

## The Study of Relationship between Suicidal Thoughts and Depression in Iranian Students of University of Guilan

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### ABSTRACT

The research literature extensively indicates that prevalence rate of mental disorders in student population of Iran is high. In other hand, prevalence of suicidal ideation and attempt are reported high in students. The present research aims to study the relationship between depression and suicide in students of Guilan University. In a cross-sectional research, 71 students (13 students with history of suicide attempt, 17 students with depression diagnosis by psychiatrist and referring to counseling center of Guilan University, and 41 students without history of referring to counseling and psychiatric centers) were selected by convenience sampling from students of Guilan University. Beck Depression Inventory and Scale of Suicide Ideation were used for assessing depression and suicide thoughts, respectively. Statistical analysis by variance analysis showed that three group of subjects differed significantly ( $P < 0.01$ ) in terms of score of depression and suicide thoughts: Depression average scores of depressed group (21.64) and attempting suicide (19.84) are more than students non-referring to counseling and psychiatric centers (8.75). In addition, the significant and positive correlation ( $P < 0.01$ ) existed between suicide thoughts and depression in any three group of subjects. The powerful correlation exist between depression and suicidal ideation, and individuals with depressive symptoms are prone to, in addition to experiencing other problems due to depression, also think to suicide.

**KEYWORDS:** Depression, Suicide Thoughts, Students

### 1. INTRODUCTION

Suicide is among the main urgent matters for the experts of mental health and is considered a problem for the society's public health [1]. This phenomenon is one of the 10 causes of death of adults in the industrial countries of Europe and North America. In such countries, suicide is the second cause of death among the adolescents and youths between 15 and 35 years old [2]. According to the statistics released, more than 600,000 people commit suicide every year in the United States. Of this number, 30,000 suicides lead to death [1]. From the other hand, the global prevalence of suicide by the students is approximately half the number of suicide committed by their non-student counterparts, but this number is decreasing [3].

Individuals prone to suicide can be divided into three groups: ideators, attempters and completers. Ideators are people who have not carried out conspicuous efforts to commit suicide, but have thought about it or garnered plans and wishes for committing suicide in their mind.

Different matters have been mentioned as the dangerous factors contributing to suicide. The most important dangerous factors include mental disorders and previous attempts of suicide [2]. Experimental studies and clinical observations indicate a strong relationship between psychological disorders and suicide. Ideation and suicidal behaviors are more prevalent among the psychologically ill people than the common population. Moreover, psychological disorders are more pervasive among the people who have committed suicide than in the witness group [4]. In 95% of all people who have committed suicide or attempt suicide, there's one diagnosable psychological disorder [1]. Especially, a strong relationship has been observed between depression and suicide [5]. Depression disorder comprises 80% to 95% of the psychological disorders diagnosable in those committing or attempting suicide [1]. Furthermore, the research studies carried out by Klerman [6] indicate that 30% of the patients suffering from major psychoses have passed away by committing suicide which is three to four times greater than the other psychological disorders and 20 times higher than the suicide rate in the common population.

Students are among the people who face numerous compatibility problems and are extensively investigated from the viewpoint of the epidemics of psychological disorders. The studies which were conducted in Iran on the student population have reported the prevalence of psychological disorders to be high. According to Bakhshian and Mohammad-khani [7], 32.9% and according to Asadi et al. [8], 19% of the undergraduate and 23.8% of postgraduate students are suspected to have psychological disorders. Moreover, Asadi and Vadoodi-Mofid [9] have reported that 25.8% of the students have psychiatric disorders. Based on the existing data, depression disorder is one of the most pervasive psychological disorders among the students. In the study of

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Bageri Yazdi *et al.* [10], 30% of the new-coming students suffer from the feeling of dejection and depression. Jamshidi [11] has reported the extent of depression in the male students at 38% and 52% in the female students. In another research, based on the results of the General Health Questionnaire (GHQ) and clinical interview by the psychiatrist, it was found that 8.7% of the students suffered from depression while 5.9% of them suffered from the irascibility disorder [12].

Among the symptoms which are strongly related to depression is hopelessness. The research studies suggest that not only do a significant number of the students experience signs of depression, but that the growth of hopelessness in them is also worrying. In studying 143 male students of the Gorgan University of Medical Sciences, Salehi *et al.* [13] found out that a remarkable percentage of the students have a hopelessness degree of medium and higher. Moreover, Kashkouli *et al.* [14] realized while studying 579 students in the universities of Bushehr city that 15.2% of them had a state of hopelessness.

Although the global prevalence of the suicide among the students is less than the non-students, suicide among the students has extensive psychological and social impacts and can be considered a serious problem for the nation's health system and the universities [3].

Due to the urgent importance of the suicide, its negative effect on the performance and its high overlapping with such psychological disorders as depression, extensive studies have been carried out on the students in terms of their ideation or attempting suicide. Khokher and Khan [15] have reported the prevalence of suicidal thoughts in 217 students of the Pakistan College at 31.45%. In a prospective investigation of 522 medical students in Norway, Tyssen *et al.* [16] realized that the prevalence of suicidal thoughts in the previous year is rated at 14% and its lifetime prevalence is 43%. In Iran, Jamshidi [11] has reported the prevalence of suicidal thoughts in the students at 7.5%. Keykhavani and Moghaddam [17] have reported the prevalence, intent and attempt to suicide in the students of the universities in the Ilam city respectively 25%, 15.75% and 14.5%. Moreover, in their study 14% of the students required consultation with a psychiatrist, 5.5% suffered from severe depression and 1.5% suffered from very critical depression. Mami and Soleyman-Nejad [18] obtained the prevalence of suicidal ideation in the students to be 38.8%. It became clear in the study carried out by Ghaffari, *et al.* [19] that among the student populace residing in the dormitories, 5.5% had an experience of attempting suicide, 9% had an experience of serious ideation about suicide and planned to do it without realizing their plans and 23.3% had an experience of unserious ideation about suicide without having any plans for realizing their suicidal thoughts.

In another research study aimed at investigating the relationship between hopelessness and suicidal thoughts, Kashkouli *et al.* [14] concluded that 25.7% of the students had psychotic thoughts of committing suicide. Moreover, in a number of studies, the relationship between attempting suicide, suicidal thoughts and depression in the students has been investigated. The results mostly indicate that depression has a strong correlation with suicide and is considered as its predictive factor. For example, in studying 308 suicide cases (thoughts and attempt) recorded between the years 2001 and 2008 in the consultation centers of the University of Tehran, it became clear that from the 308 cases, 56.5% had attempted suicide and 43.5% had suicidal thoughts. Moreover, the most prevalent psychiatric diagnosis in these individuals pertained to psychotic disorders (67.2%) [20]. It was also concluded in the study carried out by Kashkouli *et al.* [14] that there's a statistically significant relationship between hopelessness (one of the most important components of depression) and suicidal thoughts.

Given what was said, it's vital that more precise investigations be carried out regarding the psychological disorders and suicide in the student populaces. Since suicide is not a monolithic phenomenon and is related to various psychological factors, and given the fact that its prevalence pattern is related to the cultural, geographical and climatic characteristics, it's necessary for it to be examined in different regions and student populaces. Due to the importance of the risky factors in preventing suicide, the purpose of the present research is to investigate the extent of depression and its relationship with suicide in the students of the University of Guilan.

## 2. MATERIAL AND METHODS

### Participant

The present research has been carried out as a cross-sectional investigation and 71 students were selected from among the students of the University of Guilan using the convenience sampling method. From the total of 71 students, 13 students had an experience of attempting suicide, 17 students were diagnosed of depression and had referred to the University of Guilan's consultation center and 41 of them did not have an experience of referring to consultation and psychiatric treatment centers. These individuals were matched with the two mentioned groups based on age and gender. To diagnose depression, the Beck Depression Inventory [21], and to diagnose suicidal thoughts, the suicide ideation scale was used.

### Procedure

Given the availability of the records and dossiers of the depressed group and suicide group in the consultation center, the questionnaires were distributed with prior coordination in the university's consultation center. As to the witness group, the questionnaires were distributed after coordination with the university's acquisition office and requesting the students to refer to the consultation center.

**Instrument**

The Beck Depression Inventory is the most useful tool for investigation on depression in the world [4]. This index was designed in 1961 by Beck and revised by Steer in 1987 [22-25]. It's consisted of 21 questions and 5 areas on depression (2 questions on affective symptoms, 11 questions on cognitive symptoms, 5 questions on physical symptoms and 1 question on inter-personal symptoms). Each question is consisted of four statements a graded between 0 and 3. Studies show that BDI enjoys appropriate and sufficient psychotherapy characteristics [4-20]. In a brief review, the average inner homogeneity (Cronbach alpha) was obtained to be 0.87 and the reliability was obtained to be more than 0.60 through reassessment [26]. Moreover, studies show that BDI scores have a high correlation with intention to commit suicide [23]. In Iran, Pour-Shahbaz [27] reported the coefficient of each section's correlation with the score of the whole scale a figure between 0.32 and 0.68 and its inner homogeneity coefficient at 0.85.

Suicide Thought Scale is a self-reporting questionnaire which is consisted of 38 questions and assesses the existence of thoughts related to suicide. This scale has been evaluated in terms of compliance with the norms in the students of the universities of Tehran [28]. In this assessment, the alpha coefficient obtained from the whole questions (N=955) equaled 0.93. Based on the research literature, the prevalence of suicide in people dependent on drugs is more than normal people. Therefore, to demonstrate that this questionnaire can show such a difference, the t test was used to compare the scores of the students which those of the drug-dependent students and the resulting difference was significant with a 99% certainty. Mohammadi-Fard [28] concluded that this questionnaire had a proper validity and reliability. After the collection of data, for synthesizing and analyzing them using the SPSS application version 15, the t statistical test correlation and analysis of one-way variance were used.

**3. RESULTS**

The average depression score and suicidal thoughts score for the three assessed groups is presented in the Table 1. According to these data, the average depression score of the depressed group (21.64) was higher than the two other groups and the average depression score of the suicide attempters (19.84) was higher than the group lacking consultation and treatment. Moreover, the score of the depressed group in suicidal thoughts (148.29) was higher than those of the two other groups and the score of the suicide attempters (131.76) was higher than the group lacking consultation and treatment.

The depression scores of the three assessed groups were compared using one-way variance analysis. The results showed that three research groups had a significant difference (P<0.01) with each other (Table 2). Moreover, the scores of the suicidal thoughts of three research groups were compared using the one-way variance analysis. The results indicated that the difference of the three groups is significant (P<0.01; Table 3). In order to investigate the relationship between the scores of suicidal thoughts and depression in three research groups, correlation coefficient was used. The results indicate that there's a positive and significant correlation in all the three research groups (P<0.01) (Table 4).

**Table 1.** Average depression and suicidal thoughts scores in three assessed groups

| Group  | Depression test | Suicidal thoughts test |
|--|-----------------|------------------------|
| Depressed students   | 21.64           | 148.29                 |
| Students having an experience of committing suicide              | 19.84           | 131.76                 |
| Students without referring to consultation and treatment centers | 8.75            | 90                     |

**Table 2.** Results of one-way variance analysis for the depression score of the three research groups

| Source of change | Sum of squares | Degree of freedom | Average squares | F      |
|------------------|----------------|-------------------|-----------------|--------|
| Inter-groups     | 2564.7         | 2                 | 1282.35         | *14.09 |
| Inside groups    | 6187.15        | 68                | 90.98           |        |
| Total            | 8751.85        | 70                |                 |        |

\* P<0.01

**Table 2.** Results of the one-way variance analysis of the suicide scores of the three research groups

| Source of change | Sum of squares | Degree of freedom | Average squares | F      |
|------------------|----------------|-------------------|-----------------|--------|
| Inter-groups     | 47263.92       | 2                 | 23631.96        | *24.29 |
| Inside groups    | 66152.82       | 68                | 972.83          |        |
| Total            | 113416.74      | 70                |                 |        |

P<0.01

**Table 4.** Correlation coefficient between suicidal thoughts and depression in three research groups

| Group   | r      |
|---|--------|
| Depressed students  | * 0.75 |
| Students with an experience of suicide                              | * 2.39 |
| Students who haven't referred to consultation and treatment centers | * 1.16 |

P<0.01

#### 4. DISCUSSION AND CONCLUSION

The findings of the present research indicate that similarly, in the students with an experience of attempting suicide, in the students who have been diagnosed with depression and in the students who haven't ever referred to consultation and treatment centers, there's a strong correlation between depression and suicide ideation. The present research is in line with a number of previous studies [5-20] and concludes that people with depression signs have the readiness to think about suicide along with a number of other problems arising from depression.

Based on the results of a study by Keykhani and Moghaddam [17], suicidal thoughts and depression were simultaneously highly prevalent in the students of the universities of Ilam. Moreover, according to this study, there was a significant difference between the students with current suicidal thoughts and the students lacking such thoughts in terms of the extent of depression. In the study done by Talayi *et al.* [29], a significant difference was seen between two groups of students having current suicidal thoughts and the students lacking such thoughts.

One of the findings of the present research indicates that depressive students think more about committing suicide than the students that have an experience of attempting suicide. One of the reasons which can explicate the difference of the two groups is the presence of hopelessness. Hopelessness is the most important factor related to depression which plays a pivotal role in ideation, attempting to and committing suicide. A great deal of research studies show that hopelessness can both represent a result of depression and a predictive factor contributing to ideation and suicidal behavior [30].

Some research studies suggest that hopelessness is predictive of the emergence of current suicide ideation more than depression is [22]. This matter particularly holds true about the patients who have an experience of attempting suicide in the past [23]. Moreover, in the prospective studies, strong experimental witnesses have been extracted regarding the predictive role of hopelessness in committing suicide [25]. In other words, it's possible that the presence of hopelessness in the depressed students or its lacking or shortage in the students with a previous experience of committing suicide can be the most important reason for the abovementioned difference.

In the research literature, mental disorder and previous experience of attempting suicide are enumerated as the most perilous factors of suicide [2]. However, the results concluded from the present study indicate that suicide ideation is significantly higher in the students diagnosed with depression than the students who had previously committed suicide. As it was noted above, in some research texts, hopelessness predicts, more than any other psychological factor, the possibility of attempting or ideating suicide in the future. On this basis, it's possibly the presence of greater hopelessness in the currently depressive students which has caused them to be more vulnerable to suicidal ideation than the students who had previously committed suicide. As a result, the findings of the present research indicate that depression plays a greater role in suicide ideation more than any previous attempt to commit suicide.

It can be concluded from the findings of the present research that as one of the important dangerous factors contributing to suicide, depression (and its constituting symptoms) has a remarkable role in making the students think about suicide. Moreover, if the previous attempts to suicide are less related to current ideation about suicide than depression, it still has a strong role in propelling the people to think about suicide. These findings can play a determining role in specifying the direction of the future planning about mental health and preventing the psychological damages from taking place.

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