



Biosocial Factors as Predictor of Suicidal Ideation among Secondary School Adolescents in Ibadan-North East Local Government, Ibadan

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Abstract

The increase in the trend of suicide in recent times is quite disturbing and distortional to the academic pursuit of secondary school students. The challenges associated with suicidal ideation have been observed to rise from negative bio-sociological feedbacks such as gender, family background, parent separation and peer victimization. Participants consist of 315 secondary school students selected from the five randomly selected secondary schools in Ibadan North-East Local Government, Oyo State. Three standardized measuring scales were used with each having reliability score of Cronbach Alpha as follow: suicidal ideation- 0.785; biological factors- 0.771, social factors- 0.721. Three hypotheses were formulated and analyzed using multiple linear regression analysis at 0.05 level of significance. Result shows that the strongest predictor is biological factor (Beta= .474; $t= 8.838$; $p<0.01$), followed by sociological factor (Beta= .318; $t= 5.936$; $p<0.01$). This implies that biological and sociological factors accounted for increase in students' suicide ideation by 47.4% and 31.8% respectively. It was recommended among others that policymakers should implement school-based psychotherapy interventions in collaboration with health institutions and programs to provide social support for vulnerable students. More so, there should be public awareness on these factors that influence suicidal ideations so that parents can take precaution.

Keywords: Suicide Ideation, Gender, Family Background, Parent Separation, Peer Victimization

Introduction

Suicide is a serious world public health problem and still an interesting, controversial and difficult subject for theoretical and empirical consideration. Many researchers have observed that, suicide is one of the leading causes of death worldwide and appear to be on the rise. The World Health Organization, (2014) opined that, suicide occurs all over the world and can take

place at almost any age. Chikezei & Ebuenyi (2014) observed that suicide is the second leading of death among young people between the aged 15-29 years after road injury, violence, and maternal conditions among girls. However, contrary to this assertion, WHO (2014) reported that, globally suicide rate is higher in people aged 70 years and above while, in some countries the highest are found among youth. Attempted suicide occur 10-20 times more than completed suicide, and is a significant risk factor for death by suicide in the general population.

In the last forty-five years, suicide rates increased by 60 percent worldwide with an incidence rate of 16 per 100,000. In the same vein, WHO (2014) reported that in Nigeria, about 800,000 people die by suicide every year representing an annual age-standardized suicide rate of 11.4 per 100,000 population globally and 6.11 per 100,000. More importantly, WHO, 2019 estimates that globally, about 1million death occur from suicide every year; which roughly translates to one suicide every forty seconds. Hence, Abdu, Hajure and Desalegn, 2020, predicted that the rate at which the suicide is increasing, by 2020, might have increased to 1.5 million with one death every twenty seconds and one attempt occurring every one to two seconds. Although this has not been confirmed statistically, the fact still remain that the issue of suicide globally requires investigation and therefore this study aims at the factors constituting suicide ideation.

Several factors have been associated with suicidal ideation among secondary school students, some of the risk factors include; peer pressure, parent separation, chronic illness, physical abuse (from classmates, friends, seniors e.t.c), sexual abuse from teachers, parent death, unfulfilled academic expectations. Olaseni (2018) opined that suicide is a phenomenon that has many facets which involves psychological, social, biological, cultural and environmental factors. Also, according to (WHO, 2019) as cited by (Were & Ogutu, 2020) stated that suicide is the result of a convergence of risk factors including but not limited to genetics, psychological, social and cultural risk factors, sometimes combined with experiences of trauma, loss, and depression.

Suicide and suicide attempts and its thoughts are considered as taboo in Nigeria (Onu, Okoye, Mabia, Ifedigo & Babatunde, 2020). The society sees committing suicide as shameful and disgraceful way to die because of the social stigma and bad names that people would call them as family and friends of suicide victim. Despite the fact that, it is considered as taboo, there has been many reported cases of suicide and suicide attempt on social media, radio, television newspapers, (both local and international) etc. Suicide cases are generally reported to be rare in less developed countries, may be partly attributable to the routinely poor records of death and its cause. It has been defined by different authors and researchers from different perspective, such as Kaslow (2014) who describe suicide as death caused by self-directed injurious behavior with any intent to die as a result of the behavior. In the perspectives of Karthick & Barwa (2017) and Noiki (2017) suicide is a human act of self-inflicting, self-intentioned harm resulting to death, committed out of constricted thinking, tunneled logic and acute anguish. Similarly, the World Health Organization (WHO) describes suicide as the act of killing oneself deliberately initiated and performed by the concerned in the full knowledge or expectation of its fatal outcome. Suicide, in the opinion of Omone, Makinde, Oluwayemi, Adegbite, Dangan, Oyerinde, Babalola, & Adeoye, (2019), is an act that result in fatal outcomes, it is anticipated and carried out by a person who aimed to obtain a desirable change

Some people commit suicide in order to put an end to problem they are facing or as a way of escape from life they have found miserable or to escape what is it to them an impending doom that they will overwhelm them are of the opinion that they cannot endure (Omone *et al*, 2019). According to Palmier (2011) suicide is fatal; those who attempt suicide and survive may not only have serious injuries like broken bones, brain damage or organ failure or go into depression and other mental health problem but also, may affect the health of the community, family and friends of people who commit suicide.

The question posed by this study however is: will biosocial factors (family background parent separation, gender and peer victimization) predict suicidal ideation. Suicidal ideation refers to thinking about ending one's life, it ranges from infrequent feelings and wishes to be dead or thought that life is not worth living (Klonsky, May, & Saffer, 2016; Ajibola & Agunbiade, 2019).

Brent, Bridge, Johnson, & Connolly (1996) found an increased rate of suicide attempts in first-degree relatives of suicide victims compared to those of non-suicidal controls. Studies also reported increased rate of suicide attempts or completion in families of suicide completers (Cheng et al. 2000; Kim, Seguin, Therrien, Riopel, Chawky, & Lesage, 2005) and pro-bands with a history of suicide attempt (Goodwin et al. 2004; Mann, Bortinger, Oguendo, Currier, Li,& Brent, 2005). These studies suggested the existence of a common suicide phenotype that includes both attempt and completion.

Pfeffer, Normandin, Kakuma, (1994) observes that the rate of hereditary suicide attempts was higher in suicide attempters compared to non-attempters, but the rate of suicide attempts was not higher in families of suicidal ideators compared to non-ideators. These observations suggest that suicidal ideation may segregate more with psychiatric diagnoses than suicide attempt/completion. Suicidal ideation and suicide attempt/completion may be partly independent phenotypes and do not fit strictly on a severity scale of suicidal behaviors. In the study of Lieb, Bronisch, Hofler, Schreier & Wittchen (2005) that examined the risk of suicidal ideation in the offspring of depressed mothers who had contemplated suicide, found a greater than 50% increase in the risk for suicidal ideation relative to offspring whose mothers had never attempted suicide.

Another factor examined in this study is the gender differences in suicidal ideation. Most studies have shown that females have higher rates of suicidal ideation than males but mortality from suicide is typically lower for females than for males (Canetto & Lester, 1995; King, 1997). The study of Chin, Tseng, & Lin (2007) on the gender differences and stage-specific influence of parent-adolescence conflicts and adolescents suicidal ideation revealed that quarrels with parents

can predict suicidal ideation in girls. Lewinsohn, Rohde, & Seeley, 1996 in their study reported that female adolescents in the United States are two times more likely to report suicidal ideation than male adolescents. In another study by Park (2013), it was found that prevalence of suicidal ideation is higher in female adolescents than male adolescents.

Some research evidences also suggest a link between parental separation and the development of depression and subsequent suicidal ideation (Tomori, Zalar, Kores Plesnicar, & Zihlerl, 2001). Gutierrez (1999) studied suicidal in 25 parentally separated teens and found that although information on history of suicidal ideation was not limited to the period following parental separation, qualitative data drawn from the adolescents' interviews indicated that the parents' separation did play a role in the suicidal ideation of those adolescents who had threatened or attempted suicide. Garrison (1991) reported that living with both parents may be a protective factor against suicidal ideation.

Peer victimization has been defined most often as a unitary construct in the studies of adolescent suicide ideation. The studies of Schonfeld, & Gould (2007) and Undheim (2013) revealed that adolescent's frequent exposure to victimization or bully by others were at high risk of suicide ideation compared with adolescents who were not involved in victimization. Similarly, the study of Klomek, Marrocco, Kleinman, Geoffroy, Boivin, Arseneault, (2015) on association between peer victimization and suicidal ideation revealed that victims of peer victimization reported concurrently higher rates of suicidal ideation at age 13 years (11.6-14.7%) and suicide attempt at age 15 years (5.4-6.8%) compared to those who had not been victimized (2.7-4.1% for suicidal ideation and 1.6-1.9% for suicide attempt). Hence, concluded that peer victimization is associated with an increased risk of suicidal ideation and suicide attempt over and above concurrent suicidality and prior mental health problems.

There is dearth information about deaths resulting from suicide and suicidal ideation among young people in Nigeria (Mapayi, Olakunle, Osilaja, Oyebode, Ogunyemi, Adewale & Fatusi,

2016). This may be due to the taboo in many societies to openly report or discuss the issue of suicide (WHO, 2019). This work examine biosociological factors as correlates of suicidal ideation among secondary school adolescents in South western Nigeria.

Research question

The following were the questions posed for the study.

1. Will Biological factors (family background and gender differences) predict suicidal ideation?
2. Will Social factors (parent separation and peer victimization) predict suicidal ideation?
3. Will biosocial factors (family background, gender differences, parent separation and peer victimization) predict suicidal ideation?

Research hypothesis

In view of the above objectives, the hypothesis of the study will be presented in null form.

H₀₁: Biological factors will not significantly predict suicidal ideation.

H₀₂: Social factors will not predict suicidal ideation.

H₀₃: Biosocial factors will not predict suicidal ideation among secondary school students

Methodology

Survey research design was used to establish the relationship between the independent variables (biological factors and social factors) and dependent variable (suicidal ideation) of senior students in selected secondary school in Ibadan-North Local Government. Multistage sampling methods have been used to select participants. First, simple random sampling method was used to select five (5) secondary schools out of the 42 secondary schools in the Local Government under study. The population of the students in the 5 secondary schools is 1885 out of which a sample of 315 students were selected using proportionate stratified random sampling method.

The instrument for this study was a self-structured questionnaire titled, biosocial factors and suicide ideation. The questionnaire was divided into four sections:

Section A: this section is all about demographic information of the respondent that is; the respondents' age, class, gender, and school.

Section B: this section is on information on biological factors.

Section C: it contains information on social factors.

Section D: it contains general information on suicide ideation.

The response structure is based on the Likert Scale in which the respondent indicated how much he/she agrees or disagrees with each item in the questionnaire. The reliability of the instrument was ascertained using Cronbach alpha coefficient with the following scores: suicide ideation - 0.785; biological factors - 0.771, social factors - 0.721. The three hypothesis formulated were analyzed using Multiple Linear Regression Analysis at 0.05 level of significance.

Findings

H₀₁: Biological factors (Family Background, Gender) will not significantly predict suicidal ideation.

Table 1: Multiple Linear Regression Summary on biological factors (Family Background and Gender) as predictors of suicidal ideation.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	8.610	.820		10.495	.000
Family background	.589	.034	.697	17.072	.000
Gender	-.159	.292	.022	.546	.586

R= .695; R²= .483; Adj. R²= .480; Std. Error of the Estimate= 2.57315; F= 146.210; P<.05

Dependent Variable: Suicidal Ideation

Table 1 reveals that family background significantly predicted suicide ideation (Beta= .697; t= 17.072; p<0.05), while gender (Beta= -.022; t= -0.546; p>0.05) is not a predictor of suicide ideation. This implies that family background accounted for 69.7% increase in students' suicide ideation, while suicidal ideation does not dependent on gender, that is, either male or female can be liable to suicide ideation.

However, when the two factors (family background and gender) are combined the ANOVA result from the regression analysis shows that the independent variables significantly predicted suicide ideation, (F_(2; 314) = 146.210; p<0.05). This suggests that the biological factors may be responsible for suicidal ideation among secondary school students in Ibadan North-East Local Government, Oyo State.

H₀₂: Social factors (Parental separation and Peer Victimization) will not predict suicidal ideation.

Table 2 Multiple Linear Regression Summary sociological factors and suicidal ideation.

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
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	B	Std. Error	Beta		
(Constant)	10.237	.724		14.131	.000
Parental Separation	.401	.090	.250	4.445	.000
Peer victimization	.641	.078	.461	8.200	.000

R= .651; R²= .423; Adj. R²= .420; Std. Error of the Estimate= 2.71751; F= 114.903; P<.05

Dependent Variable: Suicidal Ideation

Table reveals that the two sociological factors (parental separation and peer victimization) significantly predict suicide ideation. However the strongest predictor is peer victimization (Beta= .461; t= 8.200; p<0.01), followed by parental separation (Beta= .250; t= 4.445; p<0.01). This implies that peer victimization and parental separation accounted for students' suicide ideation by 46.1% and 25% respectively.

However, when the two factors (parental separation and peer victimization) combined, accounted for 42.3% (Adj.R²= 0.423) variance in the prediction of suicide ideation. Other factors accounting for remaining variance in the prediction of suicide ideation are beyond the scope of this study. The ANOVA result from the regression analysis shows that there was a significant effect of the independent variables on the suicide ideation, (F (2; 314) = 114.903; p<0.05). This suggests that the sociological factors significantly predict suicidal ideation among secondary school adolescents

H0₃: Biosocial (biological and sociological) factors will not predict suicidal ideation among secondary school students.

Table 3: Multiple Linear Regression Summary biosocial factors and suicidal ideation

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	7.100	.722		9.840	.000
Biological factor	.400	.045	.474	8.838	.000
Sociological factor	.261	.044	.318	5.936	.000

Table 3 reveals that the two predictors (biological and sociological factors) are strong predictors of suicide ideation. The strongest predictor is biological factor (Beta= .474; t= 8.838; p<0.01), followed by sociological factor (Beta= .318; t= 5.936; p<0.01). This implies that biological and

sociological factors accounted for increase in students suicide ideation by 47.4% and 31.8% respectively.

However, when the two factors combine (biological factor and sociological factor) accounted for 53.2% ($\text{Adj.R}^2 = 0.532$) variance in the prediction of suicide ideation. Other factors accounting for remaining variance in the prediction of suicide ideation are beyond the scope of this study. The ANOVA result from the regression analysis shows that there was a significant effect of the independent variables on the suicide ideation, ($F_{(2; 314)} = 179.974$; $p < 0.05$). This suggests that the biosocial factors can significantly predict suicidal ideation among secondary school students in Ibadan North-East Local Government, Oyo State.

Discussion of Findings

There are three research questions this study aimed at answering and these research questions form three hypotheses. Research question one was answered using the hypothesis one test employing simple regression. The findings revealed that one of the biological factors (family background) has a significant influence on suicidal ideation. This implies that family background can significantly predict suicidal ideation; that is an individual whose one of the family members has committed or attempted suicide may likely have the idea of committing suicide. This finding is in line with the findings of Agerbo, Nordentoft, & Mortensen, (2013) and Runeson & Asberg (2003) that the rate of increase in suicidal ideation is more among families who have history of suicide. The result also corroborates with findings of Egeland & Susse (1985) who reported that suicides within four families who also had a high incidence of mood disorder, this implies that persons with mental health problems may have the tendency to think of committing suicide. The findings of Lieb, Bronisch, Hofler, Schreier, & Wittchen (2005) is also in agreement with this study, that greater than 50 percent increase in the risk for suicidal ideation is related to offspring whose mothers has attempted suicide.

Parental separation and peer victimization were the sociological factors used in this study to find out if they can predict suicidal ideation and the result of hypothesis two revealed that sociological factors significantly predict suicidal ideation. This implies that sociological factors: parent separation can significantly predict suicidal ideation. This study corroborates the findings of Amato & Keith (1991) and Hirsch & Ellis, (1995) whose findings suggested that adults who experienced parental divorce or permanent parental separation as children exhibited lower levels of well-being than did adults whose parents were continuously married. Specifically, adolescents raised in a home with divorced or separated parents, endorse fewer reasons for living than do

adolescents from two-parent homes and Tomori, Zalar, Kores, Plesnicar, & Zihlerl (2001), in their findings presumed that Factors such as parents being separated or divorced, and not being raised by both parents were also found to be significantly related to adolescent suicidal ideation, and also peer victimization can significantly predict suicidal, which is line with the result of Geoffroy, Boivin, Arseneault, (2015) who reported that peer victimization is associated with an increased risk of suicidal ideation, Klomek, Marrocco, Kleinman, Schonfeld, & Gould (2007) who reported that adolescents frequent exposure to victimization or bully by others were at high risk of suicide ideation compared with adolescents who were not involved in victimization.

Conclusion

The act of suicide is believed not be to a sudden incident. There are several factors, events and contemplations that occur before an attempt could be considered. Some of these factors may be biological, and sociological or the combination of all these factors. However, on the continuum of the collaboration of such factors, suicidal ideation is most times the first step leading to eventual suicide. From this study it was revealed that biosocial factors, which include biological and social factors, have significant influence on the suicide ideation. Suicidal ideation has been found from this study could be traced to family background factor and gender difference which were used in the study as biological factors. The social factors, which comprises of peer victimization and parental separation were also seen as factors that determine suicidal ideation.

Recommendations

Based on findings from this study the following recommendations are made:

- I. There should be public awareness on these factors that influence suicidal ideation to held see how these factors can be mitigated.
- II. There should be a forum(s) that could be created and made open frequently for students experiencing feelings of giving up on life or any major risk factor especially depression to access help to improve mental health of students.
- III. There is a need for education policymakers to implement school-based psychotherapy interventions in collaboration with health institutions and programs to provide social support for suicide vulnerable students.
- IV. The prevalence of suicidal ideation may be low and suicide even lower, but no case irrespective of its intensity should be over looked.

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