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Research Article

Prevalence of Depression Among Undergraduate Students Attending Kaduna State University, Kaduna Nigeria

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Abstract

Objective: This study investigated the prevalence of depression among undergraduate students attending Kaduna State University, Kaduna Nigeria.

Method: Cross sectional survey design was used to select 300 participants from different faculties in the university's main campus using convenient sampling technique out of which 193 questionnaires were successfully filled and returned to the researcher for onward analysis, 68 questionnaires were rejected and 39 were not returned. Questionnaires measure of 'The Beck's Depressive Inventory (BDI) [1] were completed by the participants: Two hypotheses were tested with Descriptive statistics and Anova.

Results: Showed that mean and standard deviation scores for high depression (M=29.29; SD=7.915) and low depression (M=5.34; SD=4.182) status among participants. There was a statistically significant difference between participants that indicates depression symptoms and those that did not indicate depression symptoms t (191) =25.99, P<0.05. Also, a statistically significant difference between male and female participants was observed in this study t (191) =-3.354, P<0.05; indicating that female participants significant indicate high depression than male participants among undergraduate students of Kaduna State University.

Conclusion: It is suggested that the differences in the depression level between female and male participants imply that, female students tend to have needs than their male counterparts and as such, they have more cost to worry than the males.

Keywords: Prevalence, Depression, Undergraduate students, University, Kaduna

Introduction

According to the World Health Organization [2], mental disorders are one of the leading causes of disability worldwide. Mental disorder account for the three of the top ten causes of disability in individuals aged 15-44, and the other causes are frequently linked to mental disorders [3]. An array of genetic, social, psychological and environmental factors interacts to cause the common and severe mental disease of depression [4].

Specific on depression, Diagnostic and Statistical Manual of Mental Disorders Fifth Edition Text Revision [5] of American Psy-

chiatric Association outlined the following diagnostic features/ symptoms for major depressive disorder:

A. Five (or more) of the following symptoms have been present during the same two-week period and represent a change from previous functioning; at least one of the symptoms is either

I. Depressed mood or

II. loss of interest or pleasure.

1. Depressed mood most of the day, nearly every day, as indicated by either subjective report (e.g., feels sad, empty, hopeless) or observation made by others (e.g., appears tearful). (Note: In children and adolescents, can be irritable mood.)

2. Markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day (as indicated by either subjective account or observation).

3. Significant weight loss when not dieting or weight gain (e.g., a change of more than 5% of body weight in a month), or decrease or increase in appetite nearly every day. (Note: in children, consider failure to make expected weight gain.)

4. Insomnia or hypersomnia nearly every day.

5. Psychomotor agitation or retardation nearly every day (observable by others, not merely subjective feelings of restlessness or being slowed down).

6. Fatigue or loss of energy nearly every day.

7. Feelings of worthlessness or excessive or inappropriate guilt (which may be delusional) nearly every day (not merely self-reproach or guilt about being sick).

8. Diminished ability to think or concentrate, or indecisiveness, nearly every day (either by subjective account or as observed by others).

9. Recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation without a specific plan, or a suicide attempt or a specific plan for committing suicide.

B. The symptoms cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.

C. The episode is not attributable to the physiological effects of a substance or another medical condition.

D. At least one major depressive episode is not better explained by schizoaffective disorder and is not superimposed on schizophrenia, schizophreniform disorder, delusional disorder, or other specified and unspecified schizophrenia spectrum and other psychotic disorders.

E. There has never been a manic episode or a hypomanic episode." (American Psychiatric Association, 2022).

Depression is becoming more and more commonplace on a worldwide scale. The most serious public health issues are depressive disorders, which are linked to significant disability, comorbidity, bad quality of life, and high mortality. It has an impact on social, cultural, educational, and commercial lives, as well as people's capacity to engage in local affairs, suicide and attempted suicide are also risks associated with depression among young adults [3]. According to *WHO (2017)* [2], depression is the primary factor in nearly 800,000 suicide fatalities every year.

Jumani, Osoble, et al. (2023) [6]'s study reported the crude prevalence of depressive symptoms is 34.8%. According to report by *Liu, et al. (2020),* [7] 3.1% of Nigerians suffer from depression. Globally, the estimated incidence of depression rose by 49.86% from 172 million cases in 1990 to 258 million cases in 2017, with a notable rise of 124.4% in Western and sub-Saharan African. It has been stated that depression affects people from all works of life and young people in particular; who are students in university are not left out from this menace. According to previous study, it was reported that the prevalence of depression rate among undergraduate students varied from 10%-85% with a weighted mean prevalence of 30.6% [8].

Another systematic review concludes that the prevalence of depressive symptoms among university students is 27.7% [9]. In a similar study conducted by *Bresolin, et al. (2020)* [10], it was reported that among the aspects that may influence the development of common symptoms of depression in undergraduate students are social, economic, academic and health habits factors, as it was seen among the medical students from the state of Ceará, those who performed physical activities sporadically or rarely were, respectively, 2.45 times and 3.04 times more likely to develop depression, compared with those who regularly engaged in physical activities.

In Africa, 37% of Egyptian undergraduate students met the criteria for moderate depression [8]. 23.6% of university students in Ethiopia displayed signs of depression. Again, it was discovered a prevalence of 23.3% among 262 medical students from the University of Nigeria. In another sample of Nigerian University students, 8.3% met the criteria for depression with 5.6% having a minor depressive disorder and 2.7% with major depressive disorders [3]. Moreover, in Nigeria also among Ahmadu Bello University Zaria students, 58.2% scored above the threshold for mild depression *(Dabana, et al. 2018).*

On gender, report shows that lifetime risk of depressive patients in the United States revealed 21% in females and 13% in males according to *Undheim, et al. (2010)* [11]. Depressed females typically experience recurrent depression more than depressed males, including side effects such as greater weight gain, anxiety, and physical manifestations of their depressive disorders [11].

The reason for such an outstanding difference could be explained by scientific factors that are special on females or males during their puberty/adolescents. One factor is the monoamine tryptophan depletion, which is important in decreasing serotonin transmission [12]. Also, the PET (Positron Emission Tomography) demonstrated decreased serotonin synthesis in females compared with males after tryptophan was depleted.

Elevated levels of serotonin, and the serotonin metabolite 5-HIAA, were found only in women. This could be strongly tied with a larger availability of the serotonin transporter in females [13].

Also, according to some studies, female undergraduate students are likely to experience depression than male students [14]. The possible reason is due to physiological differences between the sexes (such as genetic susceptibility, hormones, and cortisol levels), variations in self-concept, and various socially prescribed roles that result in various emotional reactions and behavioral patterns. Males tend to externalize their negative emotions by smoking and abusing substances; (though some women do drugs too), whereas females are more likely to internalize those [15]. Others studies also reported that the risk of depression in female college students is significantly higher than that in male students [16]. Females are more likely to internalize their negative feelings, whereas males resort to externalizing behaviors such as smoking and alcoholism [16]. Other supporting studies include *Ibrahim, et al. (1989)*; *Compass, et al. (1997)*; *Al Busaidi, (2010) and Khali, et al. (2010)* [17-20].

However, some analyses did not find significant sex differences. Other studies have shown that men have a higher prevalence of depression [21]. This may be ascribed to their conservative attitudes toward mental health counseling and treatment under certain social expectations. For instance, women are more help-seeking than men and therefore tend to have more diagnoses and treatment.

Some studies have found the difference to be insignificant while others are somewhat mixed, the majority of studies discovered substantial variations in some college students' levels of depression throughout their educational careers [22]. It is known that graduation year is a crucial time for people to continue their education or enter the society, and students must deal with a variety of new stressors during this time, including graduating pressure, pressure from grades and applications to their institutions, challenging in planning their future careers and employment discrimination. According to other studies, it has been noted that internet use is linked to depression in undergraduate students [23]. Depression is more likely to affect people with online addiction and dependence. The relationship between social networks and depression, particularly the excessive use of social media, is, however, becoming more widely acknowledged [7].

The insignificance in the previous studies and others with somewhat mixed outcomes, created a gap or lacuna. It therefore, goes to implicate a lacuna in understanding of the prevalence of depression among university undergraduate students. This work addressed the lacuna. It is in the light of the foregoing that this study investigated the prevalence of depression and gender among university undergraduate students attending Kaduna State University, Kaduna Nigeria.

Research Questions

The following are research questions developed for this study.

i. Could depressive disorder participants obtain higher score than non-depressive disorder participants among university undergraduate students of Kaduna State University, Kaduna, Nigeria?

ii. Could female depressive disorder participants obtain higher score than male depressive disorder participants among university undergraduate students of Kaduna State University, Kaduna, Nigeria?

Method

Participants

One hundred and ninety-three (193) participants (66 males and 127 females, aged 18-30 years) were selected and comprised of undergraduate students from each faculty of the main campus of the University of Kaduna State University, Kaduna, Nigeria. Simple random sampling technique was adopted for the study. Random sampling is the simplest and most common method of selecting a sample, in which the sample is selected unit by unit, with equal probability of selection for each unit at each draw [24] where undergraduate students of the university that are within the age range of seventeen and thirty years (17-30) were engaged. Inclusion criteria: Clinical psychologist was employed to conduct interview and assessment especially using Beck's Depressive Inventory to ascertain depressive condition. Participants who met the criteria for depression/depressive condition were considered to be depressive disorder participants; while participants who didn't meet the criteria for depressive condition were considered to be non-depressive disorder participants.

Instruments

The questionnaire used in the study was divided into two sections, namely, A and B. Section A covered socio-demographic characteristics of the respondents, while section B was The Beck's Depressive Inventory (BDI) which is a self-report mood questionnaire developed by Aaron, T. Beck. It is a 21-question multiple-choice and one of the most widely psychometric tests for measuring the severity of depression. The BDI-II is designed for individuals aged 13 and over, and is composed of items relating to symptoms of depression such as hopelessness and irritability, cognitions such as

guilt or feelings of being punished as well as physical symptoms such as fatigue. *Beck (1987)* [25] reported split-half reliability coefficient ranging from .78 to .93 while construct validity of BDI by *Beck (1972)* [26] obtained .72. *Suleiman, et al. (2023)* [1] validated the instrument using Nigeria sample and obtained alpha coefficient reliability of .87.

Procedure

Researchers introduced themselves to the Dean of Student Affairs through the Dean of the faculties and Heads of Departments of the University who issued letter for permission and to conduct the study within the University. The researchers ensured that ethical issues were observed and maintained and the participants were provided with an informed consent form, emphasizing that their participation in the study was voluntary and they can withdraw at any time. To select participants, simple random sampling techniques was employed, once participants had been selected, they were instructed to complete the self-report questionnaires at their convenient time in the study location. The target populations were drawn from each faculty of the institution. A total of three hundred (300) questionnaires were distributed to respondents out of which 193 (64.33%) were successfully filled and returned, 68 (22.67%) were rejected and 39 (13%) were not returned.

Design and Statistics

The study is a cross-sectional design. The descriptive statistics used were means and standard deviations while the inferential statistics used for the test of hypotheses was t-test. It consists of two Independent Variables (I. Vs); Depression (Depressive participants and non-depressive participants) and gender (male depressive participants and female depressive participants).

Depressed undergraduate students of Kaduna State University serve as the Dependent Variables (D. Vs). A t test analysis with Statistical Package for Social Sciences (SPSS), version 27 (latest version) was applied to analysis the data for the first and second hypotheses.

Result

The results of the study include the following:

Test of Hypotheses

Hypothesis 1: Depressive disorder participants will obtain higher scores than non-depressive disorder participants on depression among university undergraduate students of Kaduna State University, Kaduna. This hypothesis was tested using Independent Sample t-test in Table1.

Table 1: Difference in Depression Scores between Depressive Disorder Participants and Non-Depressive Disorder Participants.

Depression Status	N	M	SD	df	t	Sig.
High	100	29.29	7.915	191	25.99	0
Low	93	5.34	4.182			

Note*: t (191) = 25.99, P < 0.05.

Table1 shows the summary results of the Independent Sample t-test on depression among university students where it revealed the mean and standard deviation scores for high depression (M=29.29; SD=7.915) and low depression (M=5.34; SD=4.182) status among participants. Further analysis of the results revealed a statistically significant t (191) =25.99, P<0.05 difference between participants that indicates depressive symptoms and those that did not indicates depressive symptoms. This result implies that participants with high scores significant difference in their depression level compare to participants with low score among undergraduate students of Kaduna State University. Thus, the study confirmed the stated hypothesis in this study.

Hypothesis 2: Female depressive disorder participants will obtain higher scores than male depressive disorder participants on depression among university undergraduate students of Kaduna State University, Kaduna. This hypothesis was tested using Independent Sample t-test in table 2.

Table 2: Difference between Male and Female on Depression Scores.

Gender	N	M	SD	df	t	Sig.
Male	66	13.32	11.996	191	-3.354	0.001
Female	127	20.06	13.061			

Note*: t (191) = -3.354, P < 0.05.

Table 2 shows the summary results of the Independent Sample t-test on depression among university students where it revealed the mean and standard deviation scores for male (M=13.32; SD=11.996) and female (M=20.06; SD=13.061) participants. Further analysis of the results revealed a statistically significant t (191) =-3.354, P<0.05 difference between male and female participants

in this study. This result implies that female participants significant indicate high depression than male participants among undergraduate students of Kaduna State University. Thus, the study confirmed the stated hypothesis in this study.

Summary of Results

The findings in this study were summarized as follows:

The first hypothesis was confirmed to be statistically significant therefore; we concluded that depressive disorder participants obtained higher scores than non-depressive disorder participant on depression among university undergraduate students of Kaduna State University, Kaduna.

The second hypothesis was confirmed to be statistically significant therefore; we concluded that female depressive disorder participants obtained higher scores than male depressive disorder participants on depression among university undergraduate students of Kaduna State University, Kaduna.

Discussion

The results of the analysis were presented in tables. Two hypotheses were stated in the study.

Hypothesis one stated that depressive disorder participants will obtain higher scores than non-depressive disorder participants among university undergraduate students of Kaduna State University, Kaduna. This hypothesis was tested using Independent Sample t-test on depression among university students where it revealed the mean and standard deviation scores for high depression. The results revealed a statistically significant t (191) =25.99, P<0.05 difference between participants that indicates depressive symptoms and those that did not indicates depressive symptoms. This result implies that participants with high scores significant difference in their depression level compare to participants with low score among undergraduate students of Kaduna State University. Thus, the study confirmed the stated hypothesis in this study.

This study is similar to the finding of *Jumani, et al. (2023)* [6] who reported the crude prevalence of depressive symptoms is 34.8%. Another systematic review concludes that the prevalence of depressive symptoms among university students is 27.7% [9]. In a similar study conducted by *Bresolin, et al. (2020)* [10], it was reported that among the aspects that may influence the development of common symptoms of depression in undergraduate students are social, economic, academic and health habits factors, as it was seen among the medical students from the state of Ceará, those who performed physical activities sporadically or rarely were, respectively, 2.45 times and 3.04 times more likely to develop depression, compared with those who regularly engaged in physical activities. Enjoying leisure activities and having good social relationships with friends and family seems to be good for students' mental health. Thus, this shows that students with that are not having healthy lifestyle habits, with time for physical activities and leisure is detrimental to students' mental and physical health. Other similar studies include: *Adewuya, (2016); Ibrahim, et al. (2017) Liu, et al. (2020)* [3,7,8].

Hypothesis two stated that Female depressive disorder participants will obtain higher scores than male depressive disorder participants on depression among university undergraduate students of Kaduna State University, Kaduna. The hypothesis was tested using Independent Sample t-test. A statistically significant t (191) =-3.354, P<0.05 difference between male and female participants in this study was revealed. This result implies that female participants significant indicate high depression than male participants among undergraduate students of Kaduna State University. Thus, the study confirmed the stated hypothesis in this study. This result is in agreement with previous published work [18]. *Al Busaidi (2010)* [19] reported that the difference in the level of depression among males and females could indicate that university life has factors which might give rise to stress and induce maladjustment that conveys as depressive disorder. The other reason for greater occurrence of depression among non-athlete female students compare to the male students is the discrimination against females existing societies in most of the third world nations sometimes announced and most of the time denied, in an attempt to wear civilized manners and behaviors. Another study by *Ibrahim, et al. (1989)* [17] showed that Egyptian girls in the city of Alexandria had higher depressive rates when they were compared with boys. *Khalil, et al. (2010)* [20] research on clinical features of depression among teenage women exposed that fatigue and lack of energy (more than 80%) were the main reason of depression. Pessimism, sadness and low self-esteem were also indicated (about 3/4 of the sample) and were mentioned as another reason of depression. Insomnia was reported (45%) commoner than hypersomnia (33.8%). Excess bodyweight and losing bodyweight were reported as another factor for depression. In the present study was also revealed that 34.5% of non-athlete male students presented depressive symptoms. This can be attributed to the students who join the university and leave their homes for the first time, besides, most of them stay in dormitory. This might subject them to loss of the conventional support and guidance in addition to living with other students and fellow relationships. Moreover, there is a change in the style of learning from what the students are used to in school. These changes may act as risk factors to depression among non-athlete male university students. Other similar studies include: *Moreira, et al. (2013); Undheim, et al. (2016); Zinovyeya, et al. (2016); Saluja, et al. (2017) Christa, et al. (2017)* [11-13,15,16].

Conclusion

It is concluded at the end of this study that, there was a statistically difference between participants that indicates depressive symptoms and those that did not indicates depressive symptoms.

This result implies that a statistically significant difference existed between participants with depressive disorder high scores and participants with low score among undergraduate students of Kaduna State University. Secondly, a statistically significant difference between male and female participants in this study was revealed, implying that female participants significance indicate high depression than male participants among undergraduate students of Kaduna State University.

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Declaration of Conflicting Interests

Authors declare they have no conflicting interests.

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