Shahid Sadoughi University of Medical Sciences School of Public Health

Journal of Social Behavior and Community Health

Journal of Social Behavior & Community Health | Social Determinants of Health Research Center

Suicidal Thought and Behaviors among Junior and Senior Medical Students

Fariba Fallah Tafti [a], Hamid Owliaey [b], Reza Bidaki [c,d]*, Naser Dashti [e]

[a] Department of Medical Science, Azad University, Yazd Branch, Yazd, Iran.
[b] Forensic Medicine Department, Azad University, Yazd Branch, Yazd, Iran.
[c] Psychiatry Department, Research Center of Addiction and Behavioral Sciences, Shahid Sadoughi University of Medical Sciences , Yazd, Iran.
[d] Diabetes Research Center, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
[e] Psychiatry Department, Azad University, Yazd Branch, Yazd, Iran.

ARTICLEINFO

ORIGINAL ARTICLE

Article History:
Received: 7 Sep 2021
Revised: 1 Apr 2022
Accepted: 28 Apr 2022

***Corresponding Author:**
Reza Bidaki

Email:
Reza.bidaki111@gmail.com

Tel: + 98 9121955521

Citation:
Fallah Tafti F, Owliaey H, Bidaki R, Dashti N. Suicidal Thought and Behaviors among Junior and Senior Medical Student. Journal of Social Behavior and Community Health (JSBCH). 2022; 6(1): 819-825.

ABSTRACT

Background: Youth suicide is a major public health concern. Suicide statistics show an increase in the suicide rates among young students including medical students. To explore self-harming behavior among medical students at Yazd Azad University.

Methods: Suicidal ideation in medical students studying at Yazd Azad University was explored within a descriptive cross-sectional study design. Stratified random sampling technique was used to select a sample of 200 students. For comparison purposes, the sample was divided into two groups of seniors (student intake from 2013/14), and juniors (student intake from 2017/18). Beck Suicide scale was used to measure suicidal behavior.

Results: We found 16% of the participants exhibited suicidal ideation, of whom 87.5% demonstrated a low desire to commit suicide and 12.5% had a strong desire to commit suicide. In this data set, the relationship between "suicidal ideation" and "gender, marital status and grade" appeared statistically significant.

Conclusion: To protect against suicide and reverse the rising trend, preventive strategies must focus on supporting students to feel comfortable in talking about their suicidal thoughts.

Keywords: Suicidal Ideation; Medical students; Beck Suicide Thought questionnaire, Harmful Behavior.

[DOR: 20.1001.1.27832104.2022.6.1.4.5]
[DOI: 10.18502/jsbch.v6i1.9522]

Introduction

Suicide is the second leading cause of death in the age group 15-29 years; also, some authors suggest that suicide is the ultimate escape plan from adverse life events (Kumar, 2017); others blame mental illness/depression, including substance abuse and addiction as the underlying cause of suicide [Kumar, 2017; Mousavi et al. 2008; Amini-Tehrani et al. 2012; Gunnell et al. 2020; Liu et al. 2013; Chang et al. 2019; Van Harmelen et al. 2019].

Suicide literature, e.g. [Kumar, 2017; Mousavi et al. 2008; Amini-Tehrani et al. 2012; Gunnell et al. 2020; Liu et al., 2013], associate mental illness/ depression, substance abuse, and religiosity with suicide. As a result, suicidality is assumed through presumption of impending depression/ mental illness. For example, various studies have declared university students a high suicide risk group due to possible depression as a result of pressures of studying away from home, stress of exams, unrealistic expectations, high demands, and financial problems [Jeon et al., 2020; Kumar, 2017; Farahangiz et al., 2016; Mousavi et al. 2008; Gunnell et al. 2020; Liu et al. 2013].

There is a growing body of evidence against the notion that all suicides are caused by mental illness (Hjelmeland et al., 2012; Pridmore & Rostamy 2020; Shahtahmasebi, 2013; Shahtahmasebi, 2014).

Other researchers have studied religiosity and cultural variations in suicide by medical students [Etzersdorfer et al., 2009; Tyssenr et al., 1998; Schweitzer et al., 2001]. A comparison study of medical students in India and Austria [Etzersdorfer et al., 2009] concluded that religiosity did not explain the variation in suicidal ideation in medical students, while another study [Schweitzer et al., 2001] concluded the opposite. On the other hand, Tyssenr [Tyssenr et al., 1998] suggested that compared with the general adolescent population, suicide is lower in the population of medical students. Due to the rising suicide rate, especially among the medical students, knowing the main reason(s) of suicide can lead to a correct analysis statistics and provide the preventive measures. In this paper, we explored suicide ideation amongst medical students at the Islamic Azad University, Iran. This population provides a different culture and religious doctrine than that in Europe, Australia, or India. It is hoped that this will stimulate debate and the collaboration of international experts regardless of their school of thought.

Methods

The University of Yazd accepts students from all over Iran. For most students moving to Yazd as a first-year student, the impact of culture shock is minimal, but leaving family and friends to attend university and live on one's own is a likely source of trauma. This study was conducted in 2020. Fifty students cover more than 80% of each annual entrance. First, a list of all entries was determined and the supervisor selected 50 students from each group to review. Coverage of 80% of the total statistical population can provide accurate information. A descriptive and cross-sectional study design was followed in which 50 students were randomly selected from each student intake in 2013, 2014 (seniors), 2017, and 2018 (juniors), providing a total sample of 200 students. Suicidality was measured using the Beck Suicide Thought questionnaire. Beck's Questionnaire was chosen because it has been used widely, and in particular, a revised version suitable for use in Iranian population is available (Amini-Tehrani, 2012).

The 19-item Scale for Suicide Ideation (SSI), Beck's Suicidal Thought Score, is an interviewer-administered rating scale that measures the intensity of patients' specific attitudes, behaviors, and plans to commit suicide during the time period that they were the most suicidal. This instrument was developed to obtain a more accurate estimate of suicide risk. Patients are asked to keep experience in mind while the interviewer rates patients' responses to the 19 items regarding how suicidal they were at that time. As with the SSI, each item consists of three options graded according to the suicidal

[DOR: 20.1001.1.27832104.2022.6.1.4.5]
[DOI: 10.18502/jsbch.v6i1.9522]

intensity on a 3-point scale ranging from 0 to 2. The ratings are then summed to yield a total score, which ranges from 0 to 38. Individual items assess characteristics such as wish to die, desire to make an active or passive suicide attempt, duration and frequency of ideation, sense of control over making an attempt, number of deterrents, and amount of actual preparation for a contemplated attempt. Out of 19 items, the first 5 items are for all people. These 5 items, have 3 options with scores of 0, 1 and 2, which are taken as the average score for each person. If the participants record the options of strong desire to commit suicide or low desire to commit suicide in term 5, they must answer the remaining 14 questions. Otherwise (unwillingness to commit suicide), there is no need to continue answering the items.

Residence location of persons was divided into three categories of living in the dormitory, private, and with the family. The effect of being indigenous and non-indigenous on suicidal behavior was also studied. Since the approximate average age of the subjects was 25 years, this age was selected as the reference age of the study.

In addition to suicidality measures, data on other variables including age, gender, place of residence, type of residence, marital status, and education level (qualification) were also collected. The data was analyzed using SPSS23.

Ethical considerations

Students' participation in this project was purely voluntary and had no bearing on their academic outcomes. The survey questionnaires were anonymously collected and excluded names and addresses. Data were coded and imported into a spreadsheet. Only the researchers who were named on the research application form had access to data. Ethical approval for the project was obtained from the University's Ethical Committee (code: IR. IAU. YAZD. REC. 1399. 053).

Results

With the study of other references, the hypotheses of the relationship between parameters such as "age, gender, marital status, residence status, student degree and religious beliefs" and suicide are strengthened, which is given in this section, respectively. The results of descriptive analysis are shown in Tables 1-3. It can be seen in Table 1, that, in this dataset, suicidal thoughts, as measured by Beck's Questionnaire, have no statistical relationship with age, gender, and marital status. About 16% of students had suicidal thoughts, out of whom about 29% were older than 25 years and 71% were younger; 31% were male, and 69% were female; 84% were single, and 16% were married. Similarly, Table 2 shows that, in this dataset, the variable "suicidal thoughts" has no statistical relationship with residency type and ethnicity. However, it is interesting to note that of those who reported suicidal thoughts, proportionally more students who live with family (50%) reported suicidal thoughts than those who lived in private accommodation (28%) or dormitory/halls of residence (32%). A quick interrogation of the dataset and cross-tabulating type of residence with ethnicity suggests that those living with family are highly likely to be locals from Yazd. This relationship is, to some extent, reflected by the variable "residency type". Table 3 shows frequency distribution of suicidal thought score for variables Grade and Marital Status. As mentioned, suicidal ideation was identified for all participants by scoring the first 5items. The options of these items had a score of 0, 1 and 2, which was finally reported as the average for each group.

If the P-value was less than 0.05, it was indicated that the occurrence probability is statistically higher. For example, if the suicidal ideation P-value for the physiopathology group is 0.05, it indicates that statistically the probability of such an event occurring for other people who did not participate in the questionnaire is 95%. It appears that this variable is marginally significant at 5% significant level, and owes its significance to the category "Physiopathology (Senior)". This group scored the highest average (3.5) on the suicidal thoughts scale than other groups. In other words, the physiopathology group is more prone to suicidal behaviors.

[DOR: 20.1001.1.27832104.2022.6.1.4.5]
[DOI: 10.18502/jsbch.v6i1.9522]

Table 1. Suicidal ideation by age, gender, and marital status

Age	No suicidal thought		With suicidal thought		Total	
	N	%	N	%	N	%
Less than 25 years	112	83.58	22	16.42	134	100
More than 25 years	47	83.93	9	16.07	56	100
Total	159	83.18	31	16.32	190	100
P-Value=0.953						
	No suicidal thought		**With suicidal thought**		**Total**	
Gender	**N**	**%**	**N**	**%**	**N**	**%**
Female	95	81.2	22	18.8	117	100
Male	67	87.0	10	13.0	77	100
Total	162	83.5	32	16.5	194	100
P-Value=0.017						
	No suicidal thought		**With suicidal thought**		**Total**	
Marital Status	**N**	**%**	**N**	**%**	**N**	**%**
Single	126	82.35	27	17.65	153	100
Married	36	87.80	5	12.20	41	100
Total	162	83.5	32	16.50	194	100
P-Value=0.404						

Table 2. Suicidal ideation by type and status of residence

Type of Residence	No suicidal thought		With suicidal thought		Total	
	N	%	N	%	N	%
Dormitory	66	90.4	7	9.6	73	100
Private	36	80.0	9	20.0	45	100
Family	60	79.0	16	21.0	76	100
Total	162	83.5	32	16.5	194	100
P-Value=0.130						
	No suicidal thought		**With suicidal thought**		**Total**	
Ethnicity	**N**	**%**	**N**	**%**	**N**	**%**
Local	60	75.9	19	24.1	79	100
from outside of Yazd	102	88.7	13	11.3	115	100
Total	162	83.5	32	16.5	194	100
P-Value=0.190						

Table 3. Average score of suicidal ideations for grade and marital status

Grade	Number of participants	Average score of answering items*	Standard Deviation
Basic Science (Senior)	81	1.43	2.11
Physiopathology (Senior)	4	3.50	1.91
Stager (Junior)	7	1.71	2.15
Internship (Junior)	102	1.08	2.05
Total	194	1.3	2.11
P-Value=0.050			
Marital Status	**Number**	**Average**	**Standard Deviation**
Single	153	1.4	2.2
Married	41	0.9	1.8
Total	194	1.3	2.11
P-Value=0.022			

*Average score of answering items according to the severity of suicide

[DOR: 20.1001.1.27832104.2022.6.1.4.5]
[DOI: 10.18502/jsbch.v6i1.9522]

Discussion

In our study, 16% of students reported suicidal thoughts which is half of that reported by Schweitzer's study [Schweitzer et al., 2001]; on average, it is similar to other countries reported by WHO [World Health Organization, 2014]. However, current statistics from the University and other institutions suggest that on average, the trend for suicidal behavior is increasing [Alaghehbandan et al., 2011].

The increasing trend for suicidal behavior is disconcerting and should be a strong warning to the authorities and policy-makers to develop prevention programs to reverse this trend. If appropriate support is not made available, then it is highly likely that at least a proportion of suicidal behavior will lead to suicide attempt and completed suicides. To develop preventive programs, we need to gain insight into suicide.

It is well established that females experience a higher rate of suicidal behavior, while more males complete suicide. Our study suggests that proportionally, more single students (18%) experience suicidal thoughts than married students (12%). This result appears consistent with other studies [Kumar, 2017, World Health Organization, 2014, Najafi et al., 2014]. Therefore, it is plausible that marital status can be protective against suicidal behavior; however, appropriate research is necessary to establish how this variable works, or how its influence can be extended and maximized. It is plausible to assume that married students may become each other's confidant and thus are able to communicate with each other in addressing any problems they may have.

Of concern is the higher proportion of local students, i.e., 50% of those who reported suicidal behavior live with family; alternatively, proportionally more local students (24%) reported having suicidal thoughts than non-local students (11%). This result is somewhat surprising and contradicts other studies [Kumar, 2017, Farahangiz et al., 2016]. This finding is counterintuitive and contrary to the marital status effect because intuitively, it is commonly assumed that living with family provides a protective effect against suicidal behavior. It is possible that a lack of communication between family members, cultural and social attitudes, perception of suicide, and living with family may magnify and exaggerate personal and family issues and thus attenuate the effect of any support that may be available through the family.

The act of suicide has not been criminalized in the penal law of the Islamic Republic of Iran, but according to the Islamic texts, suicide is a sin, because it would be unthankful of the blessings that God (Allah) has given them. Also culturally, suicide in Iran is a very ugly act that can even cause great harm to the family of a person with suicidal behavior.

In our study, 12.5% of students with suicidal behavior had religious convictions, the remaining 87.5% had not. Religiosity has been reported as a protective effect against suicide [Kumar, 2017, World Health Organization, 2014, Solano et al., 2019]. Generally, suicide rates in Muslim countries are consistently very low (Pritchard et al., 2020).

Finally, Grade is only marginally significant at 5% level and appears to owe its significance to physiopathology (Senior) which may be a proxy for attitudinal change due to gained experience. It seems that the high volume of courses and their difficulty along with having a stressful physiopathology exam can be important reasons for the increased tendency to commit suicide in this group.

Conclusion

It must be emphasized that this study reports the results from a descriptive univariate analysis of a survey of medical students. Therefore, it is not wise to make definitive conclusions. Within a multivariate modelling, it is highly plausible that once social and personal perception and attitudes to suicide, socio-economic and socio-environmental factors are controlled for, then the effect of marital status, living with family, and religiosity will be attenuated and be more intervening variables. For example, in this study,

[DOR: 20.1001.1.27832104.2022.6.1.4.5]
[DOI: 10.18502/jsbch.v6i1.9522]

reported suicidal thoughts in senior students were proportionally higher than in junior students, which may suggest a change in attitudes due to experience. Therefore, preventive strategies must concentrate on policies that openly discuss suicide and make students feel supported as they go through their studentship.

Acknowledgments

This paper is based on a project required as part of fulfilment for the Doctorate degree in General Medicine. The authors of this study are grateful to the Research Council of Ali Ibn-e Abitaleb Medical Department of Yazd Islamic Azad University for approving the project.

Conflict of Interest

There is no conflict of interest.

Authors' Contribution

Conceptualization, F.F.T.; primary draft, H.O.; designed the study and supervised, N.D.; advisor, R.B.; revised the manuscript, F.F.T and R.B.

References

Alaghehbandan, R., Lari, A. R., Joghataei, M.T., Islami, A., & Motavalian, A. (2011). A prospective population-based study of suicidal behavior by burns in the province of Ilam, Iran, burns, 37 (1), 16 4–169.

Amini-Tehrani, M., Nasiri, M., Jalali, T., Sadeghi, R., Ghotbi, A., Zamanian, H . (2020). Validation and psychometric properties of Suicide Behaviors Questionnaire-Revised (SBQ-R) in Iran. Asian Journal of Psychiatry, 47, 101856-101879.

Chang, H.B., Munroe, S., Gray, K., Porta, G., Douaihy, A., … & Melhem, N.M. (2019). The role of substance use, smoking, and inflammation in risk for suicidal behavior. Journal of Affective Disorders, 243, 33-41.

Etzersdorfer, E., Vijayakumar, L., Schony, W., Grausgruber, A., & Sonneck, G. (1998). Attitudes towards suicide among medical students: comparison between Madras (India) and Vienna (Austria). Social Psychiatry and Psychiatric Epidemiology, 33 (3), 104-110.

Farahangiz, S., Mohebpour, F., & Salehi, A. (2016). Assessment of mental health among Iranian Medical Students: A cross-sectional study, International journal of health Sciences, 10(1), 49, 1-7.

Gunnell, D., Caul, S., Appleby, L., John, A., & Hawton, K. (2020). The incidence of suicide in University students in England and Wales 2000/2001–2016/2017: Record linkage study, Journal of Affective Disorders, 261, 113-120.

Hjelmeland, H., Dieserud, G., Dyregrov, K., Knizek, B. L., & Leenaars, A. A. (2012). Psychological autopsy studies as diagnostic tools: are they methodologically flawed? death studies, 36(7), 605-626.

Jeon, H.J., Roh, M.S., Kim K.H., Lee, J.R., Lee, D., Yoon S.C., & Hahm, B.J. (2009). Early trauma and lifetime suicidal behavior in a nationwide sample of Korean medical students, Journal of Affective Disorders, 119(1-3), 210–214.

Kumar, U. (Ed.). (2017). Handbook of Suicidal Behaviour, Springer.

Liu, Y., & Lee, R.B. (2013). Prevalence and associated factors of suicide ideation among university students: evidence from large-scale survey, Asia-Pacific Social Science Review, 13 (2), 79-86.

Mousavi, S. G., Keramatian, K., Maracy, M.R., & Fouladi, M. (2012). Suicidal ideation, depression, and aggression among students of three Universities of Isfahan, Iran in 2008. Iranian Journal of Psychiatry and Behavioral Sciences, 6 (1), 47-52.

Najafi, F., Beiki, O., Ahmadijouybari, T., Amini, S., Moradinazar, M., Hatemi, M., & Moradi, M. (2014). An assessment of suicide attempts by self-poisoning in the west of Iran, Journal of Forensic and Legal Medicine, 27, 1-5.

Pritchard, C., Iqbal, W., & Dray, R. (2020). Undetermined and accidental mortality rates as possible sources of underreported suicides: population-based study comparing Islamic countries and traditionally religious Western countries BJPsych open, *6*(4).

[DOR: 20.1001.1.27832104.2022.6.1.4.5]

[DOI: 10.18502/jsbch.v6i1.9522]

Pridmore, S. A. X. B. Y. & Rostami, R. (2020). Suicidal behaviour disorder: a bad idea. In S. Shahtahmasebi & H. Omar (Eds.), The Broader View of Suicide. Newcastle upon Tyne: Cambridge Scholars Publishing, 2, 265-279.

Schweitzer, R., Klayich, M., & McLean, J. (1995). Suicidal ideation and behaviours among university students in Australia, Australian and New Zealand Journal of Psychiatry, 29 (3), 473-479.

Shahtahmasebi, S. (2013). De-politicizing youth suicide prevention. Front. Pediatr, 1,8.

Shahtahmasebi, S. (2015). Suicide Research: Problems with Interpreting Results. British Journal of Medicine and Medical Research, 5(9), 1147-1157.

Solano, P., Aguglia, A., Caprino, M., Conigliaro, C., Giacomini, G., Serafini, G., & Amore, M. (2019). The personal experience of severe suicidal behaviour leads to negative attitudes towards self- and other's suicidal thoughts and behaviours: A study of temperaments, coping strategies, and attitudes towards suicide among medical students, Psychiatry Research, 272, 669–675.

Tyssen, R., Vaglum, P., Gronvold, N.T., & Ekeberg, O. (2001). Suicidal ideation among medical students and young physicians: a nationwide and prospective study of prevalence and predictors, Journal of Affective Disorders, 64 (1), 69–79.

Van Harmelen, A.L., Schmaal, L., & Blumberg, H.P. (2019). Journal of Affective Disorders Special Issue on Suicide-Related Research: Hopeful progress but much research urgently needed, Journal of Affective Disorders, 251, 39-41.

World Health Organization. (2014). Preventing Suicide, A global imperative. World Health Organization.

[DOR: 20.1001.1.27832104.2022.6.1.4.5]

[DOI: 10.18502/jsbch.v6i1.9522]