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Role of Depression and Impulsivity as Determinants of Suicidal Ideation among Students in Ibadan, Nigeria

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This study investigated the relationship between the risk factors of depression and impulsivity, and suicidal ideation among students of University of Ibadan. It adopted a cross-sectional survey research design and used questionnaire for data collection. Three scales were used in eliciting information from the students. Independent T-test Analysis was used in analyzing the data. P< .001 level of confidence was considered significant. Two hypotheses were formulated and analyzed using independent t-test. The results show that high depressive and impulsive students have a greater likelihood of engaging in suicidal ideation than low depressive and impulsive ones (t = -5.694, df = 402, p< 0.001) and (t = -5.207, df = 402, p< 0.001). Consequently, students who are depressed as well as those who are impulsive must be closely monitored and assisted since they are at a higher risk of engaging in suicidal ideation than those who are not.

Keywords: depression, impulsivity, suicidal ideation

Introduction

People die of different causes including diseases, cancer, accidents, old age, natural disasters and so on. Death caused by the aforementioned factors is not news. The one that baffles people most is the death through deliberate, aforethought, conscious and premeditated action. This is generally referred to as suicide. The Centre for Disease Control (CDC) (2013) classifies suicide as the 10th leading cause of death in the world, while the World Health Organization (WHO) (2013) reports that suicide is among the leading causes of death worldwide. Suicidal behaviour is a major public health problem in Nigeria today, as tens of thousands of Nigerians have resorted to taking their own lives. Millions of citizens have either thought about cutting short their own lives or attempted doing so. The most worrisome aspect is the fact that suicidal behaviour has crept stealthily into the hitherto immune circle of our students, males and females, leaving untold havoc and mayhem in its trail.

On daily basis, we are inundated with the news of students, who apparently have a very bright future ahead of them, either taking their own lives or attempting to do so. The outcome is unimaginable agony for the relations and friends of such an individual. The rampant nature of such news has created a sort of shock absorber in the society that such news seems over-rehearsed and has, hitherto, lost its sting obviously due to repeated occurrence. In other words, suicidal behaviour has become so common among Nigerians, especially students that it doesn't seem like news again (Ojagbemi, Oladeji, Abiona and Gureje, 2013). This study intends to review the literature and the latest developments on the research and knowledge of suicidal behaviour and death from suicide, among the students in Ibadan, Oyo State, and see how depression and impulsivity are implicated in suicidal behaviour.

In furtherance of this, a close look at suicidal behaviour indicates that it is arguably the most common and very often the most important psychiatric emergency in hospitals (Ojagbemi *et al.,* 2013). WHO (2008) estimates that nearly 900,000 people worldwide die from suicide every year, including about 200,000 in

China, 170,000 in India, and 140,000 in developed countries, and 390,000 in developing countries including Nigeria.

Akhiwu, Nwosu and Aligbe (2005) noted that 1.8% of all deaths in Nigeria are caused by suicide. This goes ahead to buttress the degree of damage and waste of lives which suicidal behaviour is causing among students in particular and the entire population in general. The word, suicidal behaviour is a compound word referring to a combination of suicidal thoughts (or ideation), suicidal attempts, as well as completed suicides. These terms very often do act like a chain in a suicide continuum, beginning with suicidal ideation, progressing to suicid'¹ attempt and then climaxing at completed suicide. Studies indicate that each level or stage confers an increased risk for subsequent stage along the continuum. For example, Nock, Borges, Bromet, Alonso, Angemeyer and Beautrais (2008), in a survey of almost 85,000 individuals across 17 countries, found that one-third of suicide ideators will make a suicide plan, and over half of those with a plan will make an attempt at some point in their lives, with the majority of these transitions taking place within one year of ideation onset.

Depression plays an important role in suicidal behaviour and is actually the most common causal factor for suicidal behaviour. One of the earliest researches on suicide in Nigeria was conducted by Asuni (1962) and published in the British Medical Journal. He asserted that in Nigeria, suicide is often committed by people with depression and those who have mental illnesses with depressive symptoms. Approximately 90% of those who commit suicide suffer from at least one diagnosable psychiatric condition, with depression as the most important disorder (Allen, 2005).

In the same vein, it has been observed that most people who completed suicide had a personality trait of impulsivity. Impulsivity encompasses a broad range of behaviours that reflect impaired self-regulation, such as poor planning, premature responding before considering consequences, sensation-seeking, risk-taking, an inability to inhibit responses and preference for immediate over delayed rewards

(Evenden, 1999; Whiteside and Lynam, 2001). The marked impairment in planning delay in self-gratification is most pronounced among students in particular and youths in general. The relative inability to control one's behaviour is thought to stem from deficits in the self-regulation of affect, motivation arousal as well as working memory and higher order cognitive functions that ordinarily give rise to hindsight, forethought, anticipatory behaviour, and goal directed action (Barkley, 1997).

Interestingly, rates of suicide are not distributed equally throughout the general population. One important demographic marker of suicide risk is age. Globally, especially in most developed countries, suicide rates tend to increase with age, but in Nigeria, more young people between the ages of 15 and 30 engage in suicidal behaviour than any other age (Akhiwu, Nwosu and Aligbe, 2005). This statistics is for males, and it is quite different from that of the females. In females, suicide rates present differing patterns. In some cases, female suicide rates increase steadily with age. In others, the rates peak in middle age, and in yet others, particularly in developing countries and among minority groups, female rates peak among young adults (Krug *et al.*, 2002). In Nigeria the ratio for completed suicide for men to women is 3.6 to 1 (Gureje *et al.*, 2007).

Over the last three decades, the rate of suicide among students in Nigeria has drastically increased. Studies have shown that suicide is the third leading cause of death in youth aged 10 to 24, the fourth leading cause of death among youths aged 15 to 19, and the tenth leading cause of death for adolescents 10–14 years of age (CDC, 2007). However, these figures do not include suicide attempts, which are up to 20 times more frequent than completed suicide (World Health Organization Suicide Prevention (SUPRE), 2011). Not much research has been done on student suicidal behaviour, specifically in Nigeria, partly because of other pressing health concerns, but also because of political and economic instability (Ovuga *et al.*, 2005). Suicidal behaviour in Nigeria is general and among students in particular, seemed a rare occurrence, but recent studies suggest that it represents a substantial public health burden

(Ovuga *et al.*, 2005). It is therefore the purpose of this study to bridge the aforementioned research gap.

Hypotheses

1. Students with high level of Depression will score significantly higher on suicidal behavior than those with low level of Depression.
2. Students with high score on Impulsivity will have significantly higher level of suicidal behavior than those with low score on impulsivity.

Method
Design

This study adopted a cross-sectional survey research design. The rationale behind this option is based on the features of the population under study using questionnaire for data collection. The focus was to empirically examine the role of depression and impulsivity in suicidal ideation among students of University of Ibadan. The independent variables in this research include depression, impulsivity, age, gender, while suicidal ideation is the dependent variable.

Setting

The study took place in Ibadan, a metropolis in South Western Nigeria, and the capital of Oyo State, located about 110 km (about 70 miles) northeast of Lagos. It has an estimated population of 3,570,000 (National Population Commission, 2007). In addition, the city is made up of five Local Government Areas (LGA) namely; Ibadan North, Ibadan North East, Ibadan North West, Ibadan South East and Ibadan South West. The Yorubas are the predominant ethnic group in Ibadan. It is however a very cosmopolitan city and is made up of people from different tribes in Nigeria. These include the Igbos, the Hausas, the Edos, the Efiks, the Ijaws, the Urhobos and so on. Consequently, this study was a reflection of students from different ethnic groups in the country.

Participants

The students who participated in the study were drawn from the faculties of University of Ibadan and it includes students from different ethnic

groups, different age grades, and males and females from every level of study. A total of four hundred and two (402) students of University of Ibadan, who were randomly selected, participated in the study.

The description of the participants revealed that among the 402 students who participated, 96 students had thought of committing suicide before while 308 students had not. In the study, two hundred and forty-four (244) were males (60.4%), 160 were females (39.6%). Ethnic grouping of participants were as follows; Yoruba 250 (61.9%), Igbo 90 (22.3%), Hausa 22 (5.4), and others 42(10.4%). The marital status of the participants were as follows, single 353 (87.4%), married 36 (8.9%), separated 8(2.0%), and divorced 7 (1.7%). On religion, Christians were 306 (75.7%), Moslems 81 (20.0%), African Traditional Religion 15 (3.7%), Others 2 (0.5%). The ages of the participants ranged between 15 and above 45. Also, 15-25 years were 320 (79.2%), 26-35 years 74 (18.3%), 36-45 years 9 (2.2%), and above 45 years 1 (0.2%). The family background of the participants was made up of monogamous 274 (67.8%), polygamous 94 (23.3%), single parents 36 (8.9%). Only undergraduate or postgraduate students who are legal and current students of the University of Ibadan participated in the study.

Procedure

The researcher and his assistant met with the eight Hall Wardens and Departmental staff of the randomly selected halls and departments for permission to distribute the questionnaire in their halls of residence or departments. About 500 copies of the questionnaire were distributed to the respondents. The consent of the participants was obtained verbally before the instruments were administered. The researcher and his assistant presented the study to the potential participants and also explained the risks involved in participating in the study. The researcher and his assistant also ensured a high level of confidentiality for the participants completing the questionnaire by not giving the questionnaire any form of identification, and respondents were encouraged to seek clarification questions. They were also assured that there was no right or wrong answers. The administration and collection of the

questionnaire lasted for two weeks. The questionnaire are direct and very easy to comprehend; therefore, it took each participant about 10-15 minutes to complete the questionnaire.

Instruments and Measures

Five instruments were employed in eliciting relevant information from the participants of the study. The questionnaire consists of six sections:

Section A – Demographic Section: This section consisted of items that described the demographic characteristics of the participants of the study. Items in this section included age, sex, marital status, religion, family background, ethnicity and level of study.

Section B - Zung Self Rating Depression Scale (ZSRDS): This was developed by Zung (1965). It is a 20-item self-report index that covers, in varying degree, a broader spectrum of symptoms including psychological, affective, cognitive, behavioural, and somatic aspects of depression. Respondents are instructed to rate each item on a Likert scale ranging from 1 to 4 in terms of 'how frequently' they have experienced each symptom, instead of 'how severe'. The items are scored as follows: 1= a little of the time, 2= some of the time, 3= good part of the time, and 4 =most of the time, items 2, 5, 6, 11, 12, 14, 16, 17, 18, and 20 are scored inversely (4= a little of the time). A total score is derived by summing the individual item scores (1-4), and ranges from 20-80. Scores fall into four ranges:

- 20 – 44 Normal Range
- 45 – 59 Mildly depressed
- 60 – 69 Moderately Depressed
- 70 and above Severely Depressed

ZSRDS has a Cronbach alpha ranging between 0.68 and 0.76 (Zung, 1965).

Section C- Barrat Impulsiveness Scale (BIS):

Developed by Patton *et al.* (1995), BIS is a 30 item self report questionnaire designed to assess the general impulsiveness taking into consideration the multi-factorial nature of the construct. It is one of the oldest and most widely used measures of impulsive personality traits. The Barrat Impulsive Scale (BIS) by Patton, Stanford & Barratt (1995) measures three

dimensions, cognitive (not focusing on the task at hand), motor (acting on the spur of the moment), non-planning impulsivity, and behavioural laboratory performance tests consisting of immediate memory and delayed memory tasks. Patton *et al.* (1995) report an internal consistency coefficient for the BIS-11 total score that range from 0.79 to 0.83 for separate populations of undergraduates, psychiatric patients and prison in-mates.

Section D - Suicidal Ideation Scale: This was developed by Rudd (1989). The Suicidal Ideation Scale is a 10 item scale measuring the severity of suicidal ideation in the subject. The scale utilizes a five-point Likert Scale, with responses ranging from "never" (scored as 1) to "always" (scored as 5). Full scale scores are calculated by summing the values of the responses. Possible full scale scores ranges from a low 10 (indicating no suicidal ideation) to a high 50 (indicating a high level of suicidal ideation). The SIS has a Cronbach alpha of 0.90. Studies conducted using the SIS resulted in high levels of internal consistency reliability of Cronbach's alpha of 0.89 (Lopez, Quan and Carvajal, 2010).

Statistical Analysis or Design

Data for the research was analyzed using the Statistical Package for Social Sciences (SPSS) software. Independent T-test Analysis was used in analysing the data. $P < .001$ level of confidence. The descriptive part of the analysis comprised the frequency, percentage, mean, range, and standard deviation statistics. The two hypotheses were all tested using independent t-test.

Result

Hypothesis one states that students with high level of depression will be significantly higher on suicidal ideation than those with low level of depression. This was tested with the independent t-test statistics and the result is presented on table 1.

Table 1: **Summary of independent t-test comparing students with high level of depression and those with low level of depression on suicidal ideation**

	Depression	N	$\bar{x}$	SD	df	t	P
Suicidal ideation	Low	206	13.89	6.190	402	-5.694	<.001
	High	198	18.12	8.490			

Table 1 showed that high level of depression has significant influence on suicidal ideation (t = -5.694, df = 402, p< 0.001). The mean difference between scores of students with high and low level of depression are ($\bar{X}$ = 18.12) and ($\bar{X}$ = 13.89). This implies that students with high level of depression reported higher suicidal ideation

than students with low level of depression. The hypothesis was therefore confirmed.

Hypothesis two states that students who score high on impulsivity will have higher level of suicidal ideation than those that score low. This was tested with the independent t-test statistics and the result is presented on table 2.

Table 2: **Summary of independent t-test comparing students with high level of impulsivity and those with low level of impulsivity on suicidal ideation**

	Impulsivity	N	$\bar{x}$	SD	df	t	P
Suicidal Behaviour	Low	201	14.02	6.036	402	-5.207	<.001
	High	203	17.88	8.637			

Table 2 showed that high level of impulsivity has significant influence on suicidal behaviour (t = -5.207, df = 402, p< 0.001). The mean difference between scores of students with high and those with low level of impulsivity are ($\overline{X}$ = 17.88) and ($\overline{X}$ = 14.02). This implies that students with high level of impulsivity reported higher suicidal ideation than students with low level of impulsivity. The hypothesis was therefore confirmed.

Discussion

Hypothesis one stated that students with high level of depression will have significantly higher score on suicidal ideation than those with low level of depression. This hypothesis was tested using t-test for independent samples and the result revealed that high level of depression has significant influence on suicidal ideation. This significant difference was observed in the mean where students with high level of depression scored higher on suicidal ideation than students with low level of depression. The hypothesis was therefore confirmed.

This result is consistent with the findings of Esposito (1997) who reported that numerous studies had demonstrated a significant relationship between high level of depression and suicidal ideation. Other findings indicated that high level of depression have been reported by adult suicidal attempters (Angst *et al*., 1992) and adolescent attempters (De Wilde *et al*., 1993; Lewinsohn *et al*., 1994) when compared with non-attempters. In the same vein, suicidality is seen as a symptom of major depression (American Psychiatric Association, 2000). Similarly, research conducted with adolescents experiencing suicidal ideation and a history of suicidal attempts reported significantly higher level of depression than non-suicidal peers (Garnefski *et al*., 1992) and the same was found to be true for child populations (Marciano & Kazdin, 1994). Schlebusch (2003) reported in a South African study that depression was the most common diagnosis, being present in nearly two-thirds (63.9%) of non-fatal suicidal patients seen in a large hospital. Lastly, adolescents suffering solely from suicidal ideation have demonstrated significantly higher level of depression than their peers (Choquet, Kovess & Poutignat, 1993; de Man & Leduc, 1995; de Man

et al., 1993). In a study carried out by O'Connor and Sheehy (1997) in which 142 death cases were reviewed, they discovered that almost two-thirds of those who killed themselves were either depressed around the time of death or had a history of depressive treatment. The implication of this is that close attention should be paid to students who come to our clinic with a history of depression or who we identify as being depressed. Since suicidal acts can happen at any time, it becomes very crucial for clinical psychologists to assist depressed patients as much as possible in order to help them overcome their state of depression.

The second hypothesis stated that students who score high on impulsivity will have higher level of suicidal ideation than those that score low. This hypothesis was also tested using t-test for independent samples and the result revealed that high level of impulsivity has significant influence on suicidal ideation. This was observed in the mean where students with high level of impulsivity scored higher on suicidal ideation than those with low level of impulsivity. The hypothesis was therefore confirmed.

Other researchers also had results which were in agreement with this finding. For example Williams *et al*. (1980) in a bid to ascertain the extent to which impulsivity affects suicidal behaviour, suggested that impulsivity may also be evaluated by the length of the interval between the decision to attempt suicide and the actual attempt. One of the conservative criterions suggested by Williams *et al*. (1980) is five minutes premeditation. Other time criterions suggested are 20 minutes (Dorpat & Ripley, 1960), 2 hours (Li, Philips, Wang *et al*., 2003) and 24 hours (Brent, 1987). Simon *et al*. (2001) found that 24% of survivors of near-lethal suicide attempts had thought about their attempt for less than five minutes. According to him, those who made their attempt within five minutes of deciding to do so were less likely to have considered another method of suicide or an alternative to dying. However, they had a greater likelihood of discovery and a lower expectation of death.

These findings were consistent with the description of such attempts as impulsive. In a study of men with major depression, more than half of whom had committed suicide during a

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depressive episode (Dumais and colleagues, 2005a) noted an association of suicide with high levels of impulsivity and aggression, in addition to alcohol and drug dependence, and cluster B personality disorders. Finally, Maser and colleagues (2002) compared the personality characteristics of three groups of patients with affective disorders who were followed naturalistically for 14 years: 36 patients who committed suicide, 120 patients who attempted suicide, and 373 patients with no record of a suicide attempt. Impulsivity was common to both suicide attempters and completers, and together with assertiveness was the best predictor of completed suicide beyond 12 months. In the same vein, Swann and colleagues (2005) evaluated bipolar patients with and without a definite history of attempted suicide using the Barratt Impulsiveness Scale and a behavioural laboratory performance measure. They found that a history of suicide attempts, especially medically severe attempts, was associated with impulsive responses on an immediate memory.

Other authors in agreement emphasized the mediatory role of the intent to die and the subject's intention at the time of the suicide attempt. Hawton (1986) found that less than 50% of subjects with a history of suicide attempts really wanted to die, and he defined their attempts as 'little-planned impulsive acts'. Some studies indicate that impulsive suicides are not that common. Baca-Garcia and colleagues (2005) assessed attempt impulsivity (i.e., state) and attempter (i.e., trait) impulsivity in an inpatient population. They found that impulsivity of the suicide attempter was not a good predictor of impulsivity of the attempt (i.e., attempting suicide without prior planning) and that non-impulsive attempts (i.e., those that involved prior planning) were more lethal compared to impulsive attempts (Baca-Garcia, Diaz-Sastre, Basurte *et al.*, 2001). An additional study (Wyder & De Leo, 2007) surveyed a community sample regarding past suicidal behaviour. Only one quarter of these described a pattern consistent with an impulsive attempt (i.e., attempting suicide with little planning).

Finally Witte and colleagues (2008) studied 3 groups of adolescents: those who had planned a suicide attempt but did not actually attempt, those who did not plan a suicide but attempted, and those who both planned and attempted suicide. They found that individuals who planned suicide without attempting were significantly less impulsive than those who attempted without planning and those who planned and attempted. Furthermore, participants who attempted without planning were less impulsive than those who both planned and attempted. With the report of this finding, we can deduce that extra effort should be made to fish out students who are more likely to engage in suicidal behaviour. This may include the Type 'A' personality students. These ones should be assisted through psycho-education in order to help them manage their impulsive behaviour.

Conclusion

The study has added to the existing increasing body of knowledge on suicidal ideation especially in Nigeria where information on suicide is not readily available. It was discovered in this research that students who are depressed have a higher risk of engaging in suicidal behaviour than those who are not depressed. This is more especially when such students are between the ages of 15 and 25 years, and do not profess any faith. On one hand impulsivity was found to be significantly positively correlated to suicidal behaviour. This means that students who possess the trait of impulsivity might be at a high risk of suicidal behaviour than those who do not possess such a trait.

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