



## PERCEIVED FACTORS INFLUENCING DEPRESSION AMONG ESUT MEDICAL STUDENTS

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### ABSTRACT

The study investigated perceived factors influencing depression among Esut medical students, using a simple random technique, 108 medical students comprising 51 males and 57 females studying in Esut College of Medicine in the departments of Chemical pathology-pediatrics, community medicine and surgery in Enugu state in eastern Nigeria, were drawn to participate in the study. The participants were living in a hostel and must have stayed up to two years and above. They were aged 17-36 years. Zung (1965) self-rating depression scale to measure feelings of depression based on survey design while chi-square was applied to analyze the data. The findings revealed a significant difference between observed and expected frequencies on sleeplessness through the night (stress/anxiety) factor  $\chi^2(df,1) = 48$  at  $p < .001$  and restlessness as perceived factors influencing depression among medical students  $\chi^2(df,1) = 7.26$  at  $P < .01$  level of significance. This implies that feeling of depression among medical students was highly expressed and manifested very strongly when sleeplessness and restlessness as symptoms were quite dominant. The result was discussed in relation to literature.

**Keywords:** *Perceived factors, Depression, Influence, and Medical Students*

### INTRODUCTION

Psycho-biologically depression is a disorder of motivation that is usually associated with the insufficiency of biogenic amines. Depression is also referred to as a common mental disorder worldwide and a leading cause of disability with debilitating symptoms. According to Moussavi, Chatterji, & Verdes, (2007), around 350 million people suffer from depression globally with reports stating that almost 3.2% of individuals express having a depressive episode at least once in their lives (Costa, Santos, & Santos,

2012). Evidence has shown that the prevalence of depression is higher in medical students than in the general population. A recent systematic review obtained an overall pooled crude prevalence of depression of 27.2% among medical students, (Rotenstein, Ramos, & Torre, 2016) while a recent study among medical students in Cameroon showed that 65.2% of medical students had provisional depression (Patient Health Questionnaire-9 [PHQ-9]  $\geq 4$ ) and 30.6% of the students had PHQ-9 scores  $\geq 10$ , indicating the presence of a major depressive disorder ( Ngasa, Sama, & Dzekem, 2017). Although, medical school is characteristically a demanding, stressful, daunting and challenging academic experience (Cuttilan, Sayampanathan, & Ho, 2016; Dyrbye, Thomas, & Shanafelt, 2006; Hope & Henderson, 2014; Pacheco et al., 2017). This has often led to untoward consequences such as impaired academic performance, burn out, suicide, cynicism, attrition from medical school, medical errors, broken relationships, poor self-care (poor diet, poor sleep, inadequate exercise etc.) and a decline in physical health (Dyrbye, Thomas, & Shanafelt, 2005). The aforementioned scenario is compounded by the fact that medical students often do not seek help for mental health problems (Tjia, Givens, & Shea, 2005). The reasons attributed to this include concerns about confidentiality, lack of convenient access, time constraints and a preference to manage problems on their own (Guille, Speller, Laff, Epperson, & Sen, 2010). What is more, depression is a state of low mood and aversion to activity that can affect a person's thoughts, behaviour, feelings, and sense of well-being (APA, 2017). The clinical spectrum of the disease can range from simple sadness to a major depressive or bipolar disorder (Cash, 2004). People with depressed mood can feel sad, anxious, empty, hopeless, helpless, worthless, guilty, irritable, ashamed, or restless and may lose interest in activities that were once pleasurable, experience loss of appetite or overeating, have problems concentrating, remembering details or making decisions, and may contemplate, attempt or commit suicide (APA, 2017).

Depression is a major cause of morbidity worldwide (Cash, 2004) as cited in Tamunosiki, et al, (2017). Lifetime prevalence varies widely, from 3% in Japan to 17% in the US (WHO, 2001). In most countries, the number of people who would suffer from depression during their lives falls within the 8-125 range (WHO, 2001). Prevalence rates of depression among medical students are variable. For instance, Shawaz, Igbal, Gupta, & Venkatarao, (2015) documented a 51.3% prevalence rate among undergraduate medical students in India. In the same vein, a survey of

2500 students from US medical schools showed about 53% of students with depression (Dyrbye, Thomas, Massie, Power, Eacker, & Harper, (2008). While Thomas, Schwenk, Davis, & Wimsatt, (2010) noted a prevalence of moderate depression as 14.3%, Basnet, Jaiswal, Adhikari, & Shyangwa. (2012) in Nepal documented a prevalence of 29.78% among medical students as cited in Tamunosiki, et al, (2017). Population studies have consistently shown major depression to be about twice as common in women as in men although it is unclear why this is so and whether factors unaccounted for are contributed to this. According to Nauert, a high prevalence of depressive symptoms was found among medical students, particularly females (Tamunosiki, et al, 2017). The risk of major depression is increased with neurological conditions such as stroke, Parkinson's disease, or multiple sclerosis and during the first year after childbirth (Hamilton (2010). Other risk factors identified include a family history of depression and poor school performance (Cash, (2004). Social status has been reported to be inversely related to the prevalence of depression as studies have reported that those in the lower socioeconomic class are more likely to be depressed.

Above all, University medical students study hard and practice diligently to advance and achieve professional qualifications after graduation. At the same time, the majority of students who live away from home are likely to experience difficulties in housing conditions, financial constraints, fear of examination failure, and complications from private life. All of this puts pressure on students' not only physically but mentally precipitating depression.

Several studies indicate that the prevalence of depression among university medical students is higher than that of other populations (Ibrahim, Kelly & Adams, 2013), and this has been found in the present study empirically. The learning pressure of students can partly explain this difference. Everyday life stress as well as education pressure increases the vulnerability of the students, and therefore, attributes in the high prevalence of psychological illnesses among students (Cuttilan, Sayampanathan, & Ho., 2016). Many studies conducted on medical students also showed that this proportion is quite high due to the specificity of the medical specialty (Tran, Dunne, & Ngoc, (2013). Studies on depression among medical students are few and have shown a high level of depression among medical students (Shawaz, Iqbal, Gupta, & Venkatarao, (2015) and Basnet, Jaiswal, Adhikari, & Shyangwa, (2012).

Moreover, studies done on depression in this setting did not address the degree of depression such as mild, moderate, or severe. Moreover, a careful search also showed that the work done by the above authors (Shawaz, Igbal, Gupta, & Venkatarao, (2015) and Basnet, Jaiswal, Adhikari, & Shyangwa, (2012) was not principally among clinical medical students. No doubt, depression is an important contributor to the global burden disease that affects people of communities all over the world. With a high level of demands in academics and psychosocial pressure, medical students during their course of training tend to become depressed, leading to problems later in professional life and compromising patient care.

Therefore, based on the above observation it becomes pertinent to question whether sleeplessness and restlessness as factors would influence depression among a sample of medical students in Esut College of medicine.

### **STATEMENT OF THE PROBLEM**

A feeling of sadness is a common phenomenon among a group of people facing difficult situations in life, especially when such situations are quite apparent and important to their life circumstances. Some medical students set out some goals that must be accomplished within a very short period, and when such goals are not realistic it may endanger their ability to cope with life demands and expectations. The resultant outlets may be a degeneration of some physiological and social conditions which also may hamper a person's immune system. For instance, medical students facing academic problems due to medical education is perceived as being stressful, although it is doubtful whether it differs in that respect from other higher education, financial difficulties, posttrauma of a romantic relationship, disagreement with parents, physical attack, illness, and unsatisfactory scholarship achievement, social and emotional disturbances and high rates of psychological morbidity among students, such as anxiety and depressive symptoms, in addition to peer pressure and family history may likely manifest symptoms of depression. Based on this, it becomes very pertinent to ask whether there are some factors energizing depression among medical students. Hence, the study intends to find answers to the problem stated below;

Will there be a significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT medical students?

Will there be a significant influence of restlessness as a perceived factor influencing depression among ESUT medical students?

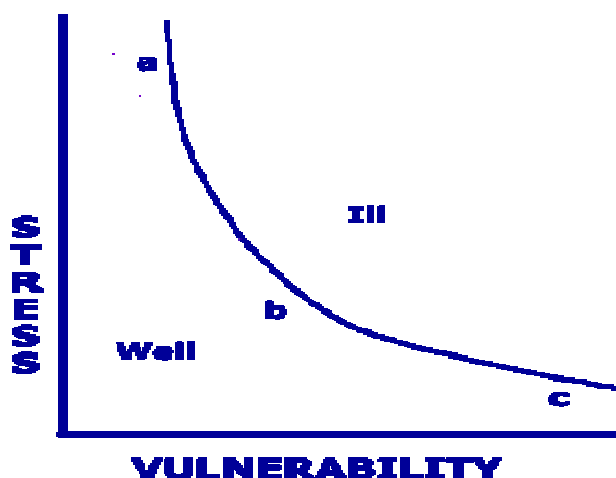
### **THEORETICAL FRAMEWORK**

There are many theories of depression that have different implications, interpretations, and meanings but we chose the stress vulnerability model because it attempts to explain a disorder, or its trajectory, as the result of an interaction between a pre-dispositional vulnerability and a stress caused by life experiences. The nature of man makes it imperative that life experiences cause stress. These conditions notwithstanding, effort must be made to strike a balance since the two roles are an indispensable part of human existence. As such, where it becomes impossible to strike a balance; there is every tendency that it might lead to depression. When a person has depression, it interferes with daily life and normal functioning. It can cause pain for both the person with depression and those who care about him or her (family/work roles).

### **THE STRESS-VULNERABILITY MODEL**

The stress -vulnerability model (Zubin and Spring, 1977) is an extremely useful model for identifying and treating relapses of mental illness. We accept that human persons carry genetic and other predispositions to mental illness. However, the question arises as to how stress impacts on a person in order to cause mental illness to develop. We have identified much literature on how stress affects biological mechanisms within the brain, and how it relates to biological vulnerabilities carried by different individuals. We have identified commonalities in how the interplay between stress and vulnerability occurs in different disease processes.

## The Stress Vulnerability Model



The stress vulnerability model was proposed by Zubin and Spring, (1977). It proposes that an individual has unique biological, psychological, and social elements. These elements include strengths and vulnerabilities for dealing with stress. In the diagram above person "a" has a very low vulnerability and consequently can withstand a huge amount of stress; however solitary confinement may stress the person so much that they experience psychotic symptoms. This is seen as a "normal" reaction. Person "b" in the diagram has a higher vulnerability, due to genetic predisposition for example. Person "c" also has genetic loading but also suffered the loss of mother before the age of 11 and was traumatically abused. Therefore persons "a" and "b" take more stress to become "ill".

However, the theory presents genetic and family history, psychological vulnerability, life events and stresses, and biological factors as causes of depression. Observation shows that sleeplessness and restlessness could be due to life events and stresses, biological factors, or even negative thoughts which may affect ones thinking towards having a feeling of inadequacy, failure, or even hopelessness. According to this theory, most of the undergraduates that have depression are mostly due to the fact that they can't cope with stressful situations and life events. For depression to reduce, individuals must learn how to manage stress and cope with life events. In relation to stressful life experiences, studies have revealed that there is a significant positive relationship between stressful life experiences and depression. Since in the extent literature, these studies carried out in non-Igbo culture, revealed that evidence has shown that the prevalence of

depression is higher in medical students than in the general population, the present study is in tandem with the previous studies as such explore this relationship in Igbo cultural environment.

The purpose of this study was to investigate whether there would be a significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT medical students. Also to examine whether there would be a significant influence of restlessness as a perceived factor influencing depression among ESUT. It was hypothesized as follows:

1. There would be no significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT medical students.
2. There would be no significant influence of restlessness as a perceived factor influencing depression among ESUT medical students.

## **METHODS**

A total of 108 medical students from Esut College of Medicine using simple random sampling technique. Their ages ranged between 16 and 36, with a mean age of 23.1 and a standard deviation of 2.3. They comprised 51 males and 57 females from the departments of Chemical pathology-pediatrics, community medicine, and surgery in the college in Enugu South- East Nigeria were drawn to participate in the study.

## **INSTRUMENT**

Self-rating depression scale inventory developed by Zung, (1965) was used and was validated for use with Nigerian samples by Obiora (1995) with an interval test-retest coefficient of reliability of 93. The instrument contains 20 – items designed to access the cognitive, affective, psychomotor, somatic, and social interpersonal dimensions of depression. However, the scoring was based on the technique developed by the test constructor. The participants were instructed to report the frequency with which the 20-items were experienced within the previous 2 weeks. If any participants scored above 20, that indicated the participant had experienced depression.

## **PROCEDURE**

The permission and cooperation of the Provost and some lecturers were solicited and obtained. 160 copies of the questionnaire were produced



and distributed to the participants in the three departments. The questionnaire was completed by the medical students after the purpose of the study was logically explained. Confidentiality was assured by informing the respondents not to write their names on the questionnaire. They were also informed that there were no financial benefits for participating. Out of these, only 108 were completed correctly, 30 were poorly completed and 22 copies were not recovered. 3 research assistants 1 from each department helped the researcher to collect the data. Participants were told that participating in the study was voluntary and they received no financial or monetary reward for their participation in the study.

### DESIGN/STATISTICS

A cross-sectional design and chi-square statistics were used for data collection and analysis.

### RESULTS

Table I: summary table of Chi-square on the difference between observed and expected frequencies on sleeplessness through the night as a perceived factor influencing depression among ESUT undergraduates.

Item 4: I have trouble sleeping through the night

N	df	Response		X <sup>2</sup>	P
		Yes	No		
108	1	90	18	48	<.001

From the table I above Chi-calculated value of 48.00 is greater than the chi-critical value of 10.83 at  $p < .001$ , indicating a significant outcome. Hence, a hypothesis I stated that there would be no significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT medical students is hereby rejected. This means that a significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT medical students was obtained in relation to observed and expected frequencies.

Table II: summary table chi-square on the difference between observed and expected frequencies on restlessness as a perceived factor influencing depression among ESUT medical students.



**Item 13: I am restless and can't keep still**

N	df	Response		X <sup>2</sup>	P
		Yes	No		
108	1	68	40	7.26	<.01

From table II above, a chi-calculated value of 7.26 was found to be greater than the chi-critical value of 6.64 at  $p < .01$  indicating a significant outcome. Hence, hypothesis II which stated that there would be no significant influence of restlessness as a perceived factor influencing depression among ESUT medical students was hereby rejected. This means that a significant influence of restlessness as a perceived factor influencing depression among ESUT medical students was obtained in relation to observed and expected frequencies.

**Table III: Summary table of chi-square on the difference between observed and expected frequencies on other perceived factors influencing depression among ESUT medical students.**

S/No	Items	X <sup>2</sup>	p
1	I feel down-hearted, blue and sad	53.48	<.001
2	Morning is when I feel the best	29.04	<.001
3	I have crying spells or feel like it	25.04	<.001
5	I eat as much as I used to	53.48	<.001
6	I enjoy looking at, talking to and being with attractive women/men	29.04	<.001
7	I notice that I am losing weight	25.04	<.001
8	I have trouble with constipation	29.04	<.001
9	My heart beats faster than usual	3.70	>.05
10	I get tired for no reason	1.34	>.05
11	My mind is as clear as it used to	9.48	<.01
12	I find it easy to do the things I used to	7.26	<.01
14	I feel hopeful about the future	5.34	<.05
15	I am more irritable than usual	21.34	<.001
16	I find it easy to make decisions	29.04	<.001
17	I don't feel that I am useful and needed	14.82	<.001
18	My life is pretty full	19.60	<.001
19	I feel that others would be better off if I were dead	19.60	<.001
20	I don't still enjoy the things I used to do	7.26	<.01

From table III above, a significant difference is observed in relation to other perceived factors influencing depression among ESUT medical students. This means that the above factors contributed in various dimensions in feeling of depression among ESUT medical students.

### **SUMMARY OF THE RESULTS**

A significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT Medical students was obtained with observed and expected frequencies at  $p < .001$ .

Also a significant influence of restlessness as a perceived factor influencing depression among ESUT Medical students was obtained concerning observed and expected frequencies at  $p < .01$ .

### **DISCUSSION**

The outcome of the study indicates that the hypotheses tested were disconfirmed and thus yielded significant outcomes. About hypothesis I tested above which stated that there would be no significant influence of sleeplessness through the night as a perceived factor influencing depression among ESUT medical students was disconfirmed and hereby rejected. Concerning hypothesis II tested above which stated that there would be no significant influence of restlessness as a perceived factor influencing depression among ESUT medical students was also disconfirmed and rejected. The two hypotheses are indicative of the fact that sleeplessness and restlessness were significantly perceived factors influencing depression among ESUT medical students. However, this finding was in tandem with Dahlin et al (2005), and Ibrahim et al (2013), who in their separate studies noted a higher prevalence of depression in general population,.

The result findings showed that generally undergraduate medical students perceive sleeplessness and restlessness as remarkable factors influencing feeling of depression. Although, a significant difference was observed for other factors, sleeplessness and restlessness are remarkable factors identified to influence depression among ESUT medical students.

However, the results indicate that sleeplessness and restlessness are perceived factors influencing depression among ESUT medical students. This factor will influence depression which the medical students went through because it has been perceived clinically that a depressed

person would experience issues as sleeplessness and restlessness. We observed from the findings that sleeplessness, restlessness, anxiety, and depression experienced by medical students throughout their school year may pose some problems such as low academic performance. The pace of study was no longer a major problem, while the role confusion and fear of success reported indicates stress. This might align with the increased levels of sleeplessness, restlessness and depressive moods found in ESUT medical students, hence significant increase in depressed mood was recorded at this stage in our population. Besides, previous studies on stress and depression among medical students found gender differences with women scoring more highly for stress and depression although this was not statistically significant. Other authors studied on socioeconomic class, age and prevalence of depression among medical students etc. This study appeared to be one of the foremost studies in Nigeria which demonstrated the strong assertion that medical students do not have everything going for them as such they undergo sleeplessness and restlessness as a perceived factors influencing depression among them. While one study on depression found a neutral effect compared to personal, social, and health education, and included a comment on potential for increased depression scores from people who have received Cognitive Behavioural therapy (CBT) due to greater self recognition and acknowledgement of existing symptoms of depression and especially negative thinking styles (Matthew, 2017). Another study also saw a neutral result (Clarke, Hawkins, Murphy, Sheeber, 1993).

### **IMPLICATIONS OF THE FINDINGS**

The implications of the findings shows that the remarkable difference between observed and expected frequencies concerning sleeplessness and restlessness are indicators signifying that greater percentage of medical students express feeling of depression.

### **LIMITATIONS OF THE STUDY**

This study has several limitations that might need attention. First, this study was confined to full-time students; therefore, any attempt to generalize this finding to all kinds of students of Esut College of Medicine should be made with caution. Second, the sample size for each department was relatively small to test the real association between the factor and outcome variables; consequently, a larger sample for each department is required to verify the findings. Last but not least, an additional limitation to this study is its cross-sectional design, where the

different departments may differ in respects not directly attributable to the stage of education. Further, the fact that we have data from only 1 medical school limits generalization

## CONCLUSION

A significant difference was observed between observed and expected frequencies about sleeplessness and restlessness as perceived factors influencing depression among ESUT medical students. Based on the findings of this study, the study hereby concludes that feeling of depression is common among medical students. A large proportion of medical students in Nigeria suffer from psychological distress, perceived stress, anxiety, depression and substance-related problems.

These results suggest that more attention should be directed toward their activities to reduce the prevalence of depression. Provision of free professional services to help cope with stress and psychological support services are also highly recommended.

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