in reducing symptoms of depression

and depressive illness in patients. Greater insights can be gained into why some physically ill patients have more symptoms of depression than others by exploring factors that precipitate or exaggerate depressive symptoms or illness.

REFERENCES

Adewuya, A.O., Afolabi, M.O., Ola, B.A., Ogundele, O.A., Ajibade, A. O., Oladipo, B.F., & Fakande, F. (2008). Relationship Between Depression and Quality of life in persons with HIV infection in Nigeria. *The International Journal Psychiatry in Medicine38*(1), 43-51.

Amoran, O., Lawoyin, T., & Lasebikan, V. (2007). Prevalence of depression among adults in Oyo State, Nigeria: a comparative study of rural and urban communities. *The Australian Journal of Rural Health*, *15*(3), 211–215.

Asuni, T., Schoenberg, F. & Swift, C. (1994). *Mental Health and Disease in Africa*.2nd ed. Spectrum Book Ltd., Ibadan, Nigeria. Awaritefe, A. (1988). The Beck Depression Inventory in Relation to some commonly used Tests in Nigeria. *Nigerian Journal of Basic and Applied Psychology*, *1*(2), 23-28.

Ayeni, E.A. (2002). The post treatment Psychological functioning of Affective Disorder Patients. Unpublished M.Sc. Thesis OAU Ile-Ife, Nigeria.

Balestrieri, C. H., Bond, G.R., Clayton, P.J. &Dumas, J., (2002). Prevalence of depression among medical and surgical general hospital patients. *General Hospital Psychiatric,22*, 31-39.

Beck, A.T. &Steer, R.A. (1987). *Manual for the Revised Beck Depression Inventory*. San Antonio, TX: Psychological Corporation.

Buchwald, A. M. &Rudick-Davies, D. (2007). The symptoms of major depression. *Journal of Abnormal Psychology,1029*(2), 197 – 205.

Cardwell, M.A. (1980). The child who falls in the crack. *American Journal of Health Association*, *50*(7), 429 – 430.

Cuellar, A.K., Johnson, S.L., & Winters, R., (2005). Distinctions between bipolar and unipolar depression *ClinPsycholRev ; 25(3): 307–339.*

Gall, T. L. & Grant, K. (2005). Spiritual disposition and understanding illness. *Pastoral Psychology, 53*(6), 515-533.

George, L.K., Ellison, E., & Larson, K., (2002). Religious coping among terminally healed patients. *Developmental Psychology*, *25*, 236-246.

Groome, T. H. (1998). *Educating for Life*, Allen, TX: Thomas More Press.

Groome, T. H. & Corso, M. J. (1999). *Empowering Catechetical Leaders*. Washington, DC: National Catholic Educational Association. ISBN- 1 – 55833 – 219 – 7.

Groome, T. H. (1998). *Sharing Faith: A Comprehensive Approach to Religious Education and Pastoral Ministry, the Way of Shared Praxis*. New York: HarperCollins Publishers

Idehen, E.E. (2000). Validation of Religious Orientation Test. *Ife Psychologia,4*, 51- 65

Idler J. A., & Kasl, K. A. (1992). Religious coping and depression. *Psychosomatic Medicine54*, 532 – 542.

Ihezue, U. H., & Kumaraswamy, N. (1986). Socio-demographic factors of depressive illness among Nigerians. *Actapsychiatrica Scandinavica*, *73*(2), 128–132.

Keller, M. B., Klein, D. N., Hirschfeld, R. M., Kocsis, J. H., McCullough, J. P., Miller, I., First, M. B., Holzer, C. P., 3rd, Keitner, G. I., & Marin, D. B. (1995). Results of the DSM-IV mood disorders field trial. The American journal of psychiatry, *152*(6), 843–849.

Kilbourn, N.J., Justice, N., Rollman, N.J., Bruce, A.E. & Keller, N.B. (2002). Depressive Symptoms among heart disease patients. *General Hospital Psychiatry*, *19*, 43 – 59.

Koenig, M. A., Gladstein, J., McCarter, R. J., Hershey, A. D., Wasiewski, W. & Pediatric Committee of the American Headache Society (2003). Chronic daily headache in children and adolescents presenting to tertiary headache clinics. *Headache*, *42*, 491-500.

Koenig, H. G., Larson, D. B. & Larson, S. S. (2001). Religion and coping with serious illness. *The Annals of Pharmacotherapy, 35*, 352-359.

Koenig H.G., George, A.I., Peterson, A.J. (1998). Depression in hospitalized older patients with congestive heart failure. *Gen Hosp Psychiatry*, *20*, 29–43

Lambo, T.A. (1960). Further Neuro-Psychiatric Observations in Nigeria. *British Medical Journal,12*, 1696 - 1704

Mahoney, A. (2005). Religion and conflicts in marital and parent-child relationships. *Journal of Social Issues, 61*(4), 689-706.

Makanjuola, R.O. (1987) Yoruba traditional healer in psychiatry: Healers' concepts of the nature and aetiology of mental disorders. African Journal of Medicine & Medical sciences. 16(2) 55-59.

Marks, L. (2005). Religion and bio-psycho-social health: A review and conceptual model. Journal of Religion and Health, *44*(2), 173- 182

Odiase, G.J. (1987). Marital Status and Mental Illness Among Patients Teaching Hospital Benin City over a Six Year period (April 1973 – March 1979) Lagos. *Nigerian Journal of Psychiatry*, *1*(2), 105-111.

Poe, E.R., Fred. E.T., Henry, A.O., Fox, W.C. (1980). Depression study of General outpatient Department in a General hospital. *JAMA.9966*(5), 345 – 355.

Regnerus, M. D. (2003). Religion and positive adolescent outcomes: A review of research and theory. *Review of Religious Research, 44*(4), 394-413.

Sherry, L. Susan, Irving, J., & Stewart (2005) Longitudinal Study of prevalence and cause of depressive symptoms among women and men a year after a cardiac event. Women's behaviour programme, Toronto General Research Institute, Behaviour Science and Health Division and Toronto (Des) Toronto Ontario Canada *University Health Research*, Department of Psychology.

Smith R.J., &Weissman, (1992). Mood Disorders Defining its role in Clinical Medicine, J*ournal of General Internal Medicine,* 6, 168-175.

Sood., A., Singh, P., Gargi., P.D (2006) Psychiatric Morbidity in Non-Psychiatric Geriatric Inpatients. I*ndian Journal of Psychiatry, 48,*56-61.

Steer, R.A., &Beck, A.T. (1988) Beck Depression Inventory. In M. Hersen & A.S. Bellack (eds.) *Dictionary of Behavioural Assessment Techniques*. New York: Pergamon Press.

Tollefson, G. D. (2009). Major Depression. In D.L. Dunner (ed.) *Current Psychiatric therapy*. Philadelphia: W.B. Saunders.

World Health Organisation (2017). Depression and Other Common Mental Disorders Global Health Estimates. *The Lancet*, *388*, 10053

World Health Organisation, (2016) Suicide and Loss of Health due to Diseases and Injuries: World Health Organisation Global Estimates, Geneva: W.H.O.

World Health Organisation (2016). Lifetime Prevalence and age of onset distribution of mental disorders in the World Health Organisation's world mental health survey initiative. *World Psychiatry.6*(3), 168 – 176.

World Health Organisation (2004). The global burden of disease: Update 2004. Geneva: World Health Organisation.

World Health Organisation (2001), World Health Organization, Prevalence of Mental Disorders. *Journal of Mental Disorders.26*(6), 67-82.

Williams, D.R., Larson, D.B., Buckler, E., Heckman, R.C. & Pyle, C.M. (1991). Religion and Psychological distress. *Social science & medicine (1982),32*(11), 1257–1262.

Yi, M.S., Mrus, J.M., Wade, T.J., Ho, M.L., Hornung, R. W., Cotton, S., Petterman, A.H., Puchalski, C.M. &Tsevat, J. (2006). Religion, Spirituality and Depressive symptoms in patients with HIV (AIDS). *J. Gen. Intern. Medicine,21*, 21-27.

PSYCHO-CRIMINOGENIC VARIABLES AND SUBSTANCE USE ASPREDICTORS OF PRISON DISTRESS AMONG MALE CONVICTS IN SOUTH-WESTERN NIGERIA

By

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Abstract

Several studies on prison environment in Nigeria have focused extensively on institutionalization and overcrowding as predispositions to mental illness among prisoners. However, it is worthy of note that there is dearth of literature on prison maladjustment in Nigerian penal system with respect to imprisonment history and psychological induced variables. This study adopted cross-sectional survey design to investigate prison-related variables, substance use and social support as predictors of distress among male convicts. Two hundred and fifty-three (253) convicted male inmates were selected using purposive sampling in three selected states in the South-western part of the country (Oyo, Osun and Lagos states). The mean age of participants was 30.3 years. Two hypotheses were formulated and tested. Independently, substance use [Alcohol (0.29, p<.05); Cigarette (1.46, p<.05); Sniff glue (0.78, p<.05) and Alcohol/Cigarette/Cannabis (0.09, p<.05)]; Year spent in prison (2.72, p<05); being convicted more, about 5 times (-.18, p<01);Social support (β =-.51; p<.01) and age [-.048; p<.05)] were predictors of experience of prison distress. Implication of results are discussed and recommendation made by researchers.

Introduction

The nature of prison environment in less developed countries, with its attendant regimented rules and regimes, have been a source of concern, not only to stakeholders but also researchers in correctional psychology. The living condition of inmates in Nigerian Correctional Institutions in particular, is detrimental to the physical and mental well-being of inmates. The prison culture of deprivation, torture, and overcrowding, poor sanitation coupled with poor feeding and inadequate medical service falls short of the United Nations standards for the treatment of prisoners (Adetula, 2011). The experience of prisoners in correctional centres in Nigeria has been horrible and unpleasant. This has raised concern that the prison environment may have debilitating impact on the mental health of prisoners.

Results of several studies conducted in the last two decades have shown an increased prevalence of mental disorder among prisoners compared with the rates observed in the general population (Fazel & Lube, 2010) and that there are ten times more individuals with mental disorder in correctional centres than those housed in mental hospitals (Haney, 2017).This invariably shows that prison environment is implicated in mental wellbeing and adjustment of prisoners. It is imperative to realize that prisoners react differently to pressures of incarceration, some may adapt/adjust successfully whereas others might find the environment stressful and traumatic.

As soon as an individual is pronounced guilty, sentenced and brought into prison, such a person begins a new way of life. On entering the prison yard, the offender is stripped of all his/her personal effects brought from the outside world, his/her autonomous decision, rights and privileges are eliminated through the process of collective scheduling of daily activities (Ajomo and Isabela, 1991). The inmates are consequently enveloped under the atmosphere of constraints, speech, movement, sexual intercourse and constitutional rights. This strict enforcement of rules and other constraints sometimes subject inmate to chronic anxiety about breaking prison rules and the consequences of such action often leave prisoners in a mentally brutalized manner (Okunola, 2002). Imprisonment condition could predispose prisoners to experience stress-related psychological disorder, in which case, the stressor pushes the individual prisoner beyond his ability to adapt effectively. According to the Diagnostic Statistical Manual for classification of mental illness (DSM-IV, 1994), individuals suffering from stress-related disorder are extremely

irritable, anxious, apathetic or depressed. They also experience sleep disturbance, loss of appetite and physical discomfort. The stressor could be as a result of confinement, restriction of movement, assault, maladjusted coping with attendant drug abuse and unhealthy relationship among inmates.

Quite a number of prisoners reported using drugs to cope with long hours of boredom and negative staff-prisoner relationships which affect stress level (Strain, Kipstein and Newcomb, 2009). In a study carried out by William and Adamson (2005) on drug use amongst 66 homicide offenders and 66 non-violent offenders in a correction centre in Nigeria, these researchers observed that prisoners reported lower rates of use of psychoactive substances which included alcohol (6.1%), cannabis (1.5%), and stimulants (6.1%). These researchers also found that the majority of the respondents (prison inmates) who used substances had positive family history of drug use. This lends credence to the fact that adaptation crisis could be triggered by any kind of stressor and as a rider to this, the use of substance in prison portends a great danger to rehabilitation and reformation of inmates.

Since imprisonment has been linked with stress, substance use, anxiety and suicide among prisoners, it becomes imperative for stakeholders in penal institutions to devise ways of aiding coping of prisoners. Necessity of adjustment with imprisonment is an action-oriented and intra-psychic effort, designed to enhance cognitive skill to cope with unpleasant environmental and internal demands. According to this formulation, coping efforts are directed towards the threat itself or regulation of emotional distress caused by the threat as it acts as a buffer between life stress and illness (Lazarus, 1981). Invariably, occurrences and feedback from inmates in Nigerian correctional centres have implicated imprisonment history; particularly time spent in prison (even as awaiting trial inmates), number of conviction and the use of psycho-active drugs by inmates. The prevalence of adjustment disorder which manifest as distress increases within the confines of correctional centres. These aforementioned issues form the bedrock and focus of this study.

Related studies

Divergent pattern of adaptation or adjustment emerges when examining prisoners who have spent different length of time in prison. According to importation approach, adaptation to imprisonment is largely a function of lifestyles and other pre-prison characteristics of prisoners which include; level of education, employment status, prior mental illness, substance abuse, number of violent offenses and prior incarceration history (Irwin, 1970). Studies have established a link between substance use and abuse and prison distress. Studies have shown appreciable increase in number of prisoners incarcerated for drug-related and drug-influenced crimes over the last two decades (The Hills Treatment Centre, 2014). Also, increase in use of psychoactive substances has been reported within the prison system in Nigeria (Adesanya, Ohaeri, Ogunlesi, Adamson and Odejide, 1997). This has equally been stressed by the Nigerian Drug Law Enforcement Agency (NDLEA, 1992). While some researchers have observed substance use in prison as a continuation of a habit prior to imprisonment, others see imprisonment as a major life event and a severe and enduring psycho-stressor, which leads to drug use (Van-Damme, Clauwers, Van-Hal & Peters, 1991). This finding is also corroborated by the result of a study conducted by Danilo (2014) on predictors of drug use in prison among 315 women serving diverse sentences for robbery or homicide in the penitentiary of Sant'Ana, São Paulo State wherein this researcher reported that being a young-adult, with history of childhood sexual abuse, having committed robbery (rather than homicide), having earlier onset of criminal activities, higher scores on sexual impulsiveness, having drug-related problems prior to incarceration, recidivism and having same-sex relationships inside prison were associated with higher risk of drug use and maladjustment in prison.

In a study relating homicide to psychoactive substance use among offenders in a correctional centre in Nigeria, Fatoye, Eegunranti, Fatoye, Amoo, Aloba, and Oloniniyi (2010) observed that before imprisonment, homicide offenders reported use of alcohol, cannabis and stimulants with rates of 34.6%, 15.2% and 1.5% respectively; during imprisonment, lower rates of use were reported for these substances (6.1% 1.5% and 6.1%) respectively. It was also observed that majority (81.2%) of drug using respondents got their supply from other inmates while the prison officers supplied drugs to 13% of current drug users in the prison. In the same vein, a significant difference between the proportion of current and lifetime drug use was observed among the

respondents. On factors associated with current psychoactive substance use among prison inmates, it was found that the only factor that significantly increased the risk of current cannabis use was non-violent crimes (OR = 0.02; 95% CI = 0.05- 0.72; p=0.01). When other variables were controlled, being convicted (OR = 4.69 95% CI = 1.74- 12.68; p< 0.01) and spending one year or less in prison (OR= 0.41; 95% CI = 0.17- 0.95; P= 0.04) significantly increased the risk of current nicotine use, while non-violent crime (RO = 0.25, 95% CI =0.09-0.67; p<0.01) and previous imprisonment (OR = 5.99, 95% CI = 1.73 —20 ;76 ; p< 0.01) were factors that significantly increased the risk of current alcohol use among the respondents. The consolidated drug use rate among the non-violent prisoners (74.2%) was significantly higher than their counterparts who were homicide offenders (53.0%) before imprisonment. These results tend to show that non-violent offenders were more involved in psychoactive substance use than violent offenders; it also implies that committing violent offences may not necessarily be a function of substance use but some other factors (e.g., personality characteristics, etcetera).

In another study carried out by Carrie-Pettus (2014) to examine differences in demographic, criminal justice history, mental health, substance abuse and social support (type, quality, amount and source) variables between released men prisoners with and without lifetime trauma experiences using a probability sample of 165 soon-to-be-released men. This researcher reported that men with trauma histories had more negative social support experiences and fewer positive social support resources before prison than their counterparts without lifetime trauma and also had more lifetime experiences with mental health and substance use problems. According to the importation approach, adaptation to imprisonment is largely imported and reflects the lifestyles and other pre-prison characteristics of prisoners (Irwin, 1970). A study conducted by Camp, Gaes, Langanand Saylor (2003) on social predictors of misconduct among prison inmates revealed that measures of the importation approach (age, gender, education, religion race, and marital status) were better predictors of prison rule violations and adjustment than measures of the indigenous approach (prison security level, indeterminate sentence and sentence length). Similarly, Zuniga, Pipkin, and Reed (2002) found that first-time inmates were younger than habitual inmates, more likely to be single and had higher levels of education, although the study did not analyze the statistical significance of these differences.

Many other studies have also found a link between support structure in terms of frequent visits from family, friends and positive prison adjustment. Zamble (2002) found that prisoners ranked missing somebody as the most severe problem, followed by missing social life, feeling that life is wasted, and missing sex. This is further confirmed by the report of Liebimg and Arnold (2004) on significance of support structure available to inmates wherein these researchers found that relationship and quality of treatment by others were identified as aspects of prison life that matter most to inmates.

In a study conducted by Harlow, Newcomb and Bentler (1986) on purpose in life and drug use, these researchers observed a direct connection between sense of purpose and an individual's level of depression and feelings of self-degradation. These researchers also found that lack of purpose in life led to greater tendency toward drug use among women and suicidal ideation than men.

Statement of Hypotheses

i. Substance use, social support, year spent in prison and number of convictions will significantly predict prison distress among prison convicts.
ii. Educational attainment, marital status, age and religion will significantly predict prison distress among prison convicts.

Method

Design: This study adopted cross-sectional survey design which involved one time observation of socio-psychological variables on prison distress among convicted prisoners.

Setting: The study was conducted using prison custodies in three states in the South-West Geo-political zone of Nigeria (Oyo, Osun and Lagos states) with attendant high rate of first-time convicted inmates based on the report made by the researchers during focus group discussion.

Sample size determination: The sample size was determined using Slovin's (1960) sample size calculation method: n= N/(1+ N*e2); where:

n= required sample size

N= Total population

e= margin error tolerance at 5% (standard value of 0.05).

Sample and Sampling technique: The participants for the study, which consisted of two hundred and fifty-three (253) convicted prisoners, were selected by the researcher from various prison custodies located within Oyo, Osun and Lagos States within the South-West geo-political zone as at the time of this study using clustered sampling. The size of participants in each of the selected states was arrived at using Slovin's formular: $n= N/(1+ N*e^2)$:

Oyo State; Out of the total number of convicted prisoners (N) of 120:

$n= 120/ (1+120 \times (.05^2) = 92$

Osun State; Out of the total number of convicted prisoners (N) of 60:

$n= 60/ (1+60 \times (.05^2) = 52$

Lagos State; Out of the total number of convicted prisoners (N) of 150:

$n= 150/ (1+150 X (.05^2) = 109$

Inclusion Criteria

The major inclusion criteria for selection of participant for the assessment study included:

i. Prisoners convicted of criminal offences.
ii. With a minimum of 12years of education
iii. Prisoners that have spent more than three months in prison.
iv. Those prisoners that will not be discharged within the next one year.

Exclusion Criteria

The exclusion criteria for the selection of participant included:

i. Those that are awaiting trial and not yet convicted.
ii. Those Convicted of civil offences.
iii. Those serving life sentence
iv. Those on death row
v. Those that are bereaved or diagnosed as having chronic mental illness.

Instrument and Psychometrics

The researcher made use of questionnaire for data collection. The questionnaire was structured into different sections:

Section A consists of items relating to demographic characteristics of prisoners which included age, educational qualification, marital status, number of convictions, time spent as awaiting trial and religion.

Section B consists of 28-item Substance Abuse Screening Test (DAST) developed and validated by Skinner (1982) at the Addiction Research Foundation, Toronto, Canada (now the Centre for Addiction and Mental Health). The test–retest reliability of DAST estimates of internal consistency ranged from .92 to .94. For this study, these researchers established Cronbach alpha of .74 for the test.

Section C consists of 10-item modified Social Support Scale developed by Zimet, Dahlem & Farley (1988) with Cronbach alpha of 0.82. The various items of the scale were modified and made to reflect on support structure available to prisoners serving diverse jail terms. The scale had been adapted and used widely by researchers among urban adults and inmates in institutional settings in Nigeria. Ajala (2011) reported a Cronbach alpha reliability of .65 for the scale among adult amputees.

Section D consists of 15-item Prison Distress Scale (PDS) developed by Ajala, Osinowo and Okhakume (2017) to assess individual prisoner's current subjective emotional response to incarceration. The scale was validated using 253 convicts in correctional centres across the selected three South-western states. The items are measured using Likert scale on a five-point rating scale; Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD). These researchers reported Cronbach reliability alpha of .84 with split-half reliability Spearman Brown co-efficient of 0.89 and Guttman split half reliability of 0.85.

Procedure

Ethical Approval: The researchers wrote and got ethical approval to conduct the study alongside with West Africa Bio-ethic on-line training certificate in Human research from the University of Ibadan/University College Hospital, Ibadan ethics committee.

Data Collection: On the strength of the ethical approval, an application letter was written to the Comptrollers of Correctional centres in Oyo, Osun and Lagos State commands requesting for permission to conduct the research within their jurisdictions, which was granted. In each of these commands, one Assistant Superintendent of Prisons (ASP) was assigned to monitor and assist in the collection of the data. With permission, the researchers together with research assistants and

prison psychologists administered the research instrument on the inmates. The convicts used for this study were literate and were able to respond to the research instruments in English.

Results

Hypothesis One

The hypothesis which stated that substance use, social support, year spent in prison and number of convictions will significantly predict experience of prison distress among convicted prisoners was tested using factored regression and the results is presented in table 1:

Table 1: Summary Table of Factored regression showing prediction of prison distress by substance use, social support, year spent in prison and number of convictions among convicted prisoners.

	Beta	T	Sig.	R^2	adjR^2	F	Sig.
SEX	0.04	0.78	>.05				
AGE							
21 - 35 YEARS	-0.48	-1.71	>.05				
36 - 44 YEARS	-0.36	-1.45	>.05				
45 YEARS ABOVE	-0.33	-1.61	>.05				
Marital Status							
Single	0.06	0.87	>.05				
Divorced	-0.04	-0.69	>.05				
EDUCATION							
SSCE	-0.18	-1.98	<.05				
Diploma	0.07	1.02	>.05				
Degree	0.01	0.16	>.05				
Higher degree	0.05	0.91	>.05				
Religion							
Christianity	0.16	0.85	>.05				
Islam	0.16	0.83	>.05				
Year Spent in Prison				0.52	0.43	5.65	<.001
2 - 10 YEARS	-0.04	-0.70	>.05				
11 - 20 YEARS	0.03	0.34	>.05				
21 - 30 YEARS	0.26	2.72	<.05				
Drugs Taken			>.05				
Alcohol	-0.02	-0.29	>.05				
Cigarette	0.09	1.46	>.05				
Sniff Glue	0.04	0.78	>.05				
Cannabis/India hemp	0.01	0.26	>.05				
Cocaine	0.03	0.48	>.05				
Alcohol/Cigarette	0.00	0.03	>.05				
Alcohol/Cannabis	0.05	0.88	>.05				

Alcohol/glue	0.02	0.40	>.05
Alcohol/Cigarette/Cannabis	0.01	0.09	>.05
Social Support	0.51	8.27	<.01
NUMBER CONVICTION			
1.00	-0.11	-1.90	>.05
2.00	0.23	1.90	>.05
3.00	0.07	0.98	>.05
5.00	-0.18	-3.45	<.01

The result from the table revealed that inclusion of substance use, social support, year spent in prison together predicted adjustment prison distress [adR² =.43, F= 5.65, *p*<.001]. Drug taken [Alcohol (0.29, p<.05); Cigarette (1.46, p<.05); Sniff glue (0.78, p<.05) and Alcohol/Cigarette/Cannabis (0.09, p<.05)]; Year spent in prison (2.72, p<05); and being convicted more about 5 times (-.18, p<01); Social support (β =-.51; p<.01), Secondary education (β=.16, *p*<.05) were independent predictors of experience of prison distress. The hypothesis is hereby partially supported.

Hypothesis Two

The hypothesis stated that marital status, educational attainment, religion and age will significantly predict experience of prison distress among convicted prisoners and was tested using linear regression. The result is presented in the table below:

Table 2: Summary table of Linear Regression Analysis showing relative prediction of prison distress by Marital status, Educational attainment and Religion

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	9.032	1.938		4.662	.000
marital status	.035	.048	.110	.737	.462
education	.323	.357	.061	.907	.365
Religion	-.057	.405	-.011	-.140	.889
Age	-.048	.046	-.156	-1.045	.047

The result in the table above showed the relative contribution of marital status, educational background, religion and age on measure of prison trauma. It could be observed that only age

significantly predicted prison distress [-.048; p<.05)]. This implies that as age of convicts' increases, the level of distress experienced reduces. The stated hypothesis is thereby partly accepted.

Discussion

The hypothesis which stated that substance use, social support, year spent in prison and number of convictions will significantly predict experience of prison distress was partially supported. The result from the table revealed that drug taken, cigarette, sniff glue; alcohol/cigarette/cannabis; year spent in prison; number of convictions; social support and secondary education were independent predictors of experience of prison distress. This finding was corroborated by the result of a study conducted by Danilo (2014) on predictors of drug use in prison among 315 women serving diverse sentences for robbery or homicide in the penitentiary of Sant'Ana, São Paulo State wherein this researcher reported that being a young-adult, with history of childhood sexual abuse, having committed robbery (rather than homicide), having earlier onset of criminal activities, higher scores on sexual impulsiveness, having drug-related problems prior to incarceration, recidivism and having same-sex relationships inside prison were associated with higher risk of drug use and maladjustment in prison. The finding is also in tandem with the result of a study carried out by William and Adamson (2005) on drug use amongst 66 homicide offenders and 66 non-violent offenders in a correction centre in Nigeria, these researchers observed that prisoners reported lower rates of use of psychoactive substances which included alcohol (6.1%), cannabis (1.5%), and stimulants (6.1%).

These researchers also found that the majority of the respondents (prison inmates) who used substances had positive family history of drug use. This lends credence to the fact that the use of substance in prison portends a great danger to rehabilitation and reformation of inmates. Multiple convictions and re-offending as observed by Danilo (2014) accentuated that fact that having drug-related problems prior to incarceration, recidivism and having same-sex relationships inside prison were associated with higher risk of drug use and maladjustment in prison. This buttressed the fact that re-offenders have higher tendency to seek alternative coping strategies, including drug use. Results of many other studies have also found a link between support structure in form of frequent visits from family, friends and positive prison adjustment. In a study conducted on

support structure and prison adjustment, Zamble (2002) found that prisoners ranked missing somebody as the most severe problem, followed by missing social life, feeling that life is wasted, and missing sex.

The hypothesis which stated that marital status, educational attainment, religion and age will have significant independent influence on prison distress was partly confirmed. The result revealed that only age had significant negative influence on prison distress. This implies that as age of convicts' increases, the level of distress experienced by convicts reduces. This finding is in tandem with the result of a comparative study conducted by Camp, Gaes, Langan, & Saylor (2003) on social predictors of misconduct among prison inmates wherein these researchers observed that measures of importation approach (age, educational qualification, gender, race, and marital status) were better predictors of prison rule violations and adaptation than measures of indigenous approach (prison security level, indeterminate sentence and sentence length). This finding could be attributed to the nature of prison environment in Nigerian Correctional Institutions that is endemic with inhumane treatment and victimization which brings about frustration (existential vacuum). This invariably has implication for application of effective intervention programme.

Conclusion

This study, like previous studies on prison community, brought to limelight the broad nature of the issues with the mental health of prisoners under incarceration. It revealed essentially the substantial contribution of cigarette, alcohol and cannabis coupled with inadequate support structure to the experience of distress among convicted prisoners. This could partly be among reasons for upward surge of mental illness among convicts in Nigeria correctional service. It equally showed the perceived poor support structure available to convicts, high number of conviction and time spent in prison which could wield substantial influence on inmates' emotional disturbances ranging from depression, frequent nightmare, loneliness, anxiety, sleep disturbance and aggression.

Limitation of the study

This study, like any other scientific study, has its own limitations. Prominent among the limitations include: the study area and size of participant. The study was conducted in three selected states with higher number of convicted prisoners in the South-west Geo-political zone. There is the need to extend this study to cover correctional centres in the remaining geo-political zones of the country for comparison and assessment of facilities available to promote mental health of convicts. Aside from these, the scope of the study is limited to male prisoners because the majority of the convicted prisoners in Nigerian correctional centres are males, as it is found worldwide. Lastly, there is also the need to extend the frontier of knowledge in this area of study through development of intervention package, using psychoeducation, with a view of reducing prison distress and promoting mental wellbeing of prisoners with higher prison distress.

REFERENCES

Adesanya, A., Ohaeeri, J., Ogunlesi, A., Adamson, T. and Odejide, O. (1997).Psychoactive Substance Abuse among Inmates of a Nigerian Prison Population. *Drug and Alcohol Dependency* 4:39-44.

Adetula G. (2011). The prison subsystem culture: Its attitudinal effects on operatives, convicts and the free society. *Ife Pscychologia*. 18(1):232-251.

Ajala, M. (2011). Social support re-validation among disabled community. In M. Ajala (ed) Psychosocial correlates of adjustment in adult amputees. *Ife PsychologIA*, *2*(19), 191-197.

Ajala, M.A., Osinowo, H.O., Okhakume, S.A., Ineme, M.E., & Oyeleke. J.T. (2017). Following Psychometric Procedures: The Development and Validation Prison Distress Scale (PDS).,*Journal of Social Sciences and Public Policy.* Vol. 9(4), 54-67.

Ajomo A, Isabela E. 1991. "Human Rights and the Administration of Criminal Rights and the Administration of Criminal Justice in Nigeria", Lagos: *Nigerian Institute of Advanced Legal studies.*

Camp, S. D., Gaes, G. G., Langan, N. P., & Saylor, W. G. (2003). The influence of prisons on inmate misconduct: A multilevel investigation. *Justice Quarterly*, 20, 501 -533.

Carrie-pettus, B.(2014). Social support among releasing men prisoners with lifetime trauma experience. *Internet Journal of Law and Psychiatry*, 6, 10-15.

Danilo, K. (2014). Predictors of drug use in prison among women convicted of violent crime. *Criminal Behaviour and Mental Health*, 24, 113-128.

Fatoye, F., Eegunranti, B., Fatoye, G., Amoo, G., Aloba, O. and Oloniniyi, O. (2010).Homicide and Psychoactive Substance use among Offenders in a Nigerian Prison. *Nigerian Journal of Psychiatry* 18.1:61-78.

Fazel, S., & Lubbe.S. (2010).Prevalence and characteristics of mental disorders in jails and prisons. *Current Opinion in Psychiatry*, 18(5), 550-554.

Grosholz, J. M., &Semenza, D. C. (2018).Assessing the relationship between physical health and inmate misconduct. *Crim Justice Behav Advance Online Publication*.

Haney, C. (2017). "Madness" and penal confinement: Some observations on mental illness and prison pain. *Punishment & Society, 19*(3), 310- 326.

Harlow, L., Newcomb, M. & Bentler, P. (1986). Depression, Self-derogation, Substance use and Suicide ideation: Lack of purpose in life as a meditational factor. *Journal of Clinical Psychology. 42 (1)*; 5-21.

Irwin, J. (1970). *The felon*. Englewood Cliffs, NJ: Prentice Hall.

Lazarus, R. (1981). *Psychological stress and coping process*. N.Y: McGraw-Hill.

National Drug Law Enforcement Agency.(1992). A study of some causative factors of drug abuse among students in Ibadan, Nigeria. Retrieved January 2015 from http//www.ncsu.edu.aern.

Okunola R. (2002). "Prison as Social System" cited in Sociology: *Current and Perspectives*, edited by Uche C.A. and Austin N.I.

Skinner, H. A. (1982). The drug abuse screening test. Addictive Behaviors, 7(4), 363–371. doi:10.1016/0306-4603(82)90005-3.

Slovin, E. (1960). Slovin's formula for sampling technique. Retrieved on February 13, 2013.

Strain J., Kipstein, K. Newcorm, J. (2009). 'Adjustment disorders' as cited in Gelder et al (Eds.) (2009) The New Oxford Textbook of Psychiatry, OUP: Oxford.

Van-Damme, P., Clauwer, M., Van-Hal, G. and Peeter, R. (1991).Drug use and Prisoners (Letters).*British Medical Journal* 302:6790:1464.

William, E. and Adamson, T. (2005).Psychoactive substance use among inmates in a Nigerian prison population. Neuro-psychiatric Hospital, Aro, Abeokuta, Nigeria. Retrieved July 22, 2014 from http//www.crisanet.org/docs/population.pdf.

Yudko, E., Lozhkina, O., & Fouts, A. (2007).A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. Journal of Substance Abuse Treatment, 32(2), 189–198. doi:10.1016/j.jsat.2006.08.002.

Zamble, E. 2002.Behavior and adaptation in long-term prison inmates: Descriptive longitudinal results. *Criminal Justice and Behavior*, 19, 409-425.

Zuniga et al. (2002).Comparison of adaptation of first-timer and recidivist .*Prison Journal*, 5, 34-39.

Zimet, O., Dahlem, B. & Farley, C. 1988: Perceived Social Support Scale. NJ. Beckely- Hill.

INFLUENCE OF ACADEMIC MOTIVATION AND PSYCHOLOGICAL WELL-BEING ON STUDENTS' ACADEMIC LOCUS OF CONTROL

By

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ABSTRACT

This study seeks to find out if academic motivation (intrinsic, extrinsic and Motivation) and psychological well-being (autonomy, environmental mastery, personal growth, positive relationship with others, purpose in life and self-acceptance) influences the academic locus of control of secondary school students. A total of 193 secondary school students were involved in the study. Convenience sampling technique was used in selecting participants. The research instruments used were Trice academic locus of control, Ryff psychological well-being scale and academic motivation scale. Analysis of results on psychological well-being on academic locus of control showed that self-acceptance has a good probability of predicting internal locus of control. It further showed that there was a higher chance of influencing academic locus of control than other dimensions of psychological well-being. Analysis of academic motivation on academic locus of control showed that a motivation has likelihood of predicting internal locus of control significantly. These investigations have shown that psychological well-being and academic motivation predicted students' academic locus of control and pointed a dimension that best predicts academic locus of control which is a motivation.

KEY WORDS: Academic motivation, Adolescents, Academic Locus of control, Psychological well-being

Introduction

The United Nations Educational Scientific and Cultural Organization (UNESCO) stated that every child has a right to education; parents also believed that academic success is the most important life's goal (Turashvili & Japaridze, 2012). However, after every effort put by parents, children remain a strong determinant in achieving academic excellence rather than the parents. This is because academic intrinsic motivation is essential for high performances in school (Bhat & Naik, 2016). Motivation is an internal and external factor that stimulates desire and energy in people to be continually interested and committed to a job, role of subject, or to make an effort to attain a goal (Bhat & Naik, 2016). Although parents could serve as motivation to their children (external factor) but most parent unknowingly serve as a source of pressure to them which can have a psychological effect on their children. Serving as a source of pressure is usually expressed in the way parents threaten to punish a child if they do not attain a certain grade in school. Students having academic intrinsic motivation are psychologically sound in education (Bhat & Naik, 2016) and do not really depend on external forces like grades, money or gift before they perform in their academic activity.

Being in a psychological healthy condition is essential for every child to attain academic excellence (Khairani, Idris & Matore,2018).It is easier to observe a child's physical well-being and take care of the necessary part that needs care in such a child, but due to the fact that a child's psychological health is not overt, much attention is not given to children's mental health compared to their physical health. Just as a child's physical health is important for physical functioning, a child's mental health is important for mental functioning. The healthy psychological condition that a student should have can be accessed through the six determinants

that Ryff (1989) identified. The determinants are the students' level of self-acceptance, autonomy, personal growth, positive relations with others, environmental mastery, and a sense of purpose in life.

Ryff (1989), identified the following as the dimensions of psychological wellbeing.

Self-acceptance: This has been an important criterion of psychological well-being which is recognized by different authors. It is a major feature of mental health. It is also recognized as the characteristic of self-actualization which Maslow referred to as the height which the normal functioning human can attain. Self-acceptance involves holding positive attitude toward oneself.

Positive relationship with others: The essence of attachment and interpersonal relationship has been emphasized in preceding theories such as Eric Erickson's (1959) psychosocial stage model. Having the potential to love is recognized as a major part of mental health.

Autonomy: Existing literature has described autonomy as involving self-determination, independence and the regulation of behaviour from within (Ryff, 1989). A self-actualizer would function independently of another and resist enculturation.

Environmental mastery: One characteristic of mental health is the individual's ability to create environments suitable to his/her psychic conditions (Ryff, 1989).Development is noticed to involve attendance to important events outside of self. As maturity takes place, an individual is expected to be able to take master his or her complex environment.

Purpose in life: This involves having the belief that there exist goals in and essence of life. The definition of maturity also emphasizes a clear comprehension of life's purpose, a sense of directedness, and intentionality (Ryff, 1989).

Personal Growth: Optimum psychological functioning requires that one continues to develop one's potential to grow and expand as a person"(Ryff, 1989).The person goes after actualizing

his or herself and realizing his or her potentialities"(García-Alandete, Martínez, Nohales, & Lozano, 2018).

Rotter (1966) through his social learning theory has contributed to explaining why some students may or may not perform well in academics. He suggested that every student has one of the dimensions of locus of control, i.e., internal or external locus of control. Based on a student's experience, he/she may give up on reading because of the beliefs that he has no control over it (external locus of control). Students like this are usually found in academic institution and may need people to shift their beliefs from being external to internal (believing that they have full control over their outcomes). The expectancies of students who are internal in their locus of control is usually based on their effort, while the expectancies of students who are external in their locus of control are usually based on external forces.

Psychological wellbeing

Psychological well-being has been described as when an individual possesses lot of positive affective states such as being happy and functioning with optimal effectiveness in different aspects of the individual life (Deci & Ryan, 2008 as cited in Udhayakumar & Illango, 2018). Psychological wellbeing may have described the degree to which a person has meaningful influence over their life affairs (Udhayakumar & Illango, 2018). Nevertheless, secondary school students may be trapped under the problem of psychological wellbeing just as how psychological problems are now highly experienced among university students (Yang, 2010, as cited in Udhayakumar &Illango, 2018). The degree to which individuals believe that they are able to influence the affairs that concern them is referred to as locus of control (Naik,2015). An individual may perceive an event as being controlled externally or internally. Students who have

internal locus of control may perceive that they have the ability to control the outcome of their performance (Naik, 2015). Such an individual may feel that putting efforts into their academic work may go a long way in helping them be successful in life. But students with external locus of control too may perceive that their outcome or their success is dependent on external factors and may solely rely on luck (Naik, 2015). The belief in locus of control can be characterized as one continuum on which two extremes can be recognized: internal locus of control and external locus of control (Naik, 2015).

Every human one way or the other seeks for ways to be happy. Psychological well-being is central to human existence (Turashvili & Japaridze, 2012).The academic excellence that students can achieve is sometimes dependent on their psychological state. Academic locus of control has the same structure as locus of control (Saricam & Duran, 2012 as cited in Aladenusi, 2015). Only that it is related to academic context. Students who have internal locus of control perform well academically and the internal locus of control functions to positively predict academic success (Eachus & Cassidy, 1997; Findley & Cooper, 1983 as cited in Aladenusi, 2015).

The construct of locus of control is known to be relevant in different aspect of psychology. The aspects include educational psychology, health psychology and even in clinical psychology and it has been included as one of four dimensions of coreself-evaluation-one's fundamental appraisal of oneself- along with neuroticism, self-efficacy, and self-esteem (Mathur, 2014).To a student who scores high on internal locus of control, he or she will believe that the end result of his/her life events are basically from his actions; this may be praising or blaming one's self for their test result, whereas students who score high on external locus of control would celebrate or fault the teacher or the exam (Mathur, 2014). Internality/externality orientations could and do

change due to possible social and personal changes (Cellini and Katorowski, 1982 as cited in Eksterowicz, 1999). According to Eksterowicz (1999), behaviour such as classroom participation and study skills are positively correlated to internal locus of control as a person with an internal academic locus of control may find involvement in classroom activities interesting.

In a study carried out by Rotter (1966), the outcome of the study depicted women as having more external locus of control than males. Some other studies have also shown that this externality has been as a result of social issues. (Eksterowicz, 1999). A study conducted by Eksterowicz (1999) casted some doubt on studies which have found females to be more external than males. The study depicted that college women in 1998 tended to be more internal than their male classmates, indicating that possibly female attitude have become more internal rather than external based. Similarly, in academics it appears as if boys take responsibility for the outcome of their actions than female. It goes farther than what we may facially perceive.

Motivation is an important construct in the educational sector. In academics, motivation varies from one individual to another (Ryan, 2016). Academic motivation which varies from students to students can be observed in the performance of various tasks that are related to academics. For example, a student may read his/her books in hopes of answering his teacher’s questions or in hopes of having good grades.

Students are engaged in either of the two contrasting forms of motivation which are mastery-oriented or performance- oriented (Kader, 2014). When students perform mastery-oriented task, the motivation that allows them to learn. But when students perform performance-oriented task, they need motivation that makes them perform a task. Students need motivation to learn and also to perform tasks. Without motivation, a student would not be able to complete a certain task. A

student may be motivated to do a certain task like reading for an examination. But if the motivation is not sustained the student may begin a task and lose interest before doing or completing the task. Students may be motivated to start reading for his/her examination so that they would come out with good grades but before the day of the final exams the individual may be discouraged for no obvious reason and reduce his/her effort in reading. Students' motivation being sustained till the completion of a task is so important. Motivation stands as an energy behind the actions necessary for success (Cabot, 2016).

Statement of Problem

In the field of psychology, locus of control is not a new study. Reports on locus of control have been in the psychological literature for some years, and has received much attention in social, health and educational psychology. Most studies have correlated internal locus of control with the attainment of good grades and external locus of control with the attainment of low grades (Mathura, 2014; and Eksterowicz, 1999). But in a study conducted by Hasan and Khalid (2014), it showed that both students who have high grades and students who have low grades have an internal locus of control towards academic related works. Mathur (2014) consented that the internality of an individual cannot always predict high academic performance. Since holding an internal locus of control belief cannot always predict academic success in every student this study is interested in going back to the root to know if psychological well-being and academic motivation can account for their locus of control belief.

Research objectives

This research is aimed at examining the influence of academic motivation and psychological well-being on students' academic locus of control.

Specific objectives:

1. To ascertain the influence of psychological well-being (autonomy, environmental mastery, personal growth, positive relationship with others, purpose in life and self-acceptance) on students' academic locus of control.
2. To examine the influence of academic motivation (intrinsic, extrinsic and a motivation) on students' academic locus of control.

Research Questions

1. Will psychological well-being influence students' academic locus of control belief?
2. Will academic motivation influence students' academic locus of control belief?

Research Hypothesis

1. Psychological well-being would influence students' academic locus of control belief.
2. Academic motivation would influence students' academic locus of control belief.

Method

Research Setting

The study was conducted in the classrooms of government secondary schools within the educational district III, Eti-Osa local government area, Lagos, Nigeria. This setting existed as an academic setting where students at government secondary schools where each given questionnaire that contained measures of academic motivation and psychological well-being on their academic locus of control. The setting was controlled as students were made to remain seated in their seats while they responded to the items in the scale.

Population sample and sampling procedure

Eligibility required participants to be in their final year of their secondary school because they were the most knowledgeable and appropriate at that material time. Participants included those in Science, Commercial and Art departments. Of the 200 participants who expressed consent to participation in the study, 193 returned the survey packets, resulting in a response rate of 96.5%. A total of 193 participants (22.8% male and 77.2 % female) were involved in the study.

Research Design

This research was a quantitative study which adopted a cross-sectional survey research design. To study individual units of the intended population and subsequently make statistical inferences this design was most appropriate. A sample of respondents was drawn from the population of senior secondary school students from educational district III of Lagos State.

Instrument for Data Collection

The study utilized a survey packet of various sections measuring different variables. Section A of the questionnaire measured demographic variables of age, gender, and religion and department. Section B of the survey tool measured the construct academic motivation using Academic Motivation Scale (AMS), Section C measured psychological-wellbeing using Ryff- 18 items Psychological Well-being Scale, while Section D measured academic locus of control using Trice Academic Locus of Control Scale. Finally, for data entry and analysis, the Statistical Package for the Social Science (SPSS) was utilized. The psychometric properties of each scale will be discussed below.

Trice Academic Locus of Control Scale: In this study, the scale measured students internal as well as the external academic locus of control of students who are either psychologically healthy

or not. At the same time, it measured the internal as well as the external academic locus of control of student who are externally or internally motivated.

To measure some specific locus of control of different individuals, different scales have been developed. The scales are relevant to different aspects of psychology. To know a person's health belief, one's health locus of control would be measured. Having the measurement of a person's health locus of control is vital in health psychology and clinical psychology.

Academic motivation: The Academic Motivation Scale measured students' academic motivation (Vallerand et al., 1992). The scale contains twenty-eight-items, which seeks to know "why students go to school." The Academic Motivation Scale has seven subscales which consist of three *intrinsic-motivation* subscales, three *extrinsic-motivation* subscales, and one *a motivation* subscale (Fairchild,Horst,Finney&Barron,2005). The seven subscales on the Academic Motivation Scale are: A motivation, External Regulation, Introjected Regulation, Identified Regulation, Intrinsic Motivation to Know, Intrinsic Motivation to Experience Stimulation and Intrinsic Motivation to Accomplish (Fairchildet al., 2005). They represent the eight dimensions of parental involvement, as defined by Fan and Williams (2010).The authors reported a Cronbach Alpha coefficient of .81 while the researcher reported .73 among adolescents in Nigeria.

Psychological well-being: The scale that was used to measure psychological well-being was developed by Ryff and Keyes, (1995). The Psychological Well-being Scale short-form (PWBSs) used in this study assessed students' psychological well-being. This scale has 18 items and six dimensions that contains six subscales reflecting self-acceptance, autonomy, environmental

mastery, personal growth, positive relations with others, and purpose in life. The authors reported a Cronbach Alpha coefficient of .81, .73,.43,.64,.59 and .74 on the six subscales.

Result

In this study, the influence of academic motivation and psychological well-being on academic locus of control was assessed in this research. A sample size of 193 participants, selected from a population of secondary school students in Educational district III of Lagos were respondents of these inventories.

Descriptive analysis

Descriptive analysis of the psychological wellbeing (N = 193, M = 1.7543, SD = .60303) derived from sample is found present in a motivation participants' responses to the dimension of academic motivation. The highest average is on the other hand, present in the dimension of academic motivation is the intrinsic motivation participants' responses. (N = 193, M = .29906, SD = .69753). And for the extrinsic motivation the mean of participants' responses is (N = 193, M = 3.1855, SD = .47753).

Descriptive statistics of the construct of psychological well-being. From the table, the distribution of scores to the construct of psychological well-being is revealed. The lowest mean (N = 193, M = 8.25, SD = 2.112) derived from sample is found present in positive relationship with other participants' responses to the dimension of psychological well-being. The highest average is on the other hand, present in the dimension of psychological well-being is the self-acceptance participants' responses. (N = 193, M = 9.05, SD = 2.111). For the autonomy the mean of participants' responses is (N = 193, M = 8.59, SD = 1.807), for the environmental mastery the mean of participants' responses is (N = 193, M = 8.51, SD = 1.879), For personal growth the

mean of participants' responses is (N = 193, M = 9.58, SD = 1.908), and for the purpose in life the mean of participants' responses is (N = 193, M = 8.88, SD = 2.107).

Hypotheses Testing: In line with the objectives of this study, two hypotheses were posited and subjected to statistical analyses. Hypothesis 1 (H1) which posited psychological well-being would influence students' academic locus of control belief and was tested using binary logistic regression analysis and Hypothesis(H2) which posit academic motivation would influence students' academic locus of control belief remained tested with binary logistic regression analysis. The choice of binary regression was due to the categorical nature of some of the variables.

HYPOTHESIS 1: Posited Psychological well-being would influence students' academic locus of control belief.

Table 1: ***Binary regression analysis of psychological well-being and academic locus of control.***

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	AUTONOMY	-.212	.145	2.136	1	.144	.809	.608	1.075
	ENVIRONMENTAL MASTERY	-.012	.145	.007	1	.934	.988	.744	1.312
	PERSONAL GROWTH	-.136	.142	.924	1	.336	.872	.660	1.152
	POSITIVE RELATIONSHIP WITH OTHERS	-.329	.130	6.360	1	.012	.720	.557	.929
	PURPOSE_IN_LIFE	-.305	.111	7.573	1	.006	.737	.594	.916
	SELF_ACCEPTANCE	.045	.132	.116	1	.733	1.046	.808	1.354
	Constant	5.809	1.795	10.468	1	.001	333.226		

a. Variable(s) entered on step 1: AUTONOMY, ENVIRONMENTAL MASTERY, PERSONAL GROWTH, POSITIVE RELATIONSHIP WITH OTHERS, PURPOSE IN LIFE, SELF ACCEPTANCE.

The above table shows that it is only self-acceptance of the six dimension of psychological well-being that has higher odds of predicting academic locus of control. For self-acceptance the odds of having an internal locus of control is 1.046. The odds for having an internal locus of control increases with self-acceptance. The odds of having an internal locus control will increase with self-acceptance. P is .0.733 > 0.05 showing statistical insignificance. Our first hypothesis is therefore not accepted.

Hypothesis (H2) which posit Academic motivation would influence students' academic locus of control belief.

Table 2: Inferential Statistics

Binary regression analysis of academic motivation: intrinsic motivation and academic locus of control table.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	Intrinsic Motivation	-1.157	.360	10.309	1	.001	.314	.155	.637
	Constant	1.366	.996	1.879	1	.170	3.918		

a. Variable(s) entered on step 1: INTRINSIC_MOTIVATION.

For intrinsic motivation the odds of having an internal locus of control is .344. So, for intrinsic motivation the odds of having an internal locus of control are lower by 68.6%. The odd for having an internal locus of control is lower for intrinsic motivation. The odds of having an internal locus control will drop with intrinsic motivation. P is 0.001 < 0.05 showing statistical significance.

Discussion

This research is aimed at achieving the following: To ascertain the influence of psychological well-being on students' academic locus of control and to examine the influence of academic motivation on students' academic locus of control.

To understand how psychological well-being predicts locus of control the outcome of our result showed that not all component units of psychological well-being have higher odds of predicting students' (internal) academic locus of control. Apart from self-acceptance which highly predicted internal academic locus of control, autonomy, environmental mastery, personal growth, positive relationship with others and purpose in life have lower odds of predicting internal academic locus of control. In this study, our result revealed that although autonomy could predict internal locus of control, but the point at which it could predict internal academic locus of control is at a decreased level than environmental mastery, personal growth and self-acceptance. But the result shows that it is due to chances that autonomy could not highly predict internal academic locus of control, that is, it is not statistically significant.

In this study, environmental mastery among other psychological wellbeing dimensions became the second highest variable that could predict internal locus of control better. In this study, environmental mastery could not highly predict academic internal locus of control. Although the result revealed that it was not statistically significant. That is, it is due to chances that environmental mastery could not highly predict academic locus of control. Personal growth also lowly predicted academic locus of control and was also insignificant. Personal growth has the lowest association with locus of control (Shojaee & French, 2014).

In this research the highest psychological well-being component predictor of academic locus of control is self-acceptance and it was not statistically significant. Thus, signifying that learners who holds positive attitude towards themselves would have internal locus of control than external locus of control. This result simply reveals that learners who hold positive attitude towards themselves would hold that they are responsible for their academic outcomes. Self-acceptance is the only dimension that supports our first hypothesis. In our study it predicts academic internal locus of control better than all other dimensions and was supported by Ryff (1989) as the major feature of mental health which is also recognized as the characteristic of self-actualization which Maslow referred to as the height at which the normal functioning, human attain.

In examining the second hypothesis, the result showed that academic intrinsic motivation has lower odds of predicting internal locus of control. This result further explains that having internal academic locus of control among students would decrease with intrinsic motivation. The second dimension of motivation; extrinsic motivation also has lower odds of predicting academic locus of control. The result showed that it has a lower predicting factor of internal locus of control. Therefore, it is then clearer that students who possess these characteristics of external motivation such as being dependent on external rewards or punishment in order to perform a given task, have lower belief of being in charge of their own academic success. Students who have external motivation rather have an external locus of control than internal locus of control. The third dimension of motivation which is a motivation is found to best predict academic locus of control in this research. Lack of motivation to engage in academic activities does not signify that an individual does not believe that he or she is in charge of his/her academic success.

The outcome of our study also gives an insight that although students may not show interest in academic activities and may even have poor academic performance in school, but this does not dispute their belief that they are responsible for their grades. As mentioned earlier, internality of an individual cannot always predict high academic performance (Mathur, 2014). The outcome of this study has given a best insight as to why internality of an individual cannot always predict high academic performance. It is not every individual that has internal locus of control that is academically motivated (intrinsically or extrinsically). The outcome of this research also shows that it is statistically significant.

Conclusion

This study has shown how much psychological well-being variable and academic motivation variable predicted students' academic locus of control and has identified dimensions that best predict academic locus of control, such as a motivation which significantly predicted locus of control. Individual dimension of psychological well-being and academic motivation predicts academic locus of control at different levels. But individually without the interaction of other variables a motivation is found to predict more locus of control than other academic motivation variables and shows statistical significance. Also, self-acceptance is also found to predict more than other variables in psychological well-being. When academic motivation interacts with psychological well-being the interactions between the dimensions of intrinsic motivation and person growth best predict internal locus of control which shows statistical significance.

Implication

A motivation which was found to highly influence academic internal locus of control of students can mean more than what we expect. Studies have for a long time reflected academic success as

a product of internal locus of control, but it is clearly shown in this that even those that are not motivated to have academic success have internal locus of control, i.e., holding the belief that their academic success is dependent on their effort. So, in paying attention to academic performance with locus of control, attention must be paid to know if all those that have internal locus of control are also intrinsically or extrinsically motivated rather than being unmotivated which does not make the individual partake in academic activities. So therefore, a motivation has been part of what has put researchers in a state of confusion, making them to wonder why not all students who have internal locus of control is successful in their academics.

Recommendations for Future Studies

This research reveals that a motivation dimension of academic motivation predicts internal locus of control. From previous studies it has been established that internal locus of control has been found to positively influence academic performance. Further studies may examine if differences occur in the outcome of students who hold internal locus of control and also score high on a motivation dimension and students who have an internal locus of control and are high on intrinsic or extrinsic motivation in order to give better insight to school counsellors on how to improve motivation on students, which will help their academic locus of control belief towards academic success.

REFERENCES

Aladenusi, A. J. (2015). Age and gender differences in adaptation and ssubjectivewell-being of older adults residing in monastic religious communities. *Pastoral Psychology,55(2),131-143.*

Bhat, R. H., & Naik, A. R. (2016). Relationship of academic intrinsic motivation and psychological well-being among students. *International Journal of Modern Social Sciences*, 66-77.

Cabot, L. C (2016). Relationship between locus of control and health related variables. Education, *Personality and Individual Differences.* 126 (3), 593-597.

Cooper, H. M., Burger, J. M., & Good, T. L. (1981). Gender differences in the academic locus of control beliefs of young children. *Journal of Personality and Social Psychology*, 562-572.

Diong, S. M., Bishop, G. D., Enkelmann, H. C., Tong, E. M. W., Why, Y. P., Ang, J. C. H., ... Khader, M. (2005). Anger, stress, coping, social support and health: Modelling the relationships. *Psychology and Health, 20,* 467–495.

Eksterowicz, H. (1999). Rowan Digital Works. *The relationship between locus of control, gender,and academic achievement*, 1-77.

Fairchild, A.J, Horst, S.J, Finney, S.J & Barron, K.E (2005).Evaluating new and existing validity evidence for the academic motivation scale. *Contemporary Educational Psychology 30*, 331-338.

Garcia-Alandete, J., Martínez, E.R., Nohales, P.S., & Lozano, B.S. (2018). Sentido de vida y bienestarpsicologicoenadultosemergentesespanoles.*ActaColombiana de Psicologia, 21*,206-216.

Hasan, S. S., & Khalid, R. (2014). Academic locus of control of high and low achieving students. *Journal of Research and Reflections in Education*, 22-33.

Illango, P. U. (2018). Psychological Wellbeing among College Students. *Journal of Social Work Education and Practice*, 79-89.

Khairani, A.Z., Idris, I.,& Matore, M.E (2018). Measuring well-being among engineering undergraduates using Rasch model analysis. *International Journal of Engineering & Technology, 7,* 389 -392.

Khan, T.B (n.d). Emotional intelligence, social intelligence, locus of control in relation to stress management in adolescents. Retrieved fromhttp://www.books.goole.com.ng/ books?

id=8NfkDQA AQBAJ&dq=he+chose+the+empirical+law+of+effects+ as+his+ motivating+factor&source=gbs_navlinks_s

Lee, F. K., Sun, K. M., & Chiang D. B. (2019). Personality and the goal-striving process: The influence of achievement goal patterns, goal level, and mental focus on performance and enjoyment. *Journal of Applied Psychology, 88*, 256-265.

Naik, A. R. (2015). A study on locus of control among college students of gulbarga city. *The International Journal of Indian Psychology*, 48-54.

Rotter, J. B. (1966) Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80,* 1 -609.

Ryan, R. M. &Deci, E. L. (2000). Self-regulation and the problem of human autonomy: does psychology need choice, self-determination, and will? *Journal of Personality*, 74(6),

Ryan, R. M. (2008). External health locus of control and general self-efficacy: Moderators of emotional distress among university students. *Australian Journal of Psychology*, 56(3), 191 – 199.

Ryan, W. (2016). Improving academic motivation. *Winona State University*, 1-22.

Ryff, C.D. (1989c). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology, 57,* 1069–1081.

Sarotar Zizek, S., Treven, S., &Cancer, V. (2015).Employees in Slovenia and their psychological well-being based on Ryff's model of psychological well-being. *Social Indicators Research, 121*, 483–502.

Shojaee, M., & French, C. (2014).The relationship between mental health components and locus of control in youth. *Psychology, 5*, 966–978. doi:10.4236/psych.2014.58107

Trice, A. (1985). An academic locus of control scale for college students. *Researchgate*, 818-829.

Turashvili, T., & Japaridze, M. (2012). Psychological well-being and its relation to academic performance of students in georgian context. *Problems Of Education In The 21st Century*, 73-80.

Vallerand, R. J., Pelletier, L. G., Blais, M. R., & Briere, N. M. (1992). The Academic Motivation Scale: A measure of intrinsic, extrinsic, and a motivation in education. *Educational and Psychological Measurement, 52*,3-1017.

Zwick, R.& Sklar, J.C. (2005). Predicting college grades and degree completion using high school grades and SAT scores: the role of student ethnicity and first language, *American Educational Research Journal, vol. 42, no. 3, pp. 439–464.*

ANXIETY, DEPRESSION AND DISTRESS IN PATIENTS WITH CHRONIC PAIN IN LAGOS, NIGERIA

By

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Abstract

Chronic pain has been reported to be among the leading causes of psychopathology resulting in disability with significant negative economic impact. Based on available published literature, the association of psychopathology and chronic pain has been given very little attention in the literature from sub-Saharan countries. This study investigated the sociodemographic correlates and their associations with anxiety, depression and psychological distress among patients receiving treatment for chronic pain at a physiotherapy clinic. The study which was a cross-

sectional design that took place at the physiotherapy clinic of the Lagos University Teaching Hospital Ikeja, Lagos, Nigeria. One hundred and thirty-five consecutive patients attending physiotherapy for various types of chronic pain treatment were invited to take part in the study. The State-Trait Anxiety Inventory, Self-Rating Depression Scale and General Health Questionnaire were administered on the participants. The results showed that there were 14 (10.4%), 1 (0.7%), and 1 (0.7%) who were mildly, moderately and severely depressed respectively. About half of the participants 53 (39.3%) manifested with anxiety while 62 (45.9%) were psychologically distressed. There were no statistically significantly association between socio-demographic variables and psychopathology. This study demonstrated that individuals with chronic pain that were receiving rehabilitative treatments experienced some degrees of psychological morbidities such as anxiety, depression and psychological distress. Evidence from our findings showed that Physiotherapists should consider screening their patients for presence of psychological distress, acquire psychotherapy skills such as cognitive behaviour therapy and develop consultation-liaison services with mental health experts. We highlight the limitations of our study and recommend areas for further research.

Keywords: Anxiety, chronic pain, depression, physiotherapy, psychological distress, Lagos.

Background to the Study

Chronic pain has been reported a major public health concern. It causes significant psychological, sociological and economic burden to individuals suffering from such pain (Dueñas, Ojeda & Failde, 2016; Mills, Nicolson, & Smith, 2019). Chronic pain usually extends beyond the expected healing period and it is also found to be demanding to manage by medical experts (Dueñas, Ojeda & Failde, 2016; Mills, Nicolson, & Smith, 2019).In this light, chronic pain affects daily activities, family and social circle of the individual with the pain. This may lead to significant negative economic impact, loss of productivity, and heavy toll on the individual's health care expenditure (Johannes, Le, Zhou, Johnston, & Dworkin, 2010; Macfarlane, 2016).

Previous studies from the United States of America indicated that chronic pain affected between 19% and 30% of the adult populations (Johannes, Le, Zhou, Johnston, & Dworkin, 2010). Chronic pain was also reported to frequently comorbid with mental health conditions like somatization, anxiety, post-traumatic stress disorder, and depression (Lee, Choi, Nahm, Yoon, &Lee, 2018). These comorbid mental health disorders remain unrecognised and under-diagnosed by clinicians (Bener, Verjee, Dafeeah, Falah, Al-Juhaishi, Schlog, Sedeeq, &Khan, 2013; Pereira, Franca, Paiva, Andrade, &Viana, 2017; de Heer, Ten-Have, &van Marwijk, 2018).

Regarding chronic pain and depression, studies have shown that chronic pain patients had higher prevalence of depression compared to individuals without pain in the general population (de Heer, Ten-Have, &van Marwijk, 2018). The reported prevalence rates of depression among patients with chronic pain ranges between40% and 85% (Bener, Verjee, Dafeeah, & Falah, 2013; Sheng, Liu, Wang, Cui, & Zhang, 2017).Therefore, when depression comorbid with chronic pain, the prognosis is poorer when compared with those with chronic pain only; and the comorbidity could mutually promote one another's severity (Sheng, Liu, Wang, Cui, & Zhang, 2017). Therefore, the presence of chronic pain can make recognition and diagnosis of depression more difficult, even though increased severity of pain worsens depressive symptoms. In this light, when chronic pain comorbid with depression and the depression is not recognised or diagnosed, it could lead to prolonged hospital stay, higher cost of treatment, exaggeration of symptoms, experience of higher pain intensity, delayed recovery, and reduced psycho-social functional abilities (Salazar, Duenas, Mico, Ojeda, Aguera-Ortiz, Cervilla, & Failde, 2013; Bener, Verjee, Dafeeah, & Falah, 2013; Sheng, Liu, Wang, Cui, & Zhang, 2017; Pereira, Franca, Paiva et al, 2017)

Generalised anxiety disorder is the most commonly diagnosed anxiety disorder in chronic pain populations next to depression. The prevalence of anxiety in chronic pain populations is also reported to be twice as much of the general population (Bener, Verjee, Dafeeah, & Falah, 2013). The prevalence of psychological distress in the chronic pain populations ranges from 30% to 50% (Woo, 2010; Bener, Verjee, Dafeeah, & Falah, 2013; de Heer, Ten-Have, &van Marwijk, 2018).Generalised anxiety disorders negatively affect cognitive functioning and behaviour of the sufferers thereby further hindering rehabilitation. It is therefore important to consider cognitive re-structuring because of the cognitive constructs of catastrophising, hyper vigilance and fear avoidance in the exacerbation of pain experiences (Woo, 2010).

Despite these high rates of comorbidity between chronic pain and mental health disorders, previous studies indicated that physical therapists find it difficult to recognise these comorbid associations (Johannes, Le, Zhou, 2010; Lee, Choi, Nahm, 2018). The literature also indicated that comorbid psychological disorders with physical disorders were observed not to be routinely picked up by physical health professionals where more than half of cases go undetected and the scenario may not be different at the physiotherapy clinics (Johannes, Le, Zhou, 2010; Bener, Verjee, Dafeeah, 2013; Lee, Choi, Nahm, 2018).

Albeit the inability of physiotherapist to recognize associated mental health comorbidities in patients with chronic pains could be due to the lack of training in identifying and differentiating physical pain distress from the comorbid psychological distress (Sheng, Liu, Wang et al, 2017; Pereira, Franca, Paiva et al, 2017). This is also because psychological morbidity symptoms of anxiety and depression could be similar to those of physical ailments for example, insomnia, anorexia, fatigue and low moods found in chronic physical conditions could also be those of

depression and anxiety (Sheng, Liu, Wang, Cui, & Zhang, 2017; Pereira, Franca, Paiva et al, 2017;de Heer, Ten-Have, &van Marwijk, 2018)

Nonetheless, apart from determining the degree of psychopathology among the studied respondents, this study will allow us to determine the distribution, and causes of chronic pain to allow for more understanding and management of those suffering from chronic pain and mental health disorders.

Serious empirical attention has not been given to mental health disorders that are associated with individuals receiving treatment for chronic pain in Nigeria and other sub-Saharan countries. This study, therefore, was designed to understand the socio-demographic characteristics, prevalence of anxiety, depression and psychological distress and their statistical associations with demographic characteristics among patients receiving treatment for chronic pain in a tertiary health institution in Lagos, Nigeria.

Methods

Design and Setting

The research design for this study was cross-sectional survey, that is, a representative subset of the larger pool of patients visiting the outpatients' clinic. The setting was the physiotherapy clinic of the Lagos University Teaching Hospital (LASUTH) Ikeja, Lagos, Nigeria from February to July 2017.

Participants and sample population

The sample population was patients with chronic pain attending the physiotherapy clinic for physiotherapy treatment who were either referred from various departments in LASUTH or from

other hospitals were recruited for the study. One hundred and thirty-five (135) consecutive adult patients were conveniently selected for this study with ages ranging from 18 years to 85 years. The sample also consisted of 82 females and 53 males.

Ethical Consideration and Informed consent

Permission to carry out the study was sought from the Research and Ethics Committee of the Lagos, University Teaching Hospital, Ikeja, Lagos, Nigeria. Written consent was also obtained from every participant that took part in the study.

Measures

The State Trait Anxiety Inventory (STAI Y-I) was constructed by Spielberger (1983) is a psychometric instrument designed to measure state anxiety which is a momentary or transitory or situation specific emotion characterised by feelings of tension, apprehension and autonomic nervous system arousal. The cut-off score for STAI Y-1 is 33.59. Scores above this cut-off score signify anxiety in the individual. The STAI Y-1 has been validated and previously used in hospital and community-based studies in Nigeria (Coker, Fadeyibi, Olugbile, Sanni, Zachariah, Ademiluyi, 2008). The Self-Rating Depression Scale (Zung, 1965) is a 20-item inventory designed to assess the cognitive, affective, psychomotor, somatic and social interpersonal dimensions of depression. The normative cut-off scores are: 50-59, mild depression, 60-69 moderate depression and 70-80 severe depression. The SDS has been validated and previously used in hospital and community-based studies in Nigeria (Jegede, 1979). The General Health Questionnaire version twelve (GHQ-12), Goldberg, 1972) is a short version of the main general health questionnaire which was designed as a self-administered screening instrument aimed at distinguishing between psychological ill-health and well-being. It assesses symptoms of anxiety,

depression and social dysfunction. The four rows of the GHQ are scored as 0-0-1-1. The first and second rows are scored as 0 while the third and fourth rows are scored as 1 each respectively. All the responses are added up to make the final score. The scores range from 0-12. The cut off mark is 2. Scores above 2 forms a clinical case. It has been validated and used extensively in Nigeria for both academic and field studies (Gureje & Obikoya, 1990).

Procedure

The designed questionnaires were distributed to the participants while waiting for their consultation with the physiotherapists at the physiotherapy clinic of LASUTH. It takes about 10 minutes to fill the questionnaires. However, Lagos, being a cosmopolitan city and the former capital city of Nigeria, many residents can read and speak English fluently. Nonetheless, participants that needed clarification with regards filling the questionnaires were attended to by one of the authors (KOA).

Results

One hundred and thirty-five consecutive adult patients were recruited for this study. Their ages ranged from 18 years to 85 years with a mean of 61.21 (SD = 83.141). The age group 61 to 70 years were in majority 28 (20.7%) followed by the age groups 51-60 years (18.5%), 41-50 years (17.0%) and 71 to 80 years (16.2%) respectively. There were 82 (60.7%) females and 53 (39.3%) males. Ninety-three, (68.9%) of the participants were married, 32 (23.7%) were single and only 3 (2.2%) were either separated or divorced. The majority of them, 106 (78.5%) were from the Yoruba tribe, 17 (12.6%) from the Igbo tribe and 3 (2-2%) from the Hausa tribe. There were, 96 (71.1%) Christians and 37 (27%) Muslim faithful. Of the participants, only 10 (7.4%) had no formal education while the remaining 125 (92.6%) had primary, secondary or tertiary education.

Half of the participants 52 (38.5%) were employed, 27 (20%) were unemployed and there were 11 (8.1%) students. These demographic details are reflected in Table 1.

Table 2 shows the various diagnoses of the participants. Participants receiving treatment for stroke 39 (28.9%) had the highest frequency, followed by lumber spondylosis 37 (27.4%), knee operation 10 (7.4%), shoulder dislocation and cervical spondylosis 8 (5.9%), other diagnosed ailments are also shown in Table 2.

With regards to probable psychiatric morbidity, 14 (10.4%), 1 (0.7%), and 1 (0.7%) were mildly, moderately and severely depressed respectively. The STAI-YI recorded that 53 (39.3%) of the participants manifested with anxiety while the GHQ showed that 62 (45.9%) were psychologically distressed as shown in Table 3. The associations between the scores of the participants with regards to the psychometric instruments - STAI-YI, GHQ and SDS showed no significant statistical associations. Table 4 showed the binary logistic analysis of the socio-demographic variables and psychopathology. There were no significantly associations with psychopathology.

Table 1 Socio-demographic characteristics of participants

Characteristic	Frequency (n=135)	Percentage (%)
Age		
16- 30	17	12.5
31-40	14	10.5
41-50	23	17.0
51-60	25	18.5
61-70	28	20.7
71-80	22	16.2
80 -90	6	4.4
Gender:		
Male	53	39.3
Female	82	60.7

Education		
None	10	7.4
Primary	20	14.8
Secondary	32	23.7
Tertiary	73	54.0
Marital Status		
Single	39	28.8
Married	93	68.9
Divorced	1	.74
Separated	2	1.4
Widowed	0	0
Employment Status		
Unemployed	27	20.0
Employed	71	52.5
Retired	26	19.3
Students	11	8.1
Religion		
Christianity	96	71.3
Islam	39	28.7

Table 2 Pattern and distribution of diagnoses of the participants

Physical Disorder	Frequency	Percentage (%)
Ankle sprain	2	1.5
Brachial plexus injury	3	2.2
Cerebellar dysfunction	2	1.5
Cervical spondylosis	8	5.9
Facial palsy	7	5.1
Foot drop	1	0.7
Fractures	6	4.5
Hip O A	4	3.0
Knee O A	10	7.4
Lumbar spondylosis	37	27.4
Multiple sclerosis	1	0.7
Post-polio syndrome	2	1.5
Scleroderma	2	1.5
Shoulder pain	8	5.9
SIJ dysfunction	3	2.2
Stroke	39	28.9

Table 3: Prevalence of psychiatric morbidity among the participants

Psychological Status	n=135	%	X^2	p
Psychological Distress				
GHQ				
Yes	62	45.9	22.4	0.57
No	73	54.1		
Anxiety				
STAY Y-I				
Yes	53	39.3	31.5	0.93
No	82	60.7		
Depression				
SDS				
Mild	14	10.4	15.9	0.83
Moderate	1	.7		
Severe	1	.7		
No Depression	119	88.2		

P< 0.05

Table 4 Binary logistic analysis showing associations between depression, anxiety and psychological distress and socio-demographic characteristics.

Variable	OR			Confidence Interval (95%)			Pvalue		
	Depression	Anxiety	Psychological	Depression	Anxiety	Psychological	Depression	Anxiety	
Psychological									
distressdistressdistress									
Age	0.998	1.019	0.97	0.977-1.020	0.959-1.082	0.943-0.997	0.866	0.548	0.028
Male	0.789	2.879	1.605	0.171	-3.638	0.290-28.607	0.667-3.806	0.761	0.367
0.283									
Education									
None	2.806	0.715	1.379	0.188-41.967	0.028-18.020	0.244-7.795	0.455	0.838	0.716
Primary	1.522	2.784	0.753	0.127-18.279	0.103-75.512	0.167-3.403	0.740	0.543	0.712
Secondary	3.501	0.618	1.356	0.742-16.527	0.048-7.924	0.493-3.727	0.113	0.712	0.556
Marriage									
Single	$4x10^8$	0.881	2.348	0.000-~	0.000-~	0.127-43.556		0.999	1.000
0.567									
Married	$3x10^8$	0.000	1.987	0.000-~	0.000-~	0.133-29.680		0.999	0.999
0.619									
Employment									
Student	3.810	1.717	0.213	0.110-132.535	0.000--	0.028-1.615	0.460	1.000	
0.135									
Unemployed	11.086	2.357	0.264	0.735-167.088	0.185-30.102	0.081-0.864	0.082	0.509	
0.048									
Employed	7.162	0.361	1.297	0.564-90.956	0.032-4.061	0.402-4.187	0.128	0.409	
0.664									

OR: Odds ratio

P < 0.5

Discussion

The findings of this study indicated that 46%, 39.3% and 11.8% of the participants experienced psychological distress, anxiety and depression respectively.

With regards to our findings on psychological distress, the 46% rate found in this study was similar to the results of other workers from other countries from Norway, Canada and India. For example, Bergersen, Froslie, Sunnerhagen, & Schanke (2009) reported that 54% of their participants experienced psychological distress in Norway, while Rice, Mehta, Shapiro, Pope, Harth, Morley-Forster, Sequeira, & Teasell (2016) also noted that 12.6% of their respondents experienced psychological distress in Canada. In India, 59% of psychological distress was recorded among chronic pain patients (Paramjot, & Suchismita, 2018). The identified reasons for increased psychological distress among those with chronic pain include the thoughts of the likelihood of permanent disability, severity of illness, long duration of illness period, prolonged physical therapy and recovery, economic viability of the individual receiving treatment, increasing cost of treatment and prolonged negative mood states (Bergersen, Froslie, & Sunnerhagen, 2009; Bener, Verjee, & Dafeeah, 2013; Rice, Mehta, &Shapiro, 2016; Paramjot, & Suchismita, 2018).

Concerning the findings of clinical depression, 11.8% of our participants manifested with depression. Again, depression has been reported to frequently comorbid with chronic pain (Salazar, Duenas, Mico, Ojeda, Aguera-Ortiz, Cervilla, &Failde, 2013; Bener, Verjee, Dafeeah, &Falah, 2013; Sheng, Liu, Wang, Cui, & Zhang, 2017; Pereira, Franca, Paiva et al, 2017). This result on depression was also found to be in consonance with findings from other researchers. For example, A rate of 14.5% was found among Canadian patients with chronic pain, (Rice,

Mehta, &Shapiro, 2016), 28% in Norwegian patients (Bergersen, Froslie, Sunnerhagen, &Schanke, 2009); and 11.5% in Indian patients (Paramjot, & Suchismita, 2018).

In light of these associations between depression and chronic pain, if the comorbidity between depression and consequent disablement is not recognized, it could make the chronic pain become costlier in economic and social terms (Dueñas, Ojeda, & Failde, 2016; Sheng, Liu, & Wang, 2017; Lee, Choi, & Nahm, 2018). The conceivable explanations why the comorbidity of depression and chronic pain was found to be high could be due to the long period of physical therapy, concomitant use of expensive drugs, inability to use certain parts of the body or limbs, certain level of powerlessness, being dependent on others, possible loss of social grace, long period of turnaround time and inadequate personnel to attend to the patients. Depression alone produces the high disability in its sufferers and when associated with chronic physical disease makes the combination a cause for public health concern. Therefore, the longer the symptoms of depression remains undetected, the greater the likelihood of increased disability, prolonged physical therapy intervention and chronicity (Bair, Wu, Damush, Sutherland, & Kroenke, 2008; da Silva Santos, Cendoroglo, & Santos, 2017; Sheng, Liu, & Wang, 2017).

Regarding the 39.3% of the participants that experienced anxiety, this finding was also in agreement with the results of other workers from other countries. Empirical studies showed that anxiety disorders quite commonly comorbid with chronic pain (Woo, 2010; Bener, Verjee, Dafeeah, &Falah, 2013; de Heer, Ten-Have, &van Marwijk, 2018). Previous studies indicated that prevalence of anxiety among individuals with chronic pain ranges between 10% and 48% (Knaster, Karlsson, Estlander, & Kalso, 2012; Feingold, Brill, Goor-Aryeh, Delayahu, &Lev-Ran S 2017; Bener, Verjee, &Dafeeah, 2013; Paramjot, &Suchismita, 2018).

Despite the relatively high comorbid presence of anxiety disorders in the chronic pain populations, just like depression, generalised anxiety disorders too often go unrecognised in physiotherapy clinics (Woo, 2010; Bener, Verjee, Dafeeah, &Falah, 2013; de Heer, Ten-Have, &van Marwijk, 2018). The probable reasons why chronic pain patients manifest with high levels of anxiety could be due to the constant fear that there may not be complete recovery from the condition they are receiving treatment for and associated disabilities from the chronic pain (Bener, Verjee, &Dafeeah, 2013; Paramjot, & Suchismita, 2018). Nonetheless, the presence of comorbid mental disorders among our participants could also be due to inability to carry out their daily social and occupational duties, the possibility of being unemployed and consequences of depending on others for social and financial support. Other possible explanations could be due to non-availability of a relative to accompany the patient to the hospital, non-availability of personal transportation to the hospital, high medical expenses associated with long-term treatment of chronic pain in a country such as Nigeria where a large majority of patients use personal or family savings to pay for medical services and the negative perception that healing is not rapid enough or the rehabilitation programme is perceived as not been effective.

Since empirical documentations have severally demonstrated that individuals with chronic pain are likely to experience psychological and psychiatric morbidities such as psychological distress, anxiety, and depression, it has therefore been suggested that systematic screening of common mental disorders with simple validated psychometric instrument such as the general health questionnaire or hospital anxiety or depression scale be administered on patients at the initial consultation at the physiotherapy clinics (Merskey, Lau, Russell, Brooke, James, & Lappano, 1987; Wilkinson, & Barczak, 1988).

This study has its limitations too. Psychiatric morbidities were not measured before visiting the physiotherapy clinic. Similarly, collection of data was restricted to one physiotherapy clinic of a teaching hospital in Lagos, and it did not include other secondary and tertiary hospitals in Nigeria. However, it is believed that physiotherapy clinics in most secondary and tertiary hospitals in Nigeria offer similar services and also are patronised by educated and enlightened Nigerians. Nevertheless, the generalisability of the study should be taken with caution.

Conclusion

The findings of this study showed that individuals receiving treatment for chronic pain also experienced different degrees psychological morbidities such as anxiety, depression and psychological distress. It is therefore suggested that physiotherapists in secondary and tertiary hospital settings should acquire the skills of recognising common psychological and mental disorders and possibly screen their patients with simple validated psychometric instruments. Specific evidence-based psychological interventions should also be part of the management of those suffering from various types of chronic pain. Nonetheless, more longitudinal and multi centered studies are also recommended in sub-Saharan Africa.

References

Bair, M., J., Wu, J., Damush, M., Sutherland, J., M., &Kroenke, K. (2008).Association of Depression and Anxiety Alone and in Combination with Chronic Musculoskeletal Pain in Primary Care Patients. *Psychosomatic Medicine, 70,*890-897.

Bener, A., Verjee, M., Dafeeah, E., E., Falah, O., Al-Juhaishi, T., Schlog, J., Sedeeq, A., &Khan, S. (2013). Psychological factors: anxiety, depression, and somatization symptoms in low back pain patients. *Journal of Pain Research,* 6, 95-101.

Bergersen, H., Froslie, K., F., Sunnerhagen, K., S., & Schanke, A., K. (2010). Anxiety, depression, and psychological well-being 2 to 5 years post-stroke. Journal of Stroke and Cerebrovascular Disorders, 19(5), 364-9.Doi: 10.1016/j.jstrokecerebrovasdis.2009.06.005.

Coker, A., O., Fadeyibi, I., O., Olugbile, O., B., Sanni, O., G., Zachariah, M., P., & Ademiluyi, S., A. (2008).A psychological morbidity study of patients with burns seen at a teaching hospital in Lagos, *Nigeria. Nigerian Journal of Plastic Surgery, 4,*31-35.

da Silva Santos, K., A., Cendoroglo, M., S., &Santos, F., C. (2017). Anxiety disorder in elderly persons with chronic pain: frequency and associations. Revista Brasilia Geriatric *Gerontology, 20*(1), 91-98.

deHeer, E., Ten Have M., &van Marwijk, H., W., J. (2018). Pain as a risk factor for common mental disorders. Results from The Netherlands Mental Health Survey and Incidence Study-2: a longitudinal population-based study. Pain, 159, 712–718.

Dueñas, M., Ojeda, B., &Failde, I. (2016).A review of chronic pain impact on patients, their social environment and the health care system. *Journal of Pain Research, 9*, 457-467.

Elbinoune, I., Amine, B., Shyen, S., Gueddari, S., Abouqal, R., & Hajjaj-Hassouni, N.,(2016).Chronic neck pain and anxiety-depression: prevalence and associated risk factors. *Pan African Medicine, 84*, 89-92.

Feingold, D., Brill, S., Goor-Aryeh, I., Delayahu, Y., &Lev-Ran, S. (2017). Depression and anxiety among chronic pain patients receiving prescription opioids and medical marijuana. *Journal of Affective Disorders, 218*, 1-7. doi:10.1016/j.jad.2017.04.026.

Goldberg, D., P. (1972). The detection of psychiatric illness by questionnaire. Mausdley Monograph; No. 21, London, Oxford University Press.

Gureje, O., & Obikoya, B. (1990).The General Health Questionnaire as a screening tool in primary care setting. *Social Psychiatry Epidemiology*, 25, 276-280.

Jegede, R., O. (1979). Psychometric characteristics of Yoruba version of Zung self-rating depression scale and self-rating anxiety scale. *African Journal of Medical Science*, 8, 133-137.

Johannes, C., B., Le, T., K., Zhou, X., Johnston, J., A., &Dworkin, R., H. (2010).The prevalence of chronic pain in United States adults: results of an Internet-based survey. *Journal of Pain*, 11, 1230–9.

Knaster, P., Karlsson, H., Estlander, A-M., & Kalso, E. (2012).Psychiatric disorders as assessed with SCID in chronic pain patients: the anxiety disorders precede the onset of pain. *General Hospital Psychiatry Journal*, 34, (1), 46-52.

Lee, H., J., Choi, E., J., Nahm, F., S., Yoon, I., Y., &Lee, P., B. (2018). Prevalence of unrecognized depression in patients with chronic pain without a history of psychiatric diseases. *Korean Journal of Pain*, 31, 116–124.

Macfarlane, G., J., (2016). The epidemiology of chronic pain. *Journal of Pain*, 157(10), 1218-1228. Doi: 10.1097/j.pain.0000000000000676

Merskey, H., Lau, C., L., Russell, S., Brooke RI, James M, & Lappano SL. Et al. (1987).Screening for psychiatric morbidity. The pattern of psychological illness and premorbid characteristics in four chronic pain populations. *Pain*, 30(2), 141-157.

Mills, S., Nicolson, K. P., & Smith, B. H. (2019). Chronic pain: a review of its epidemiology and associated factors in population-based studies. *British Journal of Anesthesia*, 123(2), e273–e283.https://doi.org/10.1016/j.bja.2019.03.023.

Paramjot, P., & Suchismita, P. (2018).Chronic pain and psychological distress among adults in Udupi. *Mental Health*, 19(1), 42-6. DOI: 10.4103/AMH.AMH_11_18

Pereira, F.G., Franca, M., H., Paiva, M., C., A., Andrade, L., H., &Viana, M., C. (2017).Prevalence and clinical profile of chronic pain and its association with mental disorders. *Revista De SaudePublica*, 17, 51:96

Rice, D., Mehta, S., Shapiro, A., Pope, J., Harth, M., Morley-Forster, P., Sequeira, K.,& Teasell, R. (2016). Psychological Distress in Out-Patients Assessed for Chronic Pain Compared to Those with Rheumatoid Arthritis. *Pain Research Management*, Article ID 7071907, 1-7. Doi: http://dx.doi.org/10.1155/2016/7071907

Rayner, L., Hotopfa, M., Petkovab, P., Matchama, F., Simpsona, A., & McCrackenc, L., M. (2016). Depression in patients with chronic pain attending a specialised pain treatment centre: prevalence and impact on health care costs. *Journal of Pain*, 157, 1472–1479

Ramakrishnan, K., S., &Shah, P., P. (2015). Prevalence of depression, anxiety and stress in patients with mechanical low back pain. *International Journal of Therapies Rehabilitation and Research*, 4 (4), 67-72.

Salazar, A., Duenas, M., Mico, J., A., Ojeda, B., Aguera-Ortiz, L., Cervilla, J., A.,& Failde, I. (2013).Undiagnosed mood disorders and sleep disturbance in primary care patients with chronic musculoskeletal pain. *Pain Medicine*, 14, 1416-1425.

Sheng, J., Liu, S., Wang, Y., Cui, R., & Zhang, X. (2017). The Link between Depression and Chronic Pain: Neural Mechanisms in the Brain. *Neural Plasticity*, 9724371.https://doi.org/10.1155/2017/972437

Surah, A., Baridhara, G., &Morley, S. (2014). Chronic pain and depression. Continuing Education in Anesthesia. *Critical Care and Pain*, 14(2): 85–89.

Spielberger, C., D. (1983). *Manual for State Trait Anxiety Inventory* (STAI Y-I).Palo Alto, Consulting Psychologist Press.

Wilkinson, M.,& Barczak, P. (1988). Psychiatric screening in general practice: comparison of the general health questionnaire and the hospital anxiety depression scale. The *Journal of the Royal College of General Practitioners*, 38(312), 311-3.

Woo, A., K. (2010). Depression and Anxiety in Pain. *Reviews in Pain*, 4(1), 8–12. https://doi.org/10.1177/204946371000400103

Zung, W., W., K. (1965).Self-rating depression scale. Archives of *General Psychiatry*, 12, 3-27.