DEPRESSIVE SYMPTOMS AND SUCIDAL IDEATION AMONG UNDERGRADUATE STUDENTS OF BASIC MEDICAL SCIENCE IN UNIVERSITY OF BENIN

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IN PARTIAL FULFILLMENT OF THE AWARD OF THE DEGREE OF NURSING SCIENCE, SCHOOL OF BASIC MEDICAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY

JULY, 2021

CERTIFICATION

This is to certify that this project was carried out by UGWUEZE ESTHER OZIOMA, with Matriculation Number **BMS1501779** in the Department of Nursing Science under the supervision of

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(EXTERNAL EXAMINER) **SIGN &DATE**

DEDICATION

I want to dedicate the study to God Almighty for life, and most especially to my husband, **CHIZIE G. GAISHU** for his understanding and the brain behind my academic progression.

ACKNOWLEDGEMENT

I wish to express my profound gratitude to God Almighty for his protection, guidance, wisdom and understanding during my studies in the Department of Nursing Science, School of Basic Medical Sciences, University of Benin, Benin city, Edo State.

My sincere gratitude goes to my supervisor, Mrs. F. E. Amiegheme, for her academic nurturing.

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I also want to remember my dad Mr. Jude UgwuezeEzeanowayi for his fatherly support and advice during my academic studies and also my lovely mum and siblings.

ABSTRACT

This study was conducted to assess the relationship between depressive symptoms and suicidal ideation among undergraduate students in the school of basic medical sciences, university of benin, benin city, edo state. The study employed the correlational survey research design. After calculating the sample size of three hundred and thirty nine (339), a multi stage sampling technique was used in selecting respondents for the study. The instrument for data collection consists of two standardized instruments: beck depression inventory (bdi), suicide ideation scale; while the other parts consist of the demographic characteristics and the factors associated with depression. The data collected was analyzed using descriptive and inferential statistics after the data has been captured into the ibm statistical package for social sciences (spss) version 24.0 software. The result shows that the respondents have low prevalence of suicide ideation and few proportion having depressive symptoms. The study also established that there is a significant relationship between depressive symptoms and suicide ideation.

KEYWORDS: Depression, Suicide Ideation, University students

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INTRODUCTION

1.1 Background to the study

Suicide (from Latin *Sui caedere* to kill oneself or self-murder) means the act of a person intentionally causing his or her own death. It is death from injury, poisoning, or suffocation where there is evidence (either explicit or implicit) that the injury was self-inflicted and that the Decedent intended to kill himself/herself. The suicide attempt is a non-habitual act with the nonfatal outcome that is deliberately initiated and performed by the individual involved that causes self-harm or without intervention by others or consists of ingesting a substance in excess of its generally recognized therapeutic dosage. Suicide ideation is any self-reported passive thought about wanting to be dead or active thoughts about killing oneself not accompanied by preparatory behavior (Amare, *et al.*, 2018).

Almost each individual experiences, varying by degree, symptoms of depression least because of the various pressure exposed or biological etiology. There is the tendency for mild depressive symptoms to develop into a full-fledged depressive disorder and other mental disorders, which consequently is caused by a variety of biological or social factors; if there is no early intervention. (Ferrari, *et al.,*, 2013) The World Health Organization (WHO) predicts that depression will be the second leading cause of death and disability by 2020. Depression is one of the major symptoms for many major mental disorders (CDGPGC, 2013). Although the relationship between depression and suicidal ideation is still controversial, it is suspected that depression can lead to suicidal ideation and proactive attempts at suicide (Wang, *et al.,* 2017). About 90% of

people who kill themselves have depressive symptom, and 47% to 74% of population risk of suicide is contributed by depression and its other psychiatric disorders (Bilsen, 2018). Owing to psychological characteristics and lack of social experiences, in China, university students with depressive symptoms have particularly high risk for suicidal ideation. He & Yang (2015) found that university students' self-rating depression scores directly correlate with suicidal ideation.

Research has shown found that depressive symptoms accurately predict suicidal ideation in 94.2% of cases, suggesting a close link between depressive symptoms and suicidal ideation. Although procedures for recording deaths, cultural practices, and social values probably have profound effects on death reports and consequently lead to misclassification of suicide (e.g., as undermined death or death because of road accident), the WHO and the *Global Burden of Disease* study estimate that almost 800,000 people die from suicide every year (Roth,G.A*et al.,*2018). The translation from suicidal ideation into action is further upon the access to specific means for suicides. For example, in China, jumping from high sites, drowning, subway suicide (urban area), or pesticide indigestion (at rural area could be a high rate of 79% for female victims) (Yang, *et al.*, 2015) are often means for suicidal actions. The deleterious effects of suicide are immeasurable to individuals, friends, families, and society.

However, there is paucity of information about the epidemiology of suicide in Nigeria. Suicides are generally reported to be rare in less developed countries. This is partly attributable to the routinely poor records of death and its causes (Alabi, *et al.,* 2015).

Suicide is a global phenomenon having a deep consequence not just to the dying person but also towards the bereaved, the community and society (Jacob S. K., 2017). Despite being preventable, close to a million people die by suicide while the low and middle-income countries account for approximately 80% of the global suicides (WHO, 2019). Nigeria with a population of over

200 million is one of the epicenters of suicide in the world with a suicide estimate of 17.3 per 100 000, which is higher than the global (10.5 per 100 000) and Africa (12.0 per 100 000) estimates (WHO, 2019). According to global statistics, since 2012 there has been an increase in suicide in the country (WHO, 2018). Moreover, Nigeria, currently, has been reporting the highest number of depression cases in Africa (WHO, 2017).

Like in many developing countries, suicide in Nigeria is grossly under-reported and under-documented due to the non-existence of a vital statistics system (WHO, 2014). The dearth of data is also shrouded in stigma, and cultural and religious sentiments associated with suicide in Nigeria. Deaths by suicide are perceived as sinful; a taboo and caused by evil forces, so the families are often times stigmatized and denied social opportunities (Ohayi, S. R., 2019). People prefer to hide the mode of death, declaring suicides as accidental deaths or as homicides (Ohayi, S. R., 2019).Many of the reported cases rely on police and hospital records, neither of which are comprehensive and might have been influenced by the bereaved (Alabi O, *et al., 2014)*.Suicide is still a crime in Nigeria according to section 327 of the country's Criminal Code.

Also, in a study conducted by Omigbodun, *et al.,* (2008) to establish the prevalence and associated psychosocial correlates of suicidal ideation and attempts among young Nigerians. The study revealed that of the 1, 429 youths who were assessed, over 20% reported suicidal ideation and approximately 12% reported that they had attempted suicide in the preceding year. A national representative epidemiological study, covering 21 out of 36 states in Nigeria among 6,752 adults to evaluate for suicide related outcomes, and their association with mental disorders and a history of childhood adversity. The study revealed that prevalence of suicidal ideation; plan and attempts were 3.2%, 1% and 0.7% respectively (Gureje, & A. Alem, 2014).

In this study, we investigate the association between depressive symptoms and suicidal ideation in undergraduate students in the School of Basic Medical Sciences, University of Benin, Benin City, Edo State.

1.2 Statement of the Problem

Depression and suicidal ideation are serious mental conditions that put those affected at risk for attempted suicide. The developed world, unlike developing countries has carried out a number of researches that have linked depression and suicide ideation in students. Such researches have provided the developed world with statistical data that can be used to provide assistance to those who are prone to depression and suicidality. Suicide and suicide ideations among youth between the ages 15 and 24 has been found to be relatively common on the continent of Africa, ranging from 12% of the study respondents in Southwest Nigeria to 28.3% in Benin in the last two years Randall, *et al.,*(2014).

Ideally, students should be made to study in aconducive environment without undue stress. Conducive environment constitutes of a condition devoid of economic, financial, social, and psychological problems. This, however appears not to be so with students in Nigerian universities. According to Olape, *et al.,(*2017), many Nigerian university students face some excruciating economic difficulties such as inability to pay their school fees, purchase essential textbooks for their courses, feed and clothe themselves or cope with academic work, and obtain good medical care while on campus. Recently, in the University of Benin, the incidence of suicide and suicide ideation has increased, which may be associated with depression. Hence, there is the need to assess the level of depressive symptoms and associate it with suicide ideation, based on the knowledge that suicide is a serious, preventable public health problem that results in

social, emotional, and economic consequences in families, friends, and colleagues. The study hopes that the evidence generated in this study will facilitate the prevention and control.

1.3 Objectives

1.3.1 General objective

The aim of this study is to assess depressive Symptoms and Suicide Ideation among undergraduate Students in the School of Basic Medical Sciences, University of Benin, Benin City, Edo State.

1.3.2 Specific Objectives

Specifically, it will:

(i) Identify the depressive symptoms among undergraduate BMS Students

(ii) Identify the factors that contribute to depression among undergraduate BMS Students

(iii) Determine the prevalence of Suicide ideation among undergraduate BMS Students

(iv) Associate depressive symptoms and suicide ideation among undergraduate BMS students.

1.4 Significance of the Study

Based on an extensive literature search, it can be established that this study is one of the few studies that has been able to establish an association between depression and suicidal ideation among undergraduate students in the Basic Medical Sciences. Findings from this study will be significant because they it will be a good statistics to compare with other established researches in this area in the developed world. This work will also sensitize Nigerian researchers to carry out more studies of this nature. Carrying out more of these studies in the Nigerian setting would

create a database for world bodies such as the World Health Organization and mental health experts. Information from such databases can be used to intervene in the mental health problems and suicidal behaviors in undergraduate students in the Basic Medical Sciences. Finally, the study will assist the Counseling Department of the university offer assistant and build programmes to assisting students that are depressed and have suicide ideation so as to reduce the recent incidence of suicide on the university campus.

1.5 Research Questions

1. What is the level of depressive symptoms among undergraduate BMS Students?
2. What are the factors that contribute to depression among undergraduate BMS Students?
3. What is the prevalence of Suicide ideation among undergraduate BMS Students?
4. What is the association between depressive symptoms and suicide ideation among undergraduate BMS students?

1.6 Research Hypotheses

(i) There is no significant association between suicide ideation and gender

(ii) There is no significant association between depressive symptoms and suicide ideation among undergraduate BMS students

(iii) There is no significant association between factors that contribute to depression and level of depressive symptoms.

1.7 Scope of the Study

The study is on association of depressive symptoms and suicide ideation among undergraduate Basic Medical Science Students in the University of Benin, Benin City.

1.8 Operational Definitions of Terms

Suicide – Suicide is an act of a person intentionally causing his or her own death.

Ideation – Ideation is the creative process of generating, developing, and communicating new ideas about taking one life due to pressures of life

Suicidal Ideation: Suicidal Ideation is the thinking about, or the thought of planning suicide.

Depression – a mental condition characterized by feelings of severe despondency and dejection, typically also with feelings of inadequacy and guilt, often accompanied by lack of energy and disturbance of appetite and sleep.

Undergraduate – a university student who has not completed a first degree (Bachelors Degree)

Symptoms – This is an indication of the existence of something, especially of an undesirable situation.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 CONCEPTUAL FRAMEWORK

2.1.1 Concept of Suicide/Suicide Ideation

Suicide is a major health concern for all age groups in many parts of the world. It is generally described as the deliberate act of causing one's own death. According to the World Health Organization (2017), suicide is the second leading cause of death among 15-29-year old, claiming the lives of about 800,000 people per year, worldwide. This figure, however, is only a fraction of the number of people who attempt suicide yearly. Due to under reporting and the stigmatization of suicide, research investigating the prevalence of suicide is quite limited in developing countries (Gill, *et al.,* 2018). The World Health Organization estimates a suicide rate of 9.5 per 100,000 people in 2017 in Nigeria, a significant increase from the reported rate in 2012 which was 4.3 per 100,000 (WHO, 2018). Statistics have also shown significant sex disparities in suicidal behavior which may cut across cultures. Globally, almost twice as many men than women die by suicide, as according to World Health Organization, the male/female ratio of age-standardized suicide rates were 1.7 in 2015.

Though suicide is preventable, the ambiguity in determining the specific causes of suicide makes it quite difficult to predict. Therefore, suicide prevention rests heavily on the ability to identify risk factors which may include social, economic and psychological influences. Sir William Denny, a puritan minister in the mid-17th century attributed the increased suicide rates at the time to the urban development in London.Voltaire Jean Dumas (2016) also shared similar views

as he explained that “in the fields it is only the body that suffers, but in the city, it is the mind”. Several theorists during this era argued that with urban life came great stressors, anxiety and insanity - including Forbes Winslow, founder of the British Journal of Psychological Medicine. This idea was similar to the ones proposed by several philosophers during the colonial era in Africa who tried to explain the increased suicide rate among Africans in South Africa. They claimed that the increase was due to the transition from their “traditional conservative and rurally based life” to urban life. However, suicide among colonists often went unrecorded due to the stigma attached to this kind of death, hence, radicalizing the statistics.

Additionally, maintaining traditional values was considered the best way to prevent suicide. This was the notion behind the “moral treatment” used in several European and American asylums in the 19th century. Many theories proposed to explain the uneven gender distribution among people who die by suicide hinged on this ideology. The earliest statistics showed that 75% of people who die by suicide in Europe and North America were males. This disparity was generally attributed to women’s emotional fragility, natural timidity (lack of courage), increased family attachment and high religious values (Wright & Weaver, 2009). This lead to the assumption that while suicide among men were likely due to financial or egoistical reasons, the causes of suicide among females ranged from remorse/shame to mental illness. As a result, it was believed that women who took up “male responsibilities” were more prone to suicide, an idea Barbara Welter described as the “cult of true womanhood” (Wright & Weaver, 2009). In other words, another problem with urbanization was that women were encouraged to take up roles that were considered “traditionally male” (e.g., vocations), which several European and North American philosophers in the 19th century claimed would increase their risk of dying by suicide.

However, while social and economic influences cannot be ignored, many studies have found stronger links between psychological influences, particularly mental illness. The discovery of the association between mental disorders and suicide dates as far back as 460-377 BC by ancient Greek philosophers. Over the years, several studies have found a strong relationship between suicide and several mental disorders especially mood disorders, substance disorders and schizophrenia (Lu, 2017). Depression is often characterized by both physical and behavioral symptoms including persistent sadness, feelings of hopelessness, lack of motivation, energy loss, and difficulty functioning. As Hamid Reza *et al.,* (2017) explained, "suicide isn't an accidental and meaningful action, rather it is a way to get out of a predicament or crisis that causes a person extreme suffering, without exception". Due to the complexities involved in predicting suicides, the presence of risk factors, such as: psychiatric disorder or mental illness, family history of mental illness, previous suicide attempts, or substance abuse, is often used to assess a person's probability of dying by suicide. Sommers-Flanagan and Shaw (2017), however, argued that risk factors may not necessarily be good predictors of suicide. According to Sommers-Flanagan and Shaw (2017), "just because the 2014 CDC data indicate that males die by suicide at a 21.1 rate per 100,000 and females only at 6.0 per 100,000 does not change how providers should routinely deal with individual males or females in suicidal crisis." . Therefore, they proposed that scientists explore the possibility of a more biological and individual approach to improve predictions and hence, increase prevention rates. Either way, the strong connection between mental illness and suicide across the history of suicide studies remains undisputed.

Until the 20th century, attempting suicide was considered a crime in many countries around the world. Though suicide has been decriminalized in several countries, the stigmatization associated with suicide is partly attributed to its historical criminalization. Tait and Carpenter (2016), while

investigating the underestimation of suicide rates in United Kingdom, found that coroners are often reluctant to conclude that a person died by suicide (until it is proven beyond reasonable doubt) because of the stigma and guilt the family of the deceased would have to endure. Therefore, perceptions and attitudes towards suicide are embedded in these ideals from the past. The World Health Organization suggests that even the commonly used phrase "committed suicide" is rooted in the criminalization of suicide, and insinuates that suicide is a crime (WHO, 2017).

Suicidal ideation, also known as suicidal thoughts, is thinking about, considering, or planning suicide. The range of suicidal ideation varies from fleeting thoughts, to extensive thoughts, to detailed planning (Klonsky, *et al.,* 2016)

Most people who have suicidal thoughts do not go on to make suicide attempts, but suicidal thoughts are considered a risk factor (Gliatto*et al.*, 2017). During 2008–2009, an estimated 8.3 million adults aged 18 and over in the United States, or 3.7% of the adult U.S. population, reported having suicidal thoughts in the previous year. An estimated 2.2 million in the U.S. reported having made suicide plans in 2014 (Crosby&Beth, 2014). Suicidal thoughts are also common among teenagers. (Uddin, *et al.,* 2019).

Suicidal ideation is generally associated with depression and other mood disorders; however, it seems to have associations with many other mental disorders, life events, and family events, all of which may increase the risk of suicidal ideation. For example, many individuals with borderline personality disorder exhibit recurrent suicidal behavior and suicidal thoughts. One study found that 73% of patients with borderline personality disorder have attempted suicide, with the average patient having 3.4 attempts. (Soloff, *et al.,* 2015) Currently, there are a number of treatment options for those experiencing suicidal ideation.

Causes

Many different factors can contribute to suicidal ideation. Often these thoughts strike when you are feeling hopeless and out of control in your life and/or like it have no meaning or purpose.

These feelings may be due to circumstances like relationship problems, trauma, substance use, a crisis of some sort, pressure at work, a physical health issue, or financial difficulties. Having any mental health disorder such as depression, bipolar disorder, post-traumatic stress disorder (PTSD), or anxiety can also contribute.

There are a variety of risk factors for suicidal ideation and suicide, including

- Having attempted suicide in the past
- Having a mental health disorder
- Feeling hopeless, isolated, and/or lonely
- Not being married
- Being gay, lesbian, bisexual, or transgender
- Having served in the military
- Having a chronic physical illness like cancer, diabetes, or a terminal disease
- Having chronic pain
- Having a traumatic brain injury
- Having a family history of suicide
- Having a drug or alcohol use disorder
- Having experienced childhood abuse or trauma
- Living in a rural area

- Having access to firearms

2.2.2 Risk Factors of Suicide

Factors that affect the risk of suicide include mental disorders, drug misuse, psychological states, cultural, family and social situations, genetics, and experiences of trauma or loss. CDC, 2019; Zalsman, *et al.,* 2016).Suicide and suicidal behaviors are closely related and the associated risk factors can be divided into two major groups (i.e., distal [predisposing] factors and proximal [precipitating] factors) (Blasco*et al.*, 2019; Klonsky*et al.*, 2016).

Proximal risk factors are those factors that have a direct contributing role in suicidality such as hopelessness, depression, impaired memory specificity, and psychiatric disorders (e.g., bipolar disorders, anxiety disorders, stress-related disorders).

Distal risk factors are predisposing risk factors that often contribute to and/or interplay with the aforementioned proximal factors (e.g., childhood adversities, interpersonal violence, bullying or dating violence in early life, parental psychopathology, parental death, family divorce and/or discord, epigenetic changes, and genetic influences) (Blasco*et al*., 2019; Franklin *et al*., 2017; Turecki and Brent 2016). Additionally, recent studies have suggested problematic technology use (i.e., internet addiction, Facebook addiction, Smartphone addiction) can also play direct and indirect roles in suicide and suicidal behaviors via associated behaviors such as emotional distress and sleep disturbance (Cheng *et al*., 2015; Guo*et al*., 2018; Jasso-Medrano and Lopez-Rosales 2018; Kim *et al.*, 2019; Mok*et al.*, 2015;

2.2.3 Signs and symptoms of Suicide Ideation

Suicidal ideation has a straightforward definition - suicidal thoughts - but there are some other related signs and symptoms. Some symptoms or co-morbid conditions may include unintentional

weight loss, feeling helpless, feeling alone, excessive fatigue, low self-esteem, presence of consistent mania, excessively talkative, intent on previously dormant goals, feel like one's mind is racing.(APA, 2000) The onset of symptoms like these with an inability to get rid of or cope with their effects, a possible form of psychological inflexibility, is one possible trait associated with suicidal ideation.(Valenstein, *et al.,*, 2012) They may also cause psychological distress, which is another symptom associated with suicidal ideation (Chamberlain, *et al.,* 2016). Symptoms like these related with psychological inflexibility, recurring patterns, or psychological distress may in some cases lead to the onset of suicidal ideation. A significant number of people with suicidal ideation keep their thoughts and feelings a secret and show no signs that anything is wrong.

2.2.4 Suicide risk assessment

Suicide risk assessment is a process of estimating the likelihood for a person to attempt or die by suicide. The goal of a thorough risk assessment is to learn about the circumstances of an individual person with regard to suicide, including warning signs, risk factors, and protective factors. Accurate and defensible risk assessment requires a clinician to integrate a clinical judgment with the latest evidence-based practice, although accurate prediction of low base rate events, such as suicide, is inherently difficult and prone to false positives (Bongar, 2015).

The assessment process is ethically complex: the concept of “imminent suicide” (implying the foreseeability of an inherently unpredictable act) is a legal construct in a clinical guise, which can be used to justify the rationing of emergency psychiatric resources or intrusion into patients' civil liberties (Simon, 2016). Some experts recommend abandoning suicide risk assessment as it is so inaccurate (Murray, 2016). In addition suicide risk assessment is often conflated with assessment of self-harm which has little overlap with completed suicide. Instead, it is suggested

that the emotional state which has caused the suicidal thoughts, feelings or behavior should be the focus of assessment with a view to helping the patient rather than reducing the anxiety of clinician who overestimates the risk of suicide and are fearful of litigation. In 2017, an example of how to do this in practice was published in the Scientific American (Murray, 2017). Given the difficulty of suicide prediction, researchers have attempted to improve the state of the art in both suicide and suicidal behavior prediction using natural language processing and machine learning applied to electronic health records (Barak-Corren, *et al.,*, 2017; McCoy, *et al.,*, 2016).

2.2.5 Treatment of Suicide Ideation

Treatment of suicidal ideation can be problematic due to the fact that several medications have actually been linked to increasing or causing suicidal ideation in patients. Therefore, several alternative means of treating suicidal ideation are often used. The main treatments include: therapy, hospitalization, outpatient treatment, and medication or other modalities (Gliatto&Rai, 2017).

Therapy

In psychotherapy a person explores the issues that make them feel suicidal and learns skills to help manage emotions more effectively (Gliatto&Rai, 2017; Halgin& Susan (2016).

Hospitalization

Hospitalization allows the patient to be in a secure, supervised environment to prevent the suicidal ideation from turning into suicide attempts. In most cases, individuals have the freedom

to choose which treatment they see fit for themselves. However, there are several circumstances in which individuals can be hospitalized involuntarily. These circumstances are:

- If an individual poses danger to self or others
- If an individual is unable to care for oneself

Hospitalization may also be treatment option if an individual:

- Has access to lethal means (e.g., a firearm or a stockpile of pills)
- Does not have social support or people to supervise them
- Has a suicide plan
- Have symptoms of a psychiatric disorder (e.g., psychosis, mania, etc.)

Outpatient treatment

Outpatient treatment allows individuals to remain at their place of residence and receive treatment when needed or on a scheduled basis. Being at home may improve quality of life for some patients, because they will have access to their personal belongings, and be able to come and go freely. Before allowing patients the freedom that comes with outpatient treatment, physicians evaluate several factors of the patient. These factors include the patient's level of social support, impulse control and quality of judgment. After the patient passes the evaluation, they are often asked to consent to a "no-harm contract". This is a contract formulated by the physician and the family of the patient. Within the contract, the patient agrees not to harm themselves, to continue their visits with the physician, and to contact the physician in times of need. There is some debate as to whether "no-harm" contracts are effective. These patients are then checked on routinely to assure they are maintaining their contract and avoiding dangerous activities (drinking alcohol, driving fast, and not wearing a seat belt, etc.) (Gliatto&Rai, 2017).

Medication

Prescribing medication to treat suicidal ideation can be difficult. One reason for this is that many medications lift patients' energy levels before lifting their mood. This puts them at greater risk of following through with attempting suicide. Additionally, if a person has a co-morbid psychiatric disorder, it may be difficult to find a medication that addresses both the psychiatric disorder and suicidal ideation. Antidepressants may be effective. Often, selective serotonin re-uptake inhibitors are used instead of Tricyclic Antidepressant (TCA) as the latter typically have greater harm in overdose. (Gliatto&Rai, 2017)

Antidepressants have been shown to be a very effective means of treating suicidal ideation. One correlational study compared mortality rates due to suicide to the use antidepressants within certain counties. The counties which had higher SSRI use had a significantly lower number of deaths caused by suicide (Simon, 2016). Additionally, an experimental study followed depressed patients for one year. During the first six months of that year, the patients were examined for suicidal behavior including suicidal ideation. The patients were then prescribed antidepressants for the six months following the first six observatory months. During the six months of treatment, experimenters found suicide ideation reduced from 47% of patients down to 14% of patients (Mulder, *et al.,* 2018). Thus, it appears from current research that antidepressants have a helpful effect on the reduction of suicidal ideation.

Although research is largely in favor of the use of antidepressants for the treatment of suicidal ideation, in some cases antidepressants are claimed to be the cause of suicidal ideation. Upon the start of using antidepressants, many clinicians will note that sometimes the sudden onset of suicidal ideation may accompany treatment. This has caused the Food and Drug Administration (FDA) to issue a warning stating that sometimes the use of antidepressants may actually increase

the thoughts of suicidal ideation. (Simon, 2016) Medical studies have found antidepressants help treat cases of suicidal ideation and work especially well with psychological therapy (Zisook, *et al.,* 2016). Lithium reduces the risk of suicide in people with mood disorders (Cipriani, *et al.,* 2013).

2.2.6 Prevention of Suicide

Suicide affects many people, young and old, in every country and culture of the world. Almost a million lives are lost every year to suicide, with at least 10 million other suicide attempts, and 5-10 million people affected by the suicide death of someone close to them. Suicide remains one of the most frequent causes of death around the world. The impact of suicide makes prevention an important public-health priority and has been identified as a priority by the World Health Organization (WHO, 2014), as well as national, state, and local agencies.

Some things to prevent suicide are best done on an individual level, like watching for signs of suicidal thoughts and talking to those you know. However, some changes can be implemented on the community, state, and even national level:

- Restrict access to means for suicide. If highly lethal items such as pesticides, poisons, and firearms are less available, many deaths can be prevented.
- Improve access to health care, including mental-health treatment.
- Educate people about mental illness, substance abuse, and suicide.
- Work to reduce physical and sexual abuse. Advocate for reducing discrimination based on race, culture, gender, or sexual orientation. Provide support to vulnerable individuals.
- Fight stigma against mental illness and those suffering its effects.

2.3 THEORETICAL FRAMEWORK

The theoretical framework for this study is the interpersonal theory of suicide. This theory attempts to explain why individuals engage in suicidal behavior and to identify individuals who are at risk. It was developed by Thomas Joiner and is outlined in Why People Die By Suicide (Joiner, 2005). The theory consists of three components that together lead to suicide attempts. According to the theory, the simultaneous presence of thwarted belongingness and perceived burdensomeness produces the desire for suicide. While the desire for suicide is necessary, it alone will not result in death by suicide. Rather, Joiner asserts that one must also have acquired capability (that is, the acquired ability to overcome one's natural fear of death).

A number of risk factors have been linked to suicidal behavior, and there are many theories of suicide that integrate these established risk factors, but few are capable of explaining all of the phenomena associated with suicidal behavior as the interpersonal theory of suicide does. Strength of this theory lies in its ability to be tested empirically. It is constructed in a way that allows for falsifiability. A number of studies have found at least partial support for the interpersonal theory of suicide (Van Orden,, 2010; Joiner, 2009). Specifically, a systematic review of 66 studies using the interpersonal theory of suicide found that the effect of perceived burdensomeness on suicide ideation was the most tested and supported relationship. The theory's other predictions, particularly in terms of critical interaction effects, are less strongly supported (Ma, *et al* 2016).

2.4.1 Components of the theory

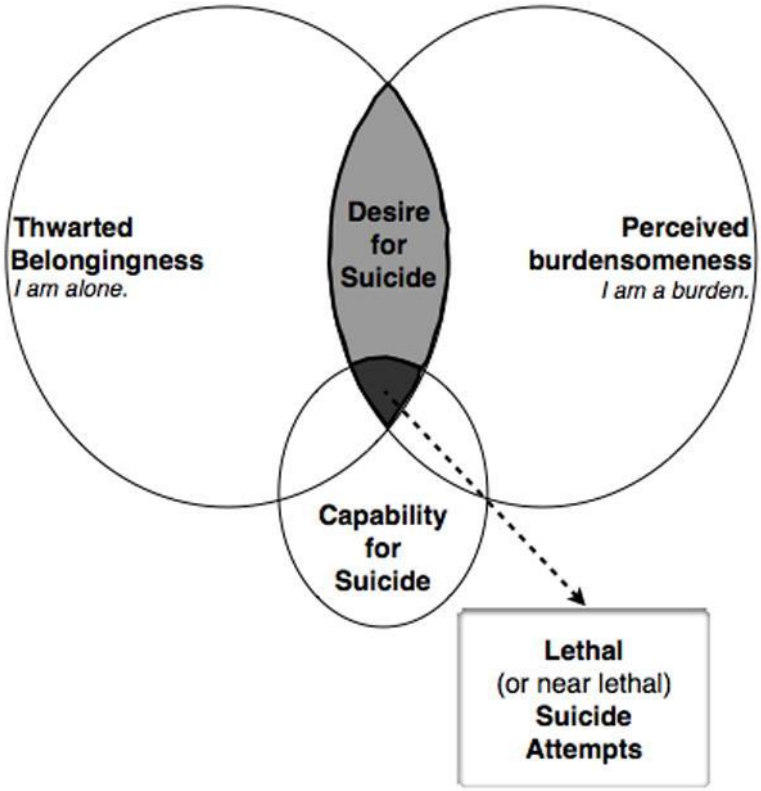


Figure 2.1: Components of the Interpersonal Suicide theory

Thwarted belongingness

Belongingness—feeling accepted by others—is believed to be a fundamental need, something that is essential for an individual's psychological health and well-being. Increased social connectedness—a construct related to belongingness—has been shown to lower risk for suicide. More specifically, being married, having children, and having more friends are associated with a lower risk of suicidal behavior. Additionally, "pulling together" (e.g., gathering for sporting events, celebrations) with others has been shown to have a preventive effect. For example, suicide rates have been lower on Super Bowl Sundays than other Sundays, and it is believed that the social connectedness that occurs from being a fan of a sport's team increases one's feeling of belongingness. In contrast, social isolation is frequently reported by those who die by suicide prior to death.

Perceived burdensomeness

Perceived burdensomeness is the belief that one is a burden on others or society. Joiner describes perceived burdensomeness as the belief that "my death is worth more than my life". Unemployment, medical or health problems, and incarceration are examples of situations in which a person may feel like they are a burden to others. It is important to note that the burdensomeness is "perceived", and is often a false belief. According to the theory, thwarted belongingness and perceived burdensomeness together constitute the desire for suicide.

Acquired capability

Joiner terms this "acquired" capability because it is not an ability with which humans are born. Rather, this ability to engage in suicidal behaviors is only acquired through life experiences. Fear of death is a natural and powerful instinct. According to the theory, one's fear of death is weakened when one is exposed to physical pain or provocative life experiences as these experiences often lead to fearlessness and pain insensitivity. These experiences could include

childhood trauma, witnessing a traumatic event, suffering from a severe illness, or engaging in self-harm behaviors.

These behaviors are thought to result in the desensitization to painful stimuli and to increase one's ability to engage in suicidal behaviors. This component is important in identifying individuals who are likely to attempt or die by suicide. For example, certain professions (e.g., soldiers, surgeons, and police officers) are exposed to physical pain or provocative experiences. More specifically, soldiers with a history of combat have likely been exposed to grave injuries, witnessing the death of others, and are habituated to fear of painful experiences. This is consistent with data indicating an increased rate of suicide in soldiers. Additionally, past attempts of suicide has been found to be the number one predictor of future attempts. This is consistent with Joiner's theory; individuals who attempt suicide will habituate to the fear of death, and this weakened fear will make an individual more likely to make a subsequent attempt.

2.4 EMPIRICAL STUDIES

Santos, *et al.,* (2017) conducted a study to analyze the factors associated with suicidal ideation in a representative sample of university students. It involves a cross-sectional study, carried out with 637 students of the Federal University of MatoGrosso. It was found that 9.9% of the students had suicidal thoughts in the previous 30 days and, in the bivariate analysis, the variables economic class, sexual orientation, religious practice, suicide attempts in the family and among friends, alcohol consumption and depressive symptoms were associated with suicidal ideation. In the multivariate analysis sexual orientation, suicide attempts in the family and the presence of depressive symptoms remained as associated factors.

Park and Kim (2019) examined depressogenic personality dimensions-sociotropy and autonomy-as individual differences that may alter the effects of TB and PB on suicide ideation. They hypothesized that sociotropy will amplify the influence of TB on suicide ideation and that autonomy will regulate the degree to which PB leads to suicide ideation. This study was conducted with undergraduate students from a university located in Seoul, Korea. 313 students of whom 113 were males (36.1%) and 200 were females (63.9%) were included in the final analyses. Among the 313 participants, 42 (20.3%) endorsed suicide ideation. Significant correlations were identified between sociotropy and depression, and autonomy and depression. PB and sociotropy were valid predictors of suicide ideation even after controlling for depression. In addition, significant interactions were found between sociotropy and TB, and autonomy and PB.

Chesin and Jeglic (2016) conducted a survey set out to determine psychosocial factors associated with recurrent suicidal ideation among racially and ethnically diverse college students with a history of suicide attempt. From 2012-2013, 1,734 racially and ethnically diverse college students completed an on-line survey of suicidal behavior and associated factors. Depression was significantly related to both the presence and severity of current suicidal ideation. Mindfulness, and in particular awareness of present moment experience, was also inversely associated with ideation severity. We found depression and mindlessness were associated with suicidal ideation severity among a sample of diverse college students at high risk for suicidal behavior due to a past suicide attempt. Factors unique to the minority experience, such as acculturative stress, were not associated with current suicidal ideation.

Horgan, *et al.,* (2018) examined the prevalence of depressive symptoms and suicidal ideation among 220 first year undergraduate university students in Ireland. Data were collected using the

Centre for Epidemiological Studies Depression Scale and the Suicidal Behaviours Questionnaire. Findings indicated that 59% of participants experienced depressive symptoms and 28.5% had suicidal ideation. Financial stress and poor relationships with both parents increased the odds of experiencing depressive symptoms. Sexual orientation, financial stress, and poor relationships with fathers, increased the odds of experiencing suicidal ideation. Suicidal ideation was also higher in those who had sought help in the past from mental health professionals.

Bernert, *et al.,*(2017) investigated the objective and subjective parameters of disturbed sleep as a warning sign of suicidal ideation among young adults over an acute period. The study was a longitudinal study across a 21-day observation period and 3 time points. Fifty of 4,847 participants (aged 18-23 years) were prescreened from a university undergraduate research pool (February 2007-June 2008) on the basis of suicide attempt history and recent suicidal ideation. Actigraphic and subjective sleep parameters were evaluated as acute predictors of suicidal ideation (Beck Scale for Suicide Ideation), with adjustment for baseline symptoms. Hierarchical regression analyses were employed to predict residual change scores. The result showed that Ninety-six percent of participants (n = 48) endorsed a suicide attempt history. Mean actigraphy values revealed objectively disturbed sleep parameters; 78% (n = 39) and 36% (n = 18) endorsed clinically significant insomnia and nightmares, respectively. When results were controlled for baseline suicidal and depressive symptoms, actigraphic and subjective sleep parameters predicted suicidal ideation residual change scores at 7- and 21-day follow-ups ($P < .001$). Specifically, actigraphy-defined variability in sleep timing, insomnia, and nightmares predicted increases in suicidal ideation ($P < .05$). In a test of competing risk factors, sleep variability outperformed depressive symptoms in the longitudinal prediction of suicidal ideation across time points ($P < .05$).

Horgan, *et al.,* (2016) identified levels of depressive symptoms, social and personal college adjustment and peer support among nursing and midwifery students. Data were collected in 2013 using the Centre for Epidemiology Depressive Symptoms Scale, two subscales of the Student Adaptation to College Questionnaire; and a subscale of the Peer Support Evaluation Inventory with 417 students in Ireland. The result indicated that 34% of participants experienced depressive symptoms, 20% were poorly personally adjusted and 9% poorly socially adjusted. Most students had good levels of peer support. Statistically significant relationships were found between all key variables. Students in their second year of study had significantly higher rates of depressive symptoms. Participants who reported having poor relationships with their fathers were at higher risk and had more difficulties personally and socially adjusting to university life and study. The alcohol consumption of participants had a statistically significant relationship with depressive symptoms with higher consumption rates having a positive impact on symptoms.

Peltzer and Pengpid (2015) determined the prevalence and association between depressive symptoms, sociodemographic, social and health risk variables among undergraduate students in 26 low, middle and high income countries. Using anonymous questionnaires, data were collected from 20222 undergraduate university students (mean age 20.8, SD = 2.8) from 27 universities in 26 countries in Africa, Asia, Caribbean and Latin America. The result showed that overall study participants had a prevalence of 24.0 % moderate and 12.8 % severe depressive symptoms. In multivariate logistic regression, demographic and social variables (being female gender, low organized religious activity, lack of social support and lack of personal control), stressful or traumatic life events (sexual violence and physical child abuse) and health risk behaviour (tobacco use, insufficient brushing of teeth, irregular sleep duration, increased salt intake,

infrequent meals a day, heavy internet use and having sustained an injury) were associated with severe depressive symptoms.

Gress-Smith *et al.*, (2015) conducted a research to explore theprevalence, co-morbidities and risk factors within developmental period of college undergraduate students. Two studies were conducted; the first evaluated the prevalence and co-morbidity of depressive symptoms and insomnia in 1338 students (ages 18-23 years) from a large Southwestern University. Mild depressive symptoms were endorsed by 19% of students and 14.5% reported moderate to severe symptoms. Forty-seven percent of students reported mild insomnia and 22.5% endorsed moderate to severe insomnia severity. A second study investigated perceived stress as a potential mediator of the relation between self-reported childhood adversity and concurrent depressive symptoms and insomnia. Undergraduates (N = 447) from a Southwestern and Southeastern University reported prior childhood adversity, current perceived stress, insomnia and depressive symptoms. Self-reported childhood adversity predicted higher levels of depressive symptoms and insomnia severity, partially mediated by perceived stress. Results support the high prevalence of depressive symptoms and insomnia among undergraduates. The risk for depressive and insomnia symptoms may be increased among students who experienced greater levels of childhood adversity.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter elaborated on the methods and procedures that were employed in this research.

3.2 RESEARCH DESIGN

Descriptive survey research was applied in this study. Descriptive survey is a non-experimental research which involves the collection and analysis of responses of large numbers of people- the whole (population), or fraction (sample) who represent the population, designed to elicit their opinion, attitude and sentiments about a specific topic (Chinweuba, *et al.,* 2014). The survey method is the most appropriate design because it is most frequent, cheapest, most suitable or most comfortable research design. The design was be appropriate for this study as it describes objectively the actual situation under study.

3.3 RESEARCH SETTING

The research was been carried out in the School of Basic Medical Sciences, College of Medical Sciences, University of Benin, Edo State. The University of Benin is an established and licensed university housing different individuals that cut across all areas of the educational discipline. The university was founded in 1970; it started as an institute of technology and was accorded the status of a full-fledged university by the National Universities Commission (NUC) on July 1 1971. The university comprises of 13 faculties. The School of Basic Medical Sciences comprise of seven departments: Anatomy, Medical Biochemistry, Medical laboratory Science, Nursing Science, Physiology, Physiotherapy and Radiography/Radiation Sciences.

3.4 TARGET POPULATION

Essel and Owusu (2017) defined population as the complete set of individuals, objects or scores that on investigation that the researcher is interested in studying. It basically, refers to the entire collection of all observation of study. The target population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions. The target population of the study comprised of all students in the School of Basic Medical sciences, University of Benin in Edo State totaling 1345 (Statistics from School Secretary; July, 2019). This target population was chosen because they meet the criteria to be subjects of the research study.

3.5 SAMPLE SIZE

Sample is a proportion of a population. The sample size for the study was calculated from the study population using Taro Yamane equation with 95% confidence level.

$$n = N/(1 + Ne^2)$$

n = sample size

N = population size

e = level of precision. (e = 0.05).

n = $N/(1 + Ne^2) = \frac{1345}{1+1345(0.05)^2}$

= 308

With 10% attrition rate, which is 30.8

n = 308 + 30.8 = 338.8 = 339

The number of participating students in each selected department would be determined by simple proportion.

Level	Population	Number of students to be sampled	Approximate number of students to be sampled
Nursing			

100	104	(104÷846)× 339	42
200	101	(101 ÷ 846) ×339	41
300	75	(75 ÷ 846) ×339	30
400	74	(74 ÷ 846) ×339	30
500	76	(76 ÷ 846) ×339	30
Medical Biochemistry			
100	98	(98 ÷ 846) ×339	39
200	130	(130 ÷ 846) ×339	52
300	102	(102÷ 846) ×339	41
400	86	(86÷ 846) ×339	34
Total	846		339

3.6 SAMPLING TECHNIQUE

Sample is "a proportion of a population". It is a subset of population selected to participate in a research study. It defines the selected group of elements, that is, individuals, groups or organizations (Chinweuba*et al.,* 2014).

Sample size is the number of subjects or participants recruited and to which the study findings was generalized. It is the number of observations in a sample. In this study, multistage sampling technique was used to select study sample from the different departments in the school. The sampling was run till the proportion allocated for each level is completed.

Stage One: Two Departments was randomly selected from the Six Departments in the School presently having students in all levels. One from a Professional Course (Nursing science) and the other from a non-professional Course (Medical Biochemistry).

Stage Two: Allocation of participants in each level from the selected departments. Stratified sampling technique was used to select the number of students in each level in the selected departments.

Stage Three: Students in each class was randomly selected by balloting

3.7 INSTRUMENT FOR DATA COLLECTION

The instrument used for this study was a semi- structured questionnaire containing 36 items. Section A contains the demographic data of the students, Section B contains the Beck's Depression Inventory (Beck, Ward, Mendelson, Mock, Erbaugh, 1961) and it should be noted that permission was granted before we could adopt the usage of this instrument, and it is a self-reported instrument that contains 21 items with evaluation from 0-3 for each item that is used to measure the severity of depression in adults. The highest possible total for the whole test would be sixty-three. The BDI categorizes depression as scores between 1-10 are considered normal, scores between 11-16 mild mood disturbance, scores between 17-20 borderline clinical depression, scores between 21-30 moderate depression, scores between 31-40 severe depression and scores over 41 extreme depression. BDI is a gold standard tool and was used in many previous researches to measure depression severity (Thombs, Bass, Ford, Stewart, Tsilidis, Patel, Fauerbach, Bush &Ziegelstein, 2006 and Kühner, Bürger, Keller &Hautzinger, 2007). BDI's validity ranged between 0.73 and 0.96 (Wang and Gorenstein, 2012). Section C contains the factors that contribute to depression, Section D contains items on Suicide ideation Scale (Rudd, 1989). The 10-item Suicidal Ideation Scale (SIS; Rudd, 1989) is a screening and assessment tool that provides critical information about the presence or absence of suicidal thinking, the intensity of those thoughts, and the presence or absence of prior suicide attempts. The SIS is scored on a Likert-type scale (1= "Never", 2= "Infrequently", 3= "Sometimes", 4= "Frequently", and 5= "Always"). The total score ranges from 10 to 50. Based on results from the initial SIS validation study (Rudd, 1989), Rudd recommended scores greater than one standard deviation above the mean (SIS total score of 15 or greater) to be considered serious suicidal ideation.

3.8 VALIDITY OF THE INSTRUMENT

A face and content validity was done by the researcher's supervisor who is an expert in psychology/mental health and all corrections were effected.

3.9 RELIABILITY OF THE INSTRUMENT

The study employed the Cronbach's Alpha approach of calculating reliability of a research instrument. The instrument was pre-tested among thirty-four (34) students in School of Medicine. The suicidal ideation scale gave a coefficient of 0.82, while the Beck's depression inventory gave a coefficient of 0.78. These values indicate that the items have high internal consistency and therefore reliable for the study.

3.10 METHOD OF DATA COLLECTION

The students in the school were approached in their classes on different days for permission to be involved in the study, the purpose of the study was explained to them and the instrument for data collection was administered to them. Data collection was by face to face by the researchers. The data collection was done during break periods and on the spot retrieval of the administered copies of questionnaire to ensure that all copies of the questionnaires will be collected on that same day. Data collection lasted for three weeks and five days.

3.11 METHOD OF DATA ANALYSIS

On retrieving the questionnaires from the respondents, the data was coded, cleaned and analyzed using International Business Machine (IBM) Statistical Package for Social Sciences (SPSS) version 24.0. The statistical techniques to be employed in the data analysis were

descriptive statistics (frequency, simple percentages, means as well as inferential statistics (chi-square statistical test) to test the research hypotheses. Multivariate logistic regression was used to analyses significant factors associated with suicide ideation. The level of significance was set at $p<0.05$.

3.12 ETHICAL CONSIDERATION

The principle of voluntary participation, maintenance of anonymity and confidentiality was maintained throughout the study.

Approval certificate was collected from the ethical committee of The of College of medical sciences to allow the researcher to carry out the study. The participants consent was soughed before collecting the data and they all agreed to fill the questionnaire. Names of the participants were not used for confidential purpose.

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

4.0 Introduction

This chapter shows tables and discussion based on the administered questionnaire instrument. A total of 339 questionnaires were administered; while 332 were retrieved which made a response

rate of 95%. This was thereafter subjected to statistical analysis using the SPSS in which frequency and percentage was used for the analysis.

4.1 Demographic Characteristics of the Respondents

Table 4.1: Demographic Characteristics of the Respondents

Variables	Attributes	Frequency	Percentage
Sex	Male	153	46.1
	Female	179	53.9
Age	15-20yrs	96	28.9
	21-25yrs	185	55.7
	26-30yrs	44	13.3
	Above 30yrs	7	2.1
Ethnic group	Bini	101	30.4
	Esan	52	15.7
	Ibo	88	26.5
	Yoruba	32	9.6
	Hausa	5	1.5
	Others	54	16.3
Religion	Christian	323	97.3
	Muslim	6	1.8
	Traditional Religion	1	0.3
	Others	2	0.6
Family Status	Monogamous	302	91.0
	Polygamous	30	9.0

The table above shows demographic characteristics of the respondents. Respondents sex shows that 153(46.1) were males, 179(53.9) were females. Respondents age shows that, 96(28.9%) were within the age range of 15-20 years, 185(55.7%) were within the age range of 21-25 years, 44(13.3%) were within the age range of 26-30 years, while (2.1%) of the respondents were above 30 years. Respondents ethnic group shows that 101(30.4) were Bini's, 52(15.7%) were Esan's, 88(26.5%) were Ibo's, 32(9.6%) were Yoruba's, 5(1.5%) were Hausa's, the remaining 54(16.3%) were from other various ethnic groups. Respondents religion shows that a vast majority were Christians, (1.8%) were Muslims, 1(0.3%) practiced traditional religion, the remaining 2(0.6%)

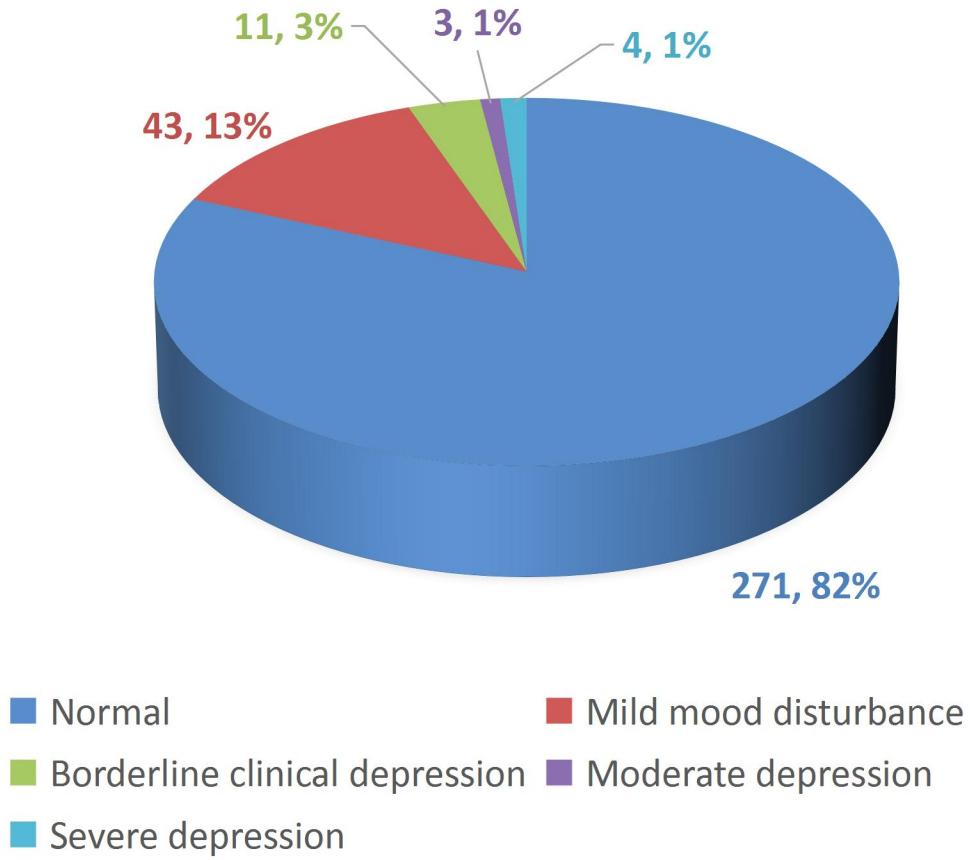
practiced other various religions. Respondents family status shows that majority 302(91%) were from monogamous family, 30(9.0%) were from polygamous family.

4.2 Answers to Research Question

Research Question One: What is the level of depressive symptoms among undergraduate BMS Students?

Table 4.2: Level of Depressive symptoms among undergraduate BMS Students

	Frequency	Percentage
Normal	271	81.6
Mild mood disturbance	43	13.0
Borderline clinical depression	11	3.3
Moderate depression	3	.9
Severe depression	4	1.2
Total	332	100.0



The table above shows level of depressive symptoms among undergraduate BMS students. It was reported by 271(81.6%) that they had normal level of depressive symptoms, 43(13.0%) had mild mood disturbance level of depressive symptoms, 11(3.3%) had borderline clinical depressive

symptom, 3(0.9%) had moderate depressive symptoms, while 4(1.2%) had severe depressive symptoms.

Research Question Two: What are the factors that contribute to depression among undergraduate BMS Students?

Table 4.3: Factors that contribute to depression among undergraduate BMS Students

	Yes	No
Low self esteem	247(74.4)	85(25.6)
Academic Stress	257(77.4)	75(22.6)
Romantic relationship	235(70.8)	97(29.2)
Poor economic background	253(76.2)	79(23.8)
Family issues	268(80.7)	64(19.3)
Health issues	250(75.3)	82(24.7)

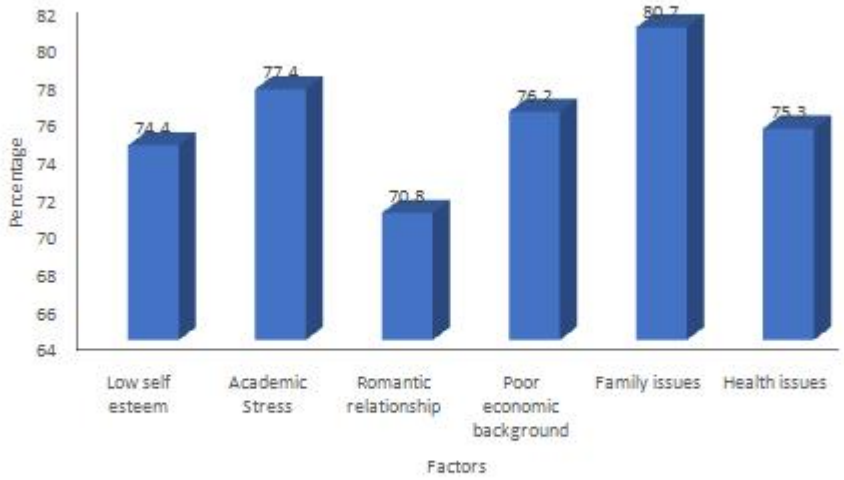


Figure 3: Factors that contribute to depression among undergraduate BMS Students

The table above shows factors that contribute to depression among undergraduate students. It was reported by 247(74.4%) that low self-esteem was one of such factors, 257(77.4%) reported that academic stress was one of such factors, 235(70.8%) reported that romantic relationship was one of such factors, 253(76.2%) reported that poor economic background was one of such factors,

268(80.7%) reported that family issues was one of such factors, 250(75.3%) reported that health issues was one of such factors.

Research Question Three: What is the prevalence of Suicide ideation among undergraduate BMS Students?

Table 4.4: Prevalence of Suicide ideation among undergraduate BMS Students

	Frequency	Percentage
No	300	90.4
Yes	32	9.6
Total	332	100.0

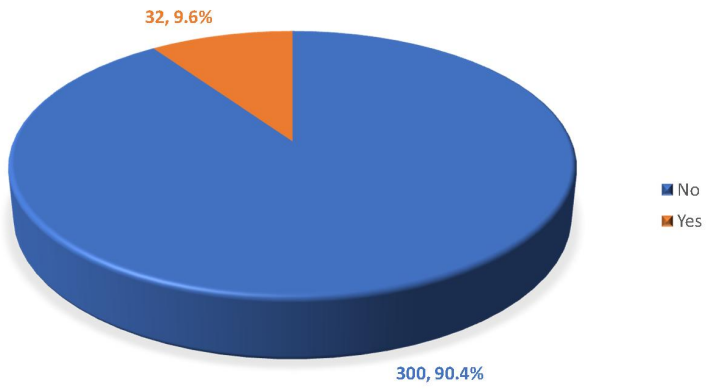


Figure 4: Prevalence of Suicide ideation among undergraduate BMS Students

The table above shows prevalence of suicide ideation among undergraduate BMS students. The prevalence of suicide ideation among undergraduate BMS Students was 32(9.6%), while the remaining 300(90.4%) didn't have cases of suicide ideation.

Research Question Four: What is the association between depressive symptoms and suicide ideation among undergraduate BMS students?

Table 4.5: Association between depressive symptoms and suicide ideation among undergraduate BMS students

	Suicide Ideation				
	No	Yes	Total	χ^2	P
Normal	252(93.0)	19(7.0)	271(100.0)		
Mild mood disturbance	34(79.1)	9(20.9)	43(100.0)		
Borderline clinical depression	8(72.7)	3(27.3)	11(100.0)	13.774	0.008
Moderate depression	3(100.0)	0(0.0)	3(100.0)		
Severe depression	3(75.0)	1(25.0)	4(100.0)		
Total	300(90.4)	32(9.6)	332(100.0)		

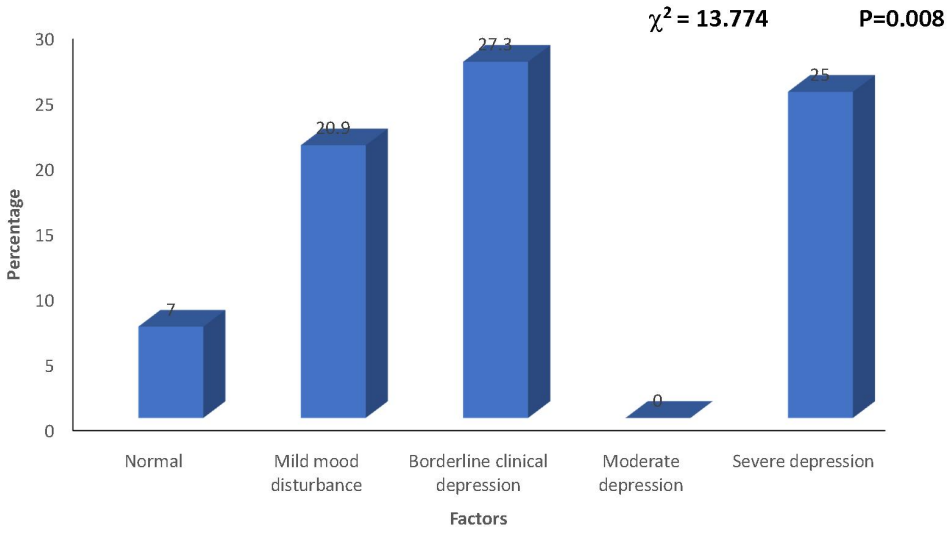


Figure 5: Association between depressive symptoms and suicide ideation among undergraduate BMS students

The table above shows association between depressive symptoms and suicide ideation. It can be seen that the proportion of respondents with normal depressive symptoms that reported suicide ideation is 19(7.0%), 9(20.9%) with mild mood disturbance, 3(27.3%) with borderline clinical depression; while 1(25.0%) with severe depression. The chi-square value was 13.774 and p-

value of 0.008 ($p<0.005$), this implies that there is significant association between depressive symptoms and suicide ideation among undergraduate BMS students.

4.3 Hypotheses Testing

Hypothesis One: There is no significant association between suicide ideation and gender

Table 4.6: Association between suicide ideation and gender

	Suicide Ideation				
	No	**Yes**	**Total**	**χ^2**	**p-value**
Male	138(90.2)	15(9.8)	153(100.0)	0.009	0.925
Female	162(90.5)	17(9.5)	179(100.0)		

The table above shows association between suicide ideation and gender. It can be seen that the prevalence of suicide ideation in males is 15(9.8%); while that of females is 17(9.5%).The Chi-square test shows that there is no significant association between suicide ideation and gender. We, therefore accept the null hypothesis which states that there is no significant association between suicide ideation and gender.

Hypothesis Two: There is no significant association between depressive symptoms and suicide ideation among undergraduate BMS students

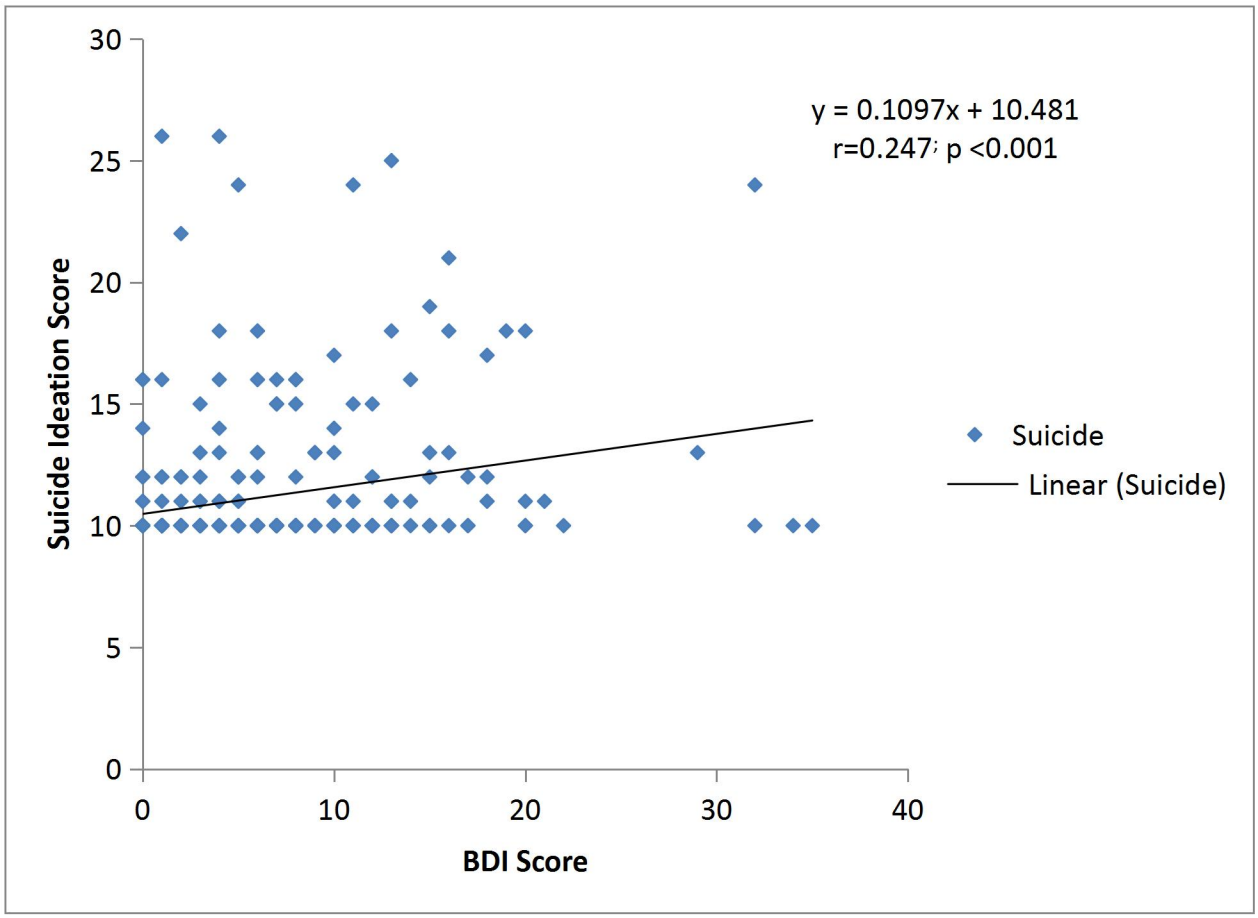


Figure 4.1: Association between depressive symptoms and suicide ideation among undergraduate BMS students

Figure 4.1 shows the association between depressive symptoms and suicide ideation among undergraduate BMS students. The figure shows that there is positive significant relationship ($r=0.247; p<0.001$) between depression score and suicide ideation. We therefore reject the null hypothesis which states that there is no significant association between depressive symptoms and suicide ideation among undergraduate BMS students.

Hypothesis Three: There is no significant association between factors that contribute to depression and level of depressive symptoms.

Table 4.7: Association between factors that contribute to depression and level of depressive symptoms

	Normal	Depressed	χ^2	P
Low self esteem	194(78.5)	53(21.5)	6.118	0.013

Academic Stress	203(79.0)	54(21.0)	5.280	0.022
Romantic relationship	196(83.4)	39(16.6)	1.695	0.193
Poor economic background	209(82.6)	44(17.4)	0.684	0.408
Family issues	218(81.3)	50(18.7)	0.074	0.785
Health issues	209(83.6)	41(16.4)	2.629	0.105

The table above shows association between factors that contribute to depression and level of depressive symptoms. It can be seen that 53(21.5%) of the respondents were depressed because of low self-esteem, 54(21.0%) were depressed due to academic stress, 39(16.6%) were depressed due to romantic relationship, 44(17.4%) were depressed due to poor economic background, 50(18.7%) were depressed due to family issues, 41(16.4%) were depressed due to health issues. Only low self-esteem and academic stress were significant factors associated with depression. We therefore reject the null hypothesis which states that there is no significant association between factors that contribute to depression and level of depressive symptoms.

Table 4.8: Multivariate logistic regression association factors and depression*

	P	OR	95% C.I. for OR
Low self esteem	0.003	4.62	1.71-12.53
Academic Stress	0.031	3.10	1.11-8.69
Romantic relationship	0.042	0.47	0.23-0.97
Poor economic background	0.279	0.61	0.25-1.49
Family issues	0.412	1.53	0.55-4.23
Health issues	0.016	0.32	0.13-0.80
Constant	0.000	0.10	

*Depression is defined as those with score greater than 10

Table 4.8 shows the multivariate logistic regression association of factors and level of depression. Low self-esteem, academic, romantic relationship and health issues showed significant relationship with depression. It was also revealed that those with low self-esteem were five times (O.R.=4.62; C.I=1.71-12.53) more likely to have depression, while those with academic stress

are three times (O.R. = 3.10; C.I.=1.11-8.69) more likely to have depression than those not having academic stress.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter provides the discussion of findings in accordance to the stated objectives and hypothesis, implications for nursing, summary, conclusion, recommendation and suggestion for further studies.

5.1 DISCUSSION OF FINDINGS

Depressive symptoms among undergraduate BMS Students

The finding from this study showed that 271(81.6%) that they had normal level of depressive symptoms, 43(13.0%) had mild mood disturbance level of depressive symptoms, 11(3.3%) had borderline clinical depressive symptom, 3(0.9%) had moderate depressive symptoms, while 4(1.2%) had severe depressive symptoms.In relation to the present study the research done by Abedini, *et al.,* (2006) revealed that 38.7% of the nursing students had mild to severe depression. Also, in another study researchers examined the depression symptoms among nursing students and stated that 44% of them had mild to severe depression (Halikiopoulou, *et al.,* 2011). Azizi, *et al* (2013) reported that among the 130 nursingstudents, who were included in their study, 30.8% were mildly depressed, 17.7%were moderately depressed, and 6.3%were severelydepressed, as well they specified that the prevailing stress augmented the feeling of anxiety and decreased the performance level of the nursing students.

Factors that contribute to depression among undergraduate BMS Students

The result shows that the major factors that contribute to depression among undergraduate BMS Students is family issues, followed by academic, poor economic background; while the least is romantic relationship.

Prevalence of Suicide ideation among undergraduate Basic Medical Science Students

This study finds a low prevalence of suicide ideation. Our prevalence of suicide ideation (9.6%) is not consistent with findings from Vietnam (26.3%) (Nguyen, *et al.,* 2013) but is closer than the rates found in India (6%) (Arun&Chavan, 2009). The inclusion of individuals aged less than 15 years in the India study might have a contribution to the lower prevalence found there as evidence points to the peak of suicide ideation occurring after 15 years of age (WHO, 2013). The difference in ideation rates might also be due to the difference in measurement tools used: SIS was used in this study, whereas a general health questionnaire was used in India (Arun&Chavan, 2009). A similar study carried out in a private university in northern Portugal, with 366 students, found that 12.6% had thought about suicide in the life time, 10.7% in the previous year and 1.1% in previous weeks (Pereira &Cardoso, 2015). Lower prevalence were found in a comparative study conducted with medical students in Austria (n=320) and Turkey (n = 326), where 5% of the Austrian university students and 3.7% of the Turkish students had thought about suicide in the previous weeks (Eskin, *et al.,* 2011). The different prevalence obtained may have occurred due to the different types of instruments used to determine the phenomenon, because of specific features and conditions in the different regions and countries, or due to the time factor, i.e. the period in which the participants reported the presence of ideation, which reinforces the need to explore the theme in the literature more consistently.

Association of depressive symptoms and suicide ideation among undergraduate of Basic Medical Science students.

The finding from this study suggests that the proportionof respondents with the lowest suicide ideation is among those that have a normal depression score, while the highest proportion is

borderline clinical depression 3(27.3%). These associationsaresignificant.In a study by Garlowand colleagues (2008), 11.1 % of the college students endorsed current suicidal ideation while approximately 17 % reported a lifetime suicide attempt. Furthermore, there exists a strong link between depression and suicidal ideation (Farabaugh*et al.,* 2015). Higher depressive symptomatology is associated with a greater endorsement of current suicidal ideation (Garlow, *et al.,* 2008). Schwartz (2006, 2011) conducted a study to understand sex-based differences in mental health and suicidality in college students. The findings suggested that a co-occurring history of a major emotional or psychiatric illness, including depressive disorder or another mood disorder, steeply increased the risk for suicide in women (Schwartz, 2011).

The finding from this study didn't show any significant association between gender and suicide ideation. This doesn't follow with evidence that suggests that women experience stress, depression, and anxiety at much higher rates than men. Interestingly, Anastasiades, Kapoor, Wootten&Lamis, (2016) reported that although women are generally twice as likely than men to access mental health care on campus, those who have a history of suicide attempts and/or are at a heightened risk for death by suicide are significantly less likely to seek out mental health services.

5.2 IMPLICATION TO NURSING

1. Evidence from this study could guide psychiatric-mental health nurses to manage suicide risk behaviors among students continuously and effectively started from providing the early detection by using the effective screening test to implicate the appropriate preventive intervention program.
2. Psychiatric-mental health nurses working in community especially in school setting to assess and identify adolescents at risk for suicide or having suicide risk behaviors.

3. Nurses could reduce adolescent suicide risk behaviours by teaching youths to manage their stress in their daily life by teaching them about coping strategies and ability to deal with such stressful situations and guiding and teaching them to reduce or stop their negative thinking or change their negative thinking into a positive one.

5.3 LIMITATIONS

During the course of this study, some constraints were encountered and they were considered as limitation of the study. They include:

1. Time: Due to the busy schedule of the undergraduate students with lectures, most of the students had to fill the questionnaire in a hurry without really considering their options. Also there was a lot of exam and class work going on simultaneously which real affect the timeliness of the project
2. The cross-sectional nature of this study was its main limitation. Hence, we were only able to report associations rather than definitive temporal or causal relationships.
3. Targeted Audience: our sample consists of students from a public Federal university which may limit the generalizability of our results.

5.4 SUMMARY

This study seeks to assess depressive Symptoms and Suicidal Ideation among undergraduate Students in the School of Basic Medical Sciences, University of Benin, Benin City, Edo State. The study was outlined into five chapters. Chapter one of these studies dealt with the introduction of the topic, statement of problem, objectives of the study, research questions, hypotheses and scope of study, the significance of the study and operational definition of terms. Relevant literature were reviewed in chapter two on the subject under discourse, theoretical framework and empirical review of related studies were also discussed in this chapter. Chapter

three dealt with research methodology which adopted the survey research design and simple random sampling method was used to select Three hundred and Thirty Nine Students in the School of Basic Medical Sciences. A well-structured questionnaire was used as instruments of data collection. Analysis and interpretation of data were discussed in chapter four, tables with percentage and means represented information as well as bar charts. The result from the study shows that there is significant association between depressive symptoms and suicide ideation among the respondents; although very few proportion of the respondents reported suicidal ideation.

5.5 CONCLUSION

This study assessed depressive Symptoms and Suicide Ideation among undergraduate Students in the School of Basic Medical Sciences, University of Benin, Benin City, Edo State. The result shows that the respondents have low propensity to suicide and few proportion having depressive symptoms. The study however also showed that there is a significant relationship between depressive symptoms and suicide ideation.

5.6 RECOMMENDATIONS

1. Each Department in the University should have a counselor who will need to work with the course advisers at each levels to help monitor students' propensity to committing suicide or been in depression as a result of academic or relationship stress.
2. A comparative study can be conducted among students from other faculties asides those in College of Medical Sciences.

5.7 SUGGESTION FOR FURTHER STUDIES

1. Further studies should be carried out in other departments to compare the results.

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APPENDIX I
NURSING SCIENCE DEPARTMENT
DEPARTMENT OF NURSING
SCHOOL OF BASIC MEDICAL SCIENCES
UNIVERSITY OF BENIN
QUESTIONNAIRE

Depressive Symptoms and Suicide Ideation among undergraduate Students

Dear Respondent,

I am a student of the above named department conducting a research on **Depressive Symptoms and Sucidal Ideation Among Undergraduate Students Of Basic Medical Science In University Of Benin**

Please kindly assist me by indicating your opinion where necessary. This study is strictly for academic purpose and I assure you that all information supplied will be treated in a strictly confidential manner.

Thank you.

Yours faithfully,
Ugwueze Esther Ozioma

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SECTION A: SOCIO- DEMOGRAPHIC DATA
Please Tick [✓] or indicate the right responses that best suggests your answer or option.

1. **Sex:** (a) Male [ ] (b) Female [ ]
2. **Age (Years):** (a) 15-20 [ ] (b) 21-25 [ ] (c) 25-30 [ ] (d) 30 and above [ ]
3. **Ethnic Group:** (a) Bini [ ] (b) Esan [ ] (c) Ibo [ ] (d) Yoruba [ ] (e) Hausa [ ] (f) Other Specify…….....…
4. **Religion:** (a) Christian [ ] (b) Muslim [ ] (c) Traditional Religion [ ] (d) Others Specify……
5. **Level** (a) 100 [ ] (b) 200 [ ] (c) 300 [ ] (d) 400 [ ] (e) 500 [ ]
6. **Family Status:** (a) Monogamous [ ] (c) Polygamous [ ]

SECTION B: DEPRESSION SCALE

Please read each group of statements carefully, and then tick [✓] the one statement in each group that best describes the way you have been feeling during the past two weeks, including today.

Item	Statements
Sad	0 I do not feel sad. [ ] 1 I feel sad [ ] 2 I am sad all the time and I can't snap out of it. [ ] 3 I am so sad and unhappy that I can't stand it. [ ]
Pessimism	0 I am not particularly discouraged about the future. [ ] 1 I feel discouraged about the future. [ ] 2 I feel I have nothing to look forward to. [ ] 3 I feel the future is hopeless and that things cannot improve. [ ]
Past Failure	0 I do not feel like a failure. [ ] 1 I feel I have failed more than the average person. [ ] 2 As I look back on my life, all I can see is a lot of failures. [ ] 3 I feel I am a complete failure as a person. [ ]
Loss Pleasure	0 I get as much satisfaction out of things as I used to. [ ] 1 I don't enjoy things the way I used to. [ ] 2 I don't get real satisfaction out of anything anymore. [ ] 3 I am dissatisfied or bored with everything. [ ]
Guilty feeling	0 I don't feel particularly guilty [ ] 1 I feel guilty a good part of the time. [ ] 2 I feel quite guilty most of the time. [ ] 3 I feel guilty all of the time. [ ]
Punishment feeling	0 I don't feel I am being punished. [ ] 1 I feel I may be punished. [ ] 2 I expect to be punished. [ ] 3 I feel I am being punished. [ ]
Self-dislike	0 I don't feel disappointed in myself. [ ] 1 I am disappointed in myself. [ ] 2 I am disgusted with myself. [ ] 3 I hate myself. [ ]
Self-criticalness	0 I don't feel I am any worse than anybody else. [ ] 1 I am critical of myself for my weaknesses or mistakes. [ ] 2 I blame myself all the time for my faults. [ ] 3 I blame myself for everything bad that happens. [ ]
Suicidal thoughts or wishes	0 I don't have any thoughts of killing myself. [ ] 1 I have thoughts of killing myself, but I would not carry them out. [ ] 2 I would like to kill myself. [ ] 3 I would kill myself if I had the chance. [ ]
Crying	0 I don't cry any more than usual. [ ] 1 I cry more now than I used to. [ ] 2 I cry all the time now. [ ] 3 I used to be able to cry, but now I can't cry even though I want to. [ ]
Agitation	0 I am no more irritated by things than I ever was. [ ] 1 I am slightly more irritated now than usual. [ ] 2 I am quite annoyed or irritated a good deal of the time. [ ] 3 I feel irritated all the time. [ ]
Loss of interest	0 I have not lost interest in other people. [ ] 1 I am less interested in other people than I used to be. [ ] 2 I have lost most of my interest in other people. [ ] 3 I have lost all of my interest in other people. [ ]
Indecisiveness	0 I make decisions about as well as I ever could. [ ] 1 I put off making decisions more than I used to. [ ] 2 I have greater difficulty in making decisions more than I used to. [ ] 3 I can't make decisions at all anymore. [ ]

Worthlessness	0 I don't feel that I look any worse than I used to. [ ] 1 I am worried that I am looking old or unattractive. [ ] 2 I feel there are permanent changes in my appearance that make me look unattractive [ ] 3 I believe that I look ugly. [ ]
Loss of energy	0 I can work about as well as before. [ ] 1 It takes an extra effort to get started at doing something. [ ] 2 I have to push myself very hard to do anything. [ ] 3 I can't do any work at all. [ ]
Change in sleeping pattern	0 I can sleep as well as usual. [ ] 1 I don't sleep as well as I used to. [ ] 2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep. [ ] 3 I wake up several hours earlier than I used to and cannot get back to sleep. [ ]
Irritability	0 I don't get more tired than usual. [ ] 1 I get tired more easily than I used to. [ ] 2 I get tired from doing almost anything. [ ] 3 I am too tired to do anything. [ ]
Changes in appetite	0 My appetite is no worse than usual. [ ] 1 My appetite is not as good as it used to be. [ ] 2 My appetite is much worse now. [ ] 3 I have no appetite at all anymore. [ ]
Concentration difficulty	0 I haven't lost much weight, if any, lately. [ ] 1 I have lost more than five pounds. [ ] 2 I have lost more than ten pounds. [ ] 3 I have lost more than fifteen pounds. [ ]
Tiredness or fatigue	0 I am no more worried about my health than usual. [ ] 1 I am worried about physical problems like aches, pains, upset stomach, or constipation. [ ] 2 I am very worried about physical problems and it's hard to think of much else. [ ] 3 I am so worried about my physical problems that I cannot think of anything else. [ ]
Loss of Interest in Sex	0 I have not noticed any recent change in my interest in sex. [ ] 1 I am less interested in sex than I used to be. [ ] 2 I have almost no interest in sex. [ ] 3 I have lost interest in sex completely. [ ]

SECTION C: Factors that influences Depression
Which of these factors influence depression?

	Yes	No
Low self esteem		
Academic Stress		
Romantic relationship		
Poor economic background		
Family issues		
Health issues		
Others		

Section D: Suicide ideation Scale (SIS)
Please kindly [✓] tick appropriately how often you have any of these feelings.
1= "Never", 2= "Infrequently", 3= "Sometimes", 4= "Frequently", and 5= "Always"

	1	2	3	4	5
1. I have been thinking of ways to kill myself					
2. I have told someone I want to kill myself.					
3. I believe my life will end in suicide.					
4. I have made attempts to kill myself.					
5. I feel life just isn't worth living					
6. Life is so bad I feel like giving up.					
7. I just wish my life would end.					
8. It would be better for everyone involved if I were to die.					
9. I feel there is no solution to my problems other than taking my own life.					
10. I have come close to taking my own life.					

APPENDIX II

INFORMATION SHEET

TITLE OF THE STUDY:Association of depressive symptoms and suicidal ideation among undergraduate Basic Medical Students in University of Benin

RESEARCHER: Miss Ugwueze Esther Ozioma

FINANCIAL SPONSORSHIP: this research study is self-sponsored under the supervision of Mrs F.E Amiegheme

PURPOSE OF THE RESEARCH: the purpose of the research is to assess depressive symptoms and suicidal ideation among undergraduate Basic Medical Students in University of Benin, Benin City, Edo State

COMPENSATION: there will be no financial compensation for participating in the study

VOLUNTARY PARTICIPATION: Note that your participation in the study is entirely voluntary and no form of force will be used on you. One the event that you decide to stop participating you are very free to withdraw even if you had earlier agreed to participate

RISK- No adverse effect or risk is associated with your participation in this study

BENEFIT- Findings from this study will be used by the psychiatric mental health nurses to manage suicidal risk behavior in students by providing early detection by using the effective screening test to implement the appropriate preventive intervention program

CONFIDENTIALITY- information obtained will be treated with almost confidentiality your names will not be used

CONTACT INFORMATION

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APPENDIX III

INFORMED CONSENT

I have read the above information and I had the opportunity to ask questions about it and I have been answered to my satisfaction

A- I consent voluntarily to take part as a participant in the study

B- I do not consent to participate in the study

APPENDIX IV

SPSS RELIABILITY OUTPUT

```
RELIABILITY
  /VARIABLES=B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 B13 B14 B15 B16 B17 B18 B19
B20 B21
  /SCALE('DEPRESSION SCALE') ALL
  /MODEL=ALPHA.
```

Reliability
Scale: DEPRESSION SCALE

Case Processing Summary

		N	%
Cases	Valid	33	100.0
	Excluded[a]	0	.0
	Total	33	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.743	21

```
RELIABILITY
  /VARIABLES=C1 C2 C3 C4 C5 C6
  /SCALE('Factors that influences Depression') ALL
  /MODEL=ALPHA.
```

Reliability
Scale: Factors that influences Depression

Case Processing Summary

		N	%
Cases	Valid	33	100.0
	Excluded[a]	0	.0
	Total	33	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.807	6

```
RELIABILITY
  /VARIABLES=D1 D2 D3 D4 D5 D6 D7 D8 D9 D10
  /SCALE('Suicide Ideation Scale') ALL
  /MODEL=ALPHA.
```

Reliability
Scale: Suicide Ideation Scale

Case Processing Summary

		N	%
Cases	Valid	33	100.0
	Excluded[a]	0	.0
	Total	33	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.831	10

SIGNATURE OF PARTICIPANT

DATE