



Investigating the State of Self-Harm and its Relationship with Suicidal Ideation in College Students: Evidence from a Cross-sectional Study in Southern Iran

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Abstract:

Introduction: Self-harm behaviors and suicidal ideation as two important psychological challenges can have irreparable consequences for students. Therefore, this study sought to investigate the state of self-harm and its relationship with suicidal ideation in students.

Methods: This cross-sectional study was conducted on 290 students of different fields at Jiroft University of Medical Sciences in the south of Iran between June and September 2023. Data were collected using two standard questionnaires of the Beck Scale For Suicidal Ideation (BSSI) and self-harm behaviors. Descriptive statistics methods were used for the scores of self-harm behaviors and suicidal ideation. Pearson's correlation coefficient was also used to check the correlation between these two main variables, and statistical tests such as t-test and One-way Analysis Of Variance (ANOVA) were used to compare averages between groups. Statistical analyses were performed using SPSS version 23.

Results: Self-harm behaviors were at low, average, high, and very high levels in 24%, 67%, and 9% of students, respectively. Also, Suicidal ideation was in low, moderate, and high (readiness to commit suicide) levels in 5.6%, 3.4%, and 1.05% of students, respectively. Furthermore, 89.95% of students also had no suicidal thoughts. There was a statistically significant correlation between self-harm behaviors and suicidal ideation of students ($p < 0.001$, $r = 0.667$). Also, the mean score of self-harm behaviors, including dormitory residents ($p = 0.02$), males ($p = 0.04$), singles ($p = 0.001$), undergraduates ($p = 0.003$), and unemployed ($p = 0.01$) was significantly higher than others. In addition, the average score of suicidal ideation was significantly higher in students living in the dormitories ($p = 0.03$), including singles ($p = 0.005$), undergraduates ($p = 0.02$), and unemployed ($p = 0.04$) than in others.

Conclusion: It is suggested that the officials of student, counseling, and cultural affairs of universities improve the living conditions of students in dormitories, pay attention to the needs of students, and try to solve their mental and psychological problems, as well as provide employment and marriage of students to reduce their self-harm behaviors and suicidal ideation. Additionally, government policy interventions, such as routine mental health care screening programs for students and timely interventions to solve mental health problems, are suggested.

Keywords: Self-harm, Behavior, Suicidal ideation, Mental health, Students, Iran.

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1. INTRODUCTION

Self-harm behaviors include committing acts, such as intentional self-harm or intentional lethal or non-lethal actions, whether physical or poisoning, despite knowing that they are likely to be dangerous [1]. Additionally, self-harm includes any attitude or behavior that does not match a person's values and interferes with his ability to achieve life goals [2]. In other words, this concept is a pattern of ideation and actions that continuously creates problems and prevents moving forward and successfully facing challenges [3]. In addition to causing physical diseases, this cognitive-practical method can also have extensive mental and psychological effects [4]. Self-harming people regularly engage in behaviors, such as procrastination, perfectionism, negative self-talk, avoidance, or aggression [5]. They often undermine their efforts to build a better life due to anxiety/fear and self-doubt [6]. There are several reasons why people turn to self-harm. But looking at this issue from a psychological point of view helps to understand these causes better [7]. A person may knowingly or unknowingly engage in self-harm actions and hinder his progress for various reasons [8]. These causes include a wide range of issues, such as childhood problems and problems in people's past relationships. Other reasons for this type of behavior include low self-confidence, inability to deal with problems, and cognitive dissonance, which can lead a person to self-harm [9]. Such self-harm behavior and ideation increase in early adolescence, remain at a high level in late adolescence and decrease in early adulthood [10]. One of the manifestations that self-harm can bring is turning to dangerous ideation (such as suicidal ideation) [11]. The results of studies in different countries showed that the prevalence of self-harm thoughts, such as suicide, varies from 8.6 to 12% in 12 months and from 10.5 to 13.5% in a lifetime [12]. This statistic is higher in special social groups, so in Pakistani students, the lifetime suicidal ideation rate is 31.4% [13], and in 12-18-year-old Chinese adolescents, the 6-month prevalence is 19.3% [14].

Suicide is a phenomenon that can be explained in a set of interacting and intertwined factors, and any single-causal explanation of it will not be a true statement of its multifaceted nature [15, 16]. According to the reports of the World Health Organization (WHO), this problem is one of the most common causes of death between the ages of 15 and 44 [17]. Even though the category of suicide has received more attention in developed countries, it has been neglected in developing countries, and there are no statistics on suicide in more than half of the world's countries [18]. Although suicide is seen among all age groups, it causes the loss of more potential years in the young group, which is very important [19].

Peshkovskaya *et al.* study (2024) showed that followers of school shootings and suicide-related virtual communities were mainly youths aged less than 22 years [20]. Also, according to reports, at the age of 15-24, the third most common cause of death is suicide [21, 22].

Unfamiliarity with the problems faced by young people is not only a problem for the mental health of young people, but it is also a challenge for their families and society [23, 24]. Young people commit suicide when they do not know how to deal with their problems [25]. People who commit suicide may suffer from mental illnesses, such as depression [26], which should be treated before committing suicide [27].

Student life is a time when students, due to certain age conditions, high celibacy, being away from family, being separated from belongings and dependencies for many years, living in a dormitory, facing economic problems, being forced to find relatives or complete independence, academic problems, life with new friends, and unknown future of work and life, *etc.*, are exposed to mental health disorders [28-31].

In addition to this, the issues related to students' psychology are numerous and very challenging and can involve the university environment [28]. It seems necessary to identify the signs and symptoms of danger in students when they enter the university [29]. The transitional period from the family environment to the university and relative or complete independence are among the most important stressful factors in young people [30]. During this period, students suffer a lot of psychological pressure, which alone can lead to depression, self-harm, and suicidal ideation [31]. In such a situation, they must overcome academic problems and determine their future decisions and life goals as well [32].

Students are a group of human resources and builders of a country's future, and monitoring their mental health status is of great importance for society and the educational system [28, 29]. The presence of psychological problems in students' educational affairs leads to academic failure and even dropping out of school, which causes a waste of material resources, university budget, and professional workforce, a waste of students' time, and feelings of hopelessness and despair [30, 31].

Therefore, considering that self-harm behaviors and suicidal ideation as two important psychological challenges can have irreparable consequences for students, this study aimed to investigate the state of self-harm and its relationship with suicide ideation of students of Jiroft University of Medical Sciences in the south of Iran in 2023.

2. METHODS

2.1. Design and Setting

This cross-sectional (descriptive-analytical) study was conducted on the students of Jiroft University of Medical Sciences in the south of Iran in the period of June to September 2023.

2.2. Participants

The population of this research was the students of Jiroft University of Medical Sciences, including students of the faculty of medicine (medical field of study), nursing (nursing and midwifery field of study), health (public

health and environmental health field of study), and paramedicine (laboratory science field, operating room, and anesthesia field).

According to the following formula [33] and the correlation between self-harm behaviors and suicidal ideation based on a pilot study in Iran ($r=0.2$) with a confidence level of 95% and $\beta=0.1$, the sample size was estimated to be at least 259 people. To increase accuracy and avoid bias as a result of sample attrition, 290 participants were included in the study.

$$1. n = [(Z_{1-\alpha/2} + Z_{1-\beta}) / W]^2 + 3$$

In formula 1, W is calculated using the following formula:

$$2. W = \frac{1}{2} \ln(1+r)/1-r$$

In formula 2, r is the estimated correlation coefficient between self-harm behaviors and suicidal ideation in a pilot study in Iran [34].

According to the total population under investigation, which was 1136 people, and by dividing 290 by 1136 and multiplying the obtained number by the number of students in each faculty, the necessary sample size was obtained in each faculty. In Table 1, the names of the studied faculties, as well as the total number of students and the sample size of each faculty, are mentioned separately (Table 1).

Table 1. The size of the population and the examined sample in each faculty.

Name of the Faculty	Number of Students (Community Size)	Sample Size
Medical	302	77
Nursing and Midwifery	326	83
Health	215	55
paramedicine	293	75
All faculties	1136	290

Also, in each faculty, based on the year of entry into the university and the field of study, a stratified sampling was conducted to determine the required sample size. After determining the sample size according to each entry and field of study, students were randomly selected based on their student number and the table of random numbers.

The inclusion criteria were students studying in the second semester of the 2022-2023 academic year, consent to participate in the research, and not taking psychoactive drugs at least one month before the assessment. The exclusion criteria included not being willing to participate in the study, the subject suffering from a physical illness that could be attributed to self-harm and suicidal behaviors, and the presence of seizures and neurological diseases (based on their medical records at the university's student vice-chancellor).

2.3. Instruments

The data collection tool was a three-part questionnaire. The first part of the questionnaire contained the demographic characteristics of age, gender, marital

status, field of study, level of education, place of residence, and employment status. The second part was the self-harm questionnaire that was compiled and used by Aghamohamadian *et al.* [35]. This questionnaire has 31 items, including a list of self-harm behaviors. The scoring scale of this questionnaire is a 5-point Likert scale (none (score zero), a little (score 1), somewhat (score 2), a lot (score 3), and very much (score 4)). According to the score range of 0-124, to determine the general state of self-harm behaviors, from the category of very high (score 99.3-124), high (score 74.5-99.2), to some extent (score 49.7-74.4), low (score 24.9-49.6) and very little (score 0-24.8) was used [35]. The reliability (with Cronbach's alpha coefficient equal to 0.83) of validity (by professors and psychological experts of Ferdowsi University of Iran) in this section was confirmed in the study of Aghamohamadian and colleagues [35].

The second part was the standard questionnaires of Beck's scale for suicidal ideation (Beck Scale for Suicidal Ideation (BSSI)). This part of the questionnaire had 19 items designed to measure attitude, ideation, and planning for suicide. The response scale was based on 3 degrees from 0 to 2. The overall score was calculated based on the sum of scores, which ranges from 0 to 38. According to the scoring range, to determine the general state of suicidal ideation, the category of no suicidal ideation (score 0-7.6), low suicidal ideation (score 7.7-15.2), moderate suicidal ideation (15.3-22.8), readiness to commit suicide (score 22.9-30.4), suicide attempt (score 30.5-38) was used. This questionnaire is a valid and reliable tool for measuring suicidal ideation. In the study of Anisi *et al.*, the internal correlation of this tool was 0.76, and its reliability was reported as 0.95 [36].

In addition to confirming the validity and reliability of two questionnaires on self-harm and suicidal ideation in previous studies [35, 36], the validity and reliability of two questionnaires were also measured in this study. In this way, the validity of this questionnaire was confirmed by 10 members of the academic staff and experts in the field of health and treatment management from Iran's universities of medical sciences. In this regard, the calculated Content Validity Index (CVI) and Content Validity Ratio (CVR) were 0.87 and 0.92, respectively, for self-harm and suicidal ideation questionnaires. Also, to measure the reliability, a sample of 30 students was pre-tested, and the Cronbach's alpha coefficient was 0.88 for the self-harm questionnaire and 0.94 for the suicidal ideation questionnaire.

2.4. Procedure and Statistical Analysis

To collect data, two researchers (SB and ARY) visited the studied faculties on different days of the week, twice a day, morning and evening, and distributed and collected questionnaires. To comply with ethical considerations, students entered the study and filled out the questionnaire forms completely voluntarily and only if the individual wanted to do so. After explaining the objectives of the project to the participants, confidentiality of the answers was emphasized, and verbal consent was obtained from them. Then, the questionnaires were distributed among

Table 2. Frequency distribution of studied students (n=290).

Variable	Category	Frequency	Percent
Age	18-22	186	64.14
	23-27	81	27.93
	28-32	14	4.83
	32<	9	3.1
Sex	Male	98	33.79
	Female	192	66.21
Marital status	Single	249	85.86
	Married	41	14.14
Grade	Associate degree	26	8.97
	Masters	187	64.48
	Doctorial	77	26.55
Field of study	Medicine	77	26.55
	Nursing	55	18.97
	Midwifery	28	9.65
	laboratory science	26	8.96
	operating room	25	8.63
	anesthesia	24	8.27
	Public health	17	5.86
	Environmental health	38	13.11
Residual status	Dormitory	198	68.28
	Non-dormitory	92	31.72
Employment status *	Employed	44	15.17
	Unemployed	246	84.82

the studied students in person and collected on the same day. Then, the collected data were entered into SPSS version 23 software.

To investigate the correlation between the variables of self-harm behaviors and suicidal ideation of students, as well as the correlation of these two variables with the age of the students, Pearson's correlation coefficient was used. T-test was used to examine the difference in the average score of the two main variables of the study according to gender, marital status, place of residence, and employment status. ANOVA test was used to investigate the difference in the average score of students' self-harm behaviors and suicidal ideation based on the variables of education level and field of study.

3. RESULTS

The average age of the students participating in the study was 20.89 ± 6.14 years, and most of them (64.14%) were in the age group of 18-22 years. Most of the respondents were female (66.21%), singles (85.86%), medical students (26.55%), bachelor students (64.48%), and dormitory residents (68.28%). Also, 15.17 percent of students were employed (Table 2).

Based on the results of Table 3, the mean and standard deviation of self-harm behaviors were equal to 51.96 ± 8.71 out of 124, which indicated an average level. Among the self-harm behaviors, the highest mean and standard deviation were related to oversleeping (3.08 ± 0.47 out of 4), insufficient exercise and lack of proper physical activity (3.01 ± 0.55 out of 4), not having fun and fun activities (2.97 ± 0.36 out of 4), and internet addiction (2.92 ± 0.64

out of 4) (Table 3).

According to Table 4, the mean and standard deviation of suicidal ideation was equal to 7.10 ± 2.53 out of 38, which indicated low suicidal ideation. Among the items of this ideation, the highest mean and standard deviation were related to "lack of concern for family, friends, religion, and deprivation due to suicide" (0.56 ± 0.22 out of 2) (Table 4).

According to the results of this study, Self-harm behaviors were at low, average, high, and very high levels in 24%, 67%, and 9% of students, respectively. Suicidal ideation was at low, moderate, and high (readiness to commit suicide) levels in 5.6%, 3.4%, and 1.05% of students, respectively. Also, 89.95% of students also had no suicidal thoughts. Furthermore, a statistically significant correlation was observed between self-harm behaviors and suicidal ideation of students ($p < 0.001$, $r = 0.667$).

According to the results of the study, the mean scores of self-harm behaviors based on the variables of residence ($p = 0.02$), gender ($p = 0.04$), marital status ($p = 0.001$), education level ($p = 0.003$), and employment status ($p = 0.01$) were significantly different. The mean scores of self-harm behaviors including dormitory residents (54.79 ± 8.86 out of 124), males (53.61 ± 9.03 out of 124), singles (54.12 ± 9.37 out of 124), bachelor students (53.84 ± 9.52 out of 124) 124), and unemployed (53.23 ± 8.74 out of 124) were more than others. Also, significantly, the mean score of students' suicidal ideation based on the variables of the place of residence ($p = 0.03$), marital status ($p = 0.005$), educational level ($p = 0.02$), and employment

Table 3. Frequency distribution of self-harm behaviors among the studied students.

Row	Self-harm Behavior	Score Range	Mean	SD*
1	Extreme undereating		2.20	0.43
2	Extreme overeating		2.11	0.50
3	Insufficient exercise		3.01	0.55
4	Oversleeping		3.08	0.47
5	Lack of sleep		2.76	0.74
6	Smoking		0.30	0.61
7	Hookah		1.25	0.58
8	Addiction to internet		2.92	0.64
9	Cell phone addiction		2.87	0.63
10	Computer addiction		2.26	0.57
11	TV addiction		1.66	0.69
12	Drug abuse of any kind		0.11	0.43
13	Constant use of any drug		0.09	0.59
14	Driving at high speed and not paying attention to the rules		1.93	0.62
15	Stress and lack of physical and mental control		2.75	0.50
16	Violence and aggression	0-4	2.67	0.61
17	Lying and imagining		1.60	0.66
18	Illicit sexual relations		0.06	0.19
19	Failure to pay attention to safety precautions		2.29	0.46
20	Running away from home		0.04	0.13
21	Not having fun and fun activities		2.97	0.36
22	Homosexuality		0.03	0.11
23	Isolation and seclusion		2.74	0.49
24	Theft		0.03	0.10
25	Non-observance of health norms		2.20	0.61
26	Masturbation		0.10	0.43
27	Procrastination		2.87	0.55
28	Desire to commit suicide		0.18	0.33
29	Suicide		0.05	0.68
30	Lack of attention to physical health		2.34	0.44
31	Lack of attention to mental health		2.49	0.41
Total self-harm behaviors		0-124	51.96	8.71

Note: *Standard Deviation.

status ($p=0.04$) was different, so that the average score of suicidal ideation in students, including dormitory residents (8.28 ± 2.56 out of 38), singles (7.58 ± 2.48 out of 38), bachelor students (7.28 ± 2.65 out of 38), and unemployed (8.01 ± 2.13 out of 38) was more than others (Table 5).

4. DISCUSSION

The present study aimed to investigate the state of self-harm and its relationship with suicidal ideation in students. According to the results of this study, the self-harm behaviors of the studied students were at an average level, and 9% of them were ready to commit suicide. The results of studies that examined the frequency of self-harm behaviors among students showed its prevalence from 2.5% to 42.5% [37, 38]. According to the results of the study by Sabet Dizkuhi and Kafie Msooleh (2021), 17.8% of the studied students showed self-harm behaviors [39]. In Iran, in the study of Dale and Nobakht (2017), the highest prevalence rate of self-harm behaviors among students was reported at a rate of 40.5% [40]. According to these results, it can be concluded that self-harm is common and

increasing among students. In general, students in the early years of academic studies face various challenges due to being exposed to a new environment. If they already have depression and anxiety, they will probably not be able to face these challenges and adapt to the new environment and people, and provide the basis for the emergence of self-harm behaviors [38].

In the present study, among the self-harm behaviors of students, the highest average scores were related to oversleeping, insufficient exercise, lack of proper physical activity, and internet addiction. In the study of Aghamohamadian *et al.* (2013), insufficient exercise, too much sleep, stress, extreme undereating, and lack of fun and healthy activities had the highest prevalence among the self-harm behaviors of the students. In this study, students attributed the most important causes of the prevalence of self-harm behaviors to family, psycho-emotional, and social causes [35]. The study of Gratz *et al.* (2002) showed that insecure attachment, childhood separation, emotional neglect, sexual abuse, and separation are significant predictors of the self-harm behaviors of students [41].

Table 4. Frequency distribution of suicidal ideation among the studied students.

Row	Suicidal Thoughts	Score Range	Mean	SD
1	Lack of interest in life	0-2	0.55	0.23
2	Lack of interest in survival		0.48	0.12
3	Not insisting on living		0.50	0.14
4	Suicide in difficult and dangerous situations		0.44	0.18
5	Having a desire to commit suicide		0.40	0.27
6	Prolonged suicidal thoughts		0.36	0.09
7	Constant thoughts of suicide		0.31	0.41
8	Accepting thoughts of suicide		0.42	0.36
9	Inability to control suicidal ideation		0.38	0.44
10	Lack of concern for family, friends, religion and deprivation due to suicide		0.56	0.22
11	Attempting suicide due to problems		0.47	0.49
12	Having a plan in mind to commit suicide		0.28	0.33
13	Having a specific method in mind to commit suicide		0.25	0.21
14	The ability and courage to commit suicide		0.31	0.10
15	Possibility of committing suicide		0.28	0.06
16	Preparing the necessary tools for suicide		0.24	0.36
17	Writing notes to commit suicide		0.33	0.31
18	Planning for events and post-suicide issues		0.32	0.08
19	Lack of awareness of others about the suicide attempt		0.22	0.32
Total suicidal thoughts		0-38	7.10	2.53

Note: *Standard Deviation.

Table 5. Relationship between self-harm behaviors and suicidal ideation with the demographic variables of the studied students.

Variable	Class	Self-harm Behaviors		Suicide Ideation	
		Mean±SD (From 124)	P-Value	Mean±SD (From 38)	P-Value
-	-	-	-	-	-
Age	18-22	53.41 ± 8.55	0.04	7.14 ± 2.75	0.09
	23-27	54.35 ± 9.12			
	28-32	51.07 ± 8.83			
	32<	49.01 ± 8.49			
Residual status	Dormitory	54.79 ± 8.86	0.02	8.28 ± 2.56	0.03
	Non-dormitory	49.13 ± 8.49			
Sex	Male	53.61 ± 9.03	0.04	7.31 ± 2.76	0.06
	Female	50.31 ± 8.58			
Marital status	Single	54.12 ± 9.37	0.001	7.58 ± 2.48	0.005
	Married	49.80 ± 8.47			
Grade	Associate degree	49.85 ± 8.31	0.003	6.86 ± 2.28	0.02
	Bachelor's degree	53.84 ± 9.52			
	General medicine	52.19 ± 8.83			
Field of study	Medicine	53.55 ± 8.71	0.11	7.45 ± 2.53	0.06
	Nursing	53.81 ± 8.71			
	Midwifery	51.96 ± 8.71			
	Laboratory science	52.42 ± 8.71			
	Operating room	51.90 ± 8.71			
	Anesthesia	51.68 ± 8.71			
	Public health	49.91 ± 8.71			
	Environmental health	50.45 ± 8.71			
Employment status	Employed	50.69 ± 8.58	0.01	6.19 ± 2.58	0.04
	Unemployed	53.23 ± 8.74			

Students, especially in the first years of education, are one of the high-risk groups regarding mental health problems. Self-harm is one of the problems that has increased in recent years due to reasons, such as dealing with negative experiences and emotions, consequently providing students with a sense of lack of control over life. Self-harm behaviors are usually hidden, thus becoming chronic and can have many negative consequences, such as the occurrence of various mental health problems, wasting time and energy, reducing the necessary efficiency as a workforce in the future, and also leading to the loss of social relations [42].

In the present study, the suicidal ideation among students was at a low level. However, 9% of students had low to moderate suicidal ideation. The results of the study by Bakhtar and Rezaeian (2017) showed that suicide attempts in Iranian students ranged from 1.8% to 3.5%, and suicidal ideation ranged from 6.2% to 42.7% [43]. In Mohammadinia *et al.* (2012), the rate of suicidal ideation was 26.4%, of which 17% had suicidal ideation and 4.9% were ready for suicide [44]. In a study by Mousavi *et al.* (2012), in Iran, the presence of suicidal ideation in students was reported as 10.33% [45]. A study in 2009 among Atlantic University students in America reported a suicide prevalence of 6% [46]. According to statistics, suicide is the second cause of death among Iranian students after accidents. Although attempted suicide among students is lower than the general population [44], students, as the young segment of society, are among the vulnerable age groups against suicide since the student period is an important period of transition during which a person goes through academic pressures, career choices, decisions about life goals, loneliness, and distance from family and social support networks [47].

In the present study, a statistically significant association was observed in a direct and positive direction between self-harm behaviors and suicidal ideation of students. In this way, students who had more suicidal ideation had more self-harm behaviors than others. Self-harm is the strongest predictor of suicide attempts, and most self-harming people have a history of attempting suicide one or more times [48]. In a study in Finland, one of the motivations for self-harm was to try a method of suicide [49]. According to the results of the study of Hakim Shooshtari and Khanipour (2012), the defects of emotional regulation and the reduction of the fear of death due to the repetition of self-harm are two factors that explain the relationship between suicide and self-harm [48]. Based on the results of the study of Brausch and Gutierrez (2010), adolescents who had a history of both self-harm behavior and attempted suicide used more and more severe methods of self-harm and experienced less pain during self-harm [50]. Self-harm appears to range from mild self-criticism to angry self-attacks and even suicidal ideation. Self-harm behaviors range from self-denial to risky behaviors leading to accidents, drug abuse, alcohol addiction, and other self-harm behaviors that lead to real harm to the body [51].

Finally, the results of this study showed that the

average score of self-harm behaviors in male, unmarried, bachelor's degree, and unemployed students was higher than others. In the study of Aghamohamadian *et al.* (2013), the prevalence of self-harm behaviors was higher in men than in women, and in this sense, it is similar to some of the results of the present study.

To explain this result, it may be considered that due to the type of society's attitude and expectations of women, this group engages in self-harm behaviors less. Additionally, in the aforementioned study, there was no difference in committing these behaviors in terms of marital status and place of residence, as well as native and non-native, married, and single students [35]. Attending university is a stressful period for many people because, in addition to coping with academic pressure, some students have to face stressful events, such as becoming independent from their families or taking on multiple jobs and family responsibilities. In this regard, many students at university experience the first occurrence of problems in mental health and substance use or exacerbation of existing psychological symptoms. One of the actions that can be done to reduce tension and negative emotions is self-harm [52].

Also, the average score of suicidal ideation was significantly higher in students living in dormitories, including singles, bachelor students, and non-working students than others. The results of the study by Bakhtar and Rezaeian (2017) showed that suicidal ideation and attempts are more common in single students than in married students and higher in boys than in girls [43]. In the study of Heshmati *et al.* (2019), the prevalence of suicidal ideation in men (10.2%) was significantly higher than in women (3.6%). The prevalence of suicidal ideation in non-dormitory students was significantly higher than that of dormitory students. No significant difference was observed between the prevalence of suicidal ideation based on educational levels [53]. It seems that suicidal ideation in life events is more common in female students due to their influence and their fragility in the face of problems [54]. Although girls have more preparation, they perform less [55]. Despite this, suicidal ideation in both sexes has conflicting statistics. For example, Mousavi *et al.* (2008) and Mohammadi *et al.* (2011) in their study found that the ratio of suicidal ideation was higher in boys [56, 57], but the action was higher than that; the successful suicide attempts in boys can be justified by the social changes related to their gender roles [43]. The reason for the high rate of suicide in single people can be their feeling of less commitment in life and also not having an important support system, such as a spouse [44]. Place, tool, and method of suicide are affected by several factors [43]. In the study by Mousavi *et al.* (2008) at the Isfahan University of Technology, the dormitory, and at Isfahan University of Medical Sciences, the personal residence showed higher statistics [45]. In the study of Talaii *et al.* (2006), there was no significant difference between different levels of education in terms of suicidal ideation and attempts [58]. In the study of Mohammadinia *et al.* (2012), there was no significant relationship between

suicidal ideation and age, field of study, and employment [44].

5. LIMITATIONS

One of the limitations of the present study was its cross-sectional nature, which restricted the generalization of the results. Therefore, it is suggested to conduct longitudinal studies to eliminate this limitation and enhance the comparability and generalizability of the results. Furthermore, this research was a self-reported survey that may cause social desirability bias in regard to answers to the questions. Other studies with a mixed approach of observation and survey might be very helpful. Also, in this study, instead of known scales, such as the Self-Harm Behavior Questionnaire (SHBQ), the questionnaire of Aghamohamadian *et al.* [35] was used to measure self-harm among students. The reason for using this questionnaire was the environment with similar culture and customs, *i.e.*, Iran.

CONCLUSION

The self-harm behaviors of students were estimated at an average level, and suicidal thoughts at a low level. Also, a significant statistical correlation was observed between these two variables. Therefore, it is suggested that the officials of student, advisory, and cultural affairs of the universities improve the living conditions of the students in the student dormitories, pay attention to their needs, and try to solve their mental and psychological problems and also create employment and marriage opportunities for students to reduce self-harm behaviors and suicidal ideation. Our results also have potential application for understanding resource allocation priorities for mental health and suggest the need for government policy interventions, such as routine mental health screening programs for college students, especially dormitory residents, singles, Bachelor's students, and the unemployed.

AUTHORS' CONTRIBUTIONS

RF designed the study and prepared the initial draft. ARY and SB contributed to data collection and data analysis. RF, EB, and JB supervised the whole study and finalized the article. All authors read and approved the manuscript.

LIST OF ABBREVIATIONS

BSSI	=	Beck Scale For Suicidal Ideation
WHO	=	World Health Organization
CVR	=	Content Validity Ratio

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

This study is approved by Jiroft University of Medical Sciences, Iran. Ethics Committee with the ID number of IR.JMU.REC.1402.011.

HUMAN AND ANIMAL RIGHTS

All procedures performed in studies involving human

participants were in accordance with the ethical standards of institutional and/or research committee and with the 1975 Declaration of Helsinki, as revised in 2013.

CONSENT FOR PUBLICATION

Informed written consent was obtained from all the study participants.

STANDARDS OF REPORTING

STROBE guidelines were followed.

AVAILABILITY OF DATA AND MATERIALS

All the data is presented as a part of tables or figures. Additional data can be requested from the corresponding author [A.R.Y].

FUNDING

None.

CONFLICT OF INTEREST

The authors declare no conflict of interest, financial or otherwise.

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