

Motivations for suicide attempts and risk factors among youths in Western Iran: A cross-sectional study

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Abstract

Background and Aims: Suicide attempts are a fundamental problem in health care systems and are known for their complex and multifaceted nature. This study aimed to explore the reasons for suicide attempts and to identify associated factors in western Iran.

Methods: In Asadabad, western Iran, a cross-sectional study was carried out between April 2020 and March 2021. A nonrandom sampling method was used to select 110 participants, ages 15–35. Structured questionnaires such as the Beck Anxiety Inventory (BAI), the Beck Depression Inventory (BDI-II), and the Suicide Motivation Scale (IMSA) were used to gather the data. Multiple linear regression, one-way analysis of variance, Pearson's correlation coefficient, and independent *t* tests were all used in the data analysis.

Results: The majority of participants (59.1%) were female, with a mean age of 25.78 years. The most common reason for suicide attempts (43.6%) was family issues, and the most popular means (66.4%) were pills and medication. Eighty-nine percent of participants had symptoms of depression. The mean scores were calculated for motivation for suicide attempts (32.46 ± 16.11), depression (34.60 ± 20.50), and anxiety (34.14 ± 15.69). The analysis showed that the motivation for suicide attempts and anxiety was greater in single persons than in married and divorced persons ($p < 0.05$). Motivation for suicide attempts was also greater in low- to middle-income individuals with a history of divorce ($p < 0.05$). The multiple regression model showed that anxiety, sex, education, and medical history significantly influenced the motivation for suicide attempts ($p < 0.001$).

Conclusion: The results showed that a wide range of social, economic, and cultural factors and psychiatric disorders, including anxiety and depression, are involved in suicide attempts. This study aimed to design interventions and strategies to prioritize mental health, improve life skills to control stressful events, and focus on high-risk groups (women, married people, people with low education levels, and those with a history of physical and mental illnesses) for suicide prevention in health promotion programs.

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KEYWORDS

anxiety, depression, Iran, risk factors, suicide attempt, youth

1 | INTRODUCTION

Suicide is defined as an intentional act of intending to end one's own life. It is a major global public health problem.¹ Nonetheless, the World Health Organization (WHO) reports that in 2022, low- and middle-income countries accounted for more than 77% of all suicides.² The global number of suicides in 2019 was 703,000, which represents nine deaths per 100,000 people.³ Suicide is the fourth most common cause of death globally in 2019 for individuals aged 15–29. It disproportionately affects youth.⁴ Among Middle Eastern countries, the highest rate of suicide attempts is observed in Iran,^{5,6} where it is more common in some western provinces (Hamadan, Ilam, and West Isfahan), especially the Larneshin and Kurdenishin provinces.^{7,8} It was reported to be 15.77 per 100,000 people in one of the western provinces of Iran, as reported by an 11-year study.⁹

Suicide is a complex phenomenon with multiple causes.^{10,11} Research^{12,13} shows that individual, psychological, social, family, and cultural factors play a role in teenagers' suicide attempts. The majority of suicide victims have previously made an attempt at suicide,¹⁴ and the chance of a successful suicide rises by 32% for every attempt.¹⁵ In actuality, hospitalizations are more common in women and suicide attempts are three to four times higher in women than in men.^{16,17} However, the death rate of suicide attempts in men is three times greater than that in women.^{18,19} The greater prevalence of depression in women and the use of more lethal techniques by men during the procedure are blamed for the discrepancies.²⁰ As an outstanding researcher in the field of suicide studies, Durkheim proposed a multilevel view of suicide.²¹

Recognizing the risk factors related to suicide and its deep understanding are vital issues in suicide prevention programs and the rehabilitation of people who commit suicide, which helps to explain the necessary interventions in this field.²² The WHO has identified youth suicide prevention as one of the essential priorities of the global health agenda.²³ Understanding the conditions of life and the risks that youth are at risk of is necessary to achieve a suitable framework to address suicidal behavior.²⁴ People who attempt suicide face identifiable mental problems, and approximately 60% of people who have attempted suicide have had mental illnesses in the past.²⁵ Psychiatric disorders, Substance abuse, anxiety, and depression in particular are among the most common causes of suicide attempts.²⁵ Additionally, in terms of the simultaneity of suicide attempts and psychiatric disorders, the most common rate has been reported for depression.²⁶ Attempting suicide includes major features, such as the presence of illness in one of the family members, emotional problems, physical illness, marital discord, second wife, bullying, and sexual abuse.^{27,28} In addition, people who commit suicide have a history of financial problems, unemployment, academic failures, poverty, and addiction.^{27,28} Stressful life events can be observed in most cases of suicide attempts.²⁹

In Iran, various cultural and social factors also play a role as risk factors for suicidal behaviors,³⁰ including family quarrels, violence and conflicts, ethnic and tribal conflicts, forced marriages at young ages, marital discord, traditional patriarchal culture, social stigmas, academic failure, love and strong emotional desires, economic limitations, poverty, and unemployment, which predispose people to commit suicide and cause violent acts to occur as a behavior of protest and liberation from the existing situation in the family environment.^{31,32} Culture may provide a support system for vulnerable people, but it may also perpetuate an unhealthy environment. For third-party countries (such as Iran), rapid changes in the social, economic, political, and cultural fields can occur with the process of globalization and affect people's mental health. These changes are, directly and indirectly, effective in the spread of various mental disorders, for example, anxiety, depression, and confusion in identity, and lay the foundation for the tendency to commit suicide.

From a cultural, social, and religious perspective, Iran is an Islamic country where suicide is prohibited as a shameful act. Due to the social stigma associated with suicide, it is difficult to collect accurate data. As a result, the number of suicide attempts may be underestimated. On the other hand, since most suicides have taken place in the western provinces (Hamadan, Ilam, Lorestan, Kermanshah, and Khuzestan),^{33,34} cultural and social characteristics are common factors in women's suicides in these cultures.¹² Hamadan Province in western Iran is one of the provinces with the highest number of complete suicides. According to studies conducted in this province,^{35,36} suicide is the second leading cause of premature death after traffic accidents.

Based on studies conducted in Asadabad between 2011 and 2017, there were 804 cases of suicide attempts, with 21 resulting in death.³⁴ The overall prevalence of suicide was 797 per 100,000 individuals in the county during this period. Furthermore, between 2017 and 2021, there were 840 cases of suicide attempts, with 73 cases (8.7%) resulting in death.³⁷ Studying the motivations and factors related to suicide is crucial in designing effective strategies and interventions to prevent suicide, promote youth mental health, and reduce the burden of suicide in the province. Suicide attempts are significant risk factors for completed suicide and can indicate future serious actions. By understanding these motivations and factors, we can better address the root causes and provide targeted support to those at risk.^{38,39} On the other hand, due to the sensitivity of the issue and the laws governing the collection of data from youth in Iran, very few studies^{33,34,40} have addressed suicide in this region. Therefore, the purpose of this study was to investigate the motivations for suicide attempts and identify related factors, including psychiatric disorders (anxiety and depression) and demographic characteristics (age, marital status, income status, education, occupation, and medical history), in Asadabad city, Hamadan Province, in western Iran.

2 | MATERIAL AND METHODS

2.1 | Study design

The study was a descriptive cross-sectional study conducted in Asadabad in the province of Hamadan in western Iran. The data were collected after informed consent was obtained from the individuals to use their information. The inclusion criteria were (1) a willingness to participate in the study, (2) an age between 15 and 35 years, (3) a minimum level of literacy to be able to answer the questions in the questionnaire, (4) a residence in Asadabad district, and (5) a suicide attempt. The exclusion criterion was an inability to give informed consent due to a serious medical, psychiatric (e.g., delusional), or cognitive disorder. Potential participants were approached for inclusion in the study. After providing informed consent from the participants or their parents/guardians, the data were collected anonymously and coded without personal information. Participants were informed that they had the option to withdraw from the study at any time. The study received approval from the research ethics committee of the Asadabad School of Medical Sciences (IR.ASAUMS.REC.1400.028).

2.2 | Sample size and sampling technique

The study population consisted of all suicide attempt patients who presented the emergency department of Qaem Hospital in Asadabad between April 2020 and March 2021. A power analysis was carried out to assess the appropriateness of the sample size. Based on the results obtained and the main objective of the study, which was to investigate factors related to suicide motivation, the correlation between the depression score (as one of the factors influencing motivation) and the suicide motivation score was examined. With a sample size of 110 people, a correlation coefficient of 0.359 was achieved with a statistical significance of 0.97, meaning that people were selected by nonprobability sampling (convenience sampling) and invited to participate in the study.

2.3 | Data collection and study procedure

In this study, data collection tools included a checklist of demographic information and three standard questionnaires measuring suicidal motivation, the Beck Depression Inventory (BDI) and the Beck Anxiety Inventory (BAI). The demographic characteristics consisted of 11 questions on age, marital status, place of residence, reasons for suicide attempts, employment status, education level, income level, divorce history, medical history, and method of a suicide attempt.

The Inventory of Motivations for Suicide Attempts by May and Klonsky⁴¹ was used to assess motivation for suicide attempts. This instrument consists of 54 questions designed to evaluate and measure the intensity of attitudes, behaviors and plans for suicide. The

questions were rated on a 5-point scale ranging from 1 (*not at all important*) to 5 (*very important*). The person's total score is calculated from 54 to 270. Based on May and Klonsky's factor analysis,⁴¹ the motivation scale for suicide attempts includes 10 factors: hopelessness, psychological pain, escape and avoidance, enmeshment, low sense of belonging, recklessness and fearlessness, interpersonal affect, help seeking, impulsivity, and problem solving. The scores for each subscale were translated into a range from 0 to 100 for the analysis. Based on the information provided, the reliability of the scale was assessed using Cronbach's α for various subscales, such as hopelessness ($\alpha = 0.77$), psychological pain ($\alpha = 0.84$), escape and avoidance ($\alpha = 0.80$), perceived burdensomeness ($\alpha = 0.88$), low belongingness ($\alpha = 0.74$), recklessness ($\alpha = 0.74$), low sense of belonging ($\alpha = 0.74$), interpersonal affect ($\alpha = 0.89$), help-seeking ($\alpha = 0.84$), and problem solving ($\alpha = 0.55$). The test-retest reliability of the subscales ranged from 0.74 to 0.85.^{41,42} In the present study, the internal consistency reliability was reported as $\alpha = 0.94$.

The Beck Depression Inventory (BDI) comprises 21 items that evaluate an individual's mood over the previous 2 weeks. Each item is rated on a scale of 0 (nonexistent), 1 (mild), 2 (moderate), or 3 (severe), resulting in a total score ranging from 0 to 63. Depression classification ranges from no signs (0–9), mild depression (10–18), moderate depression (19–29), to severe depression (30–63).⁴³ The scores for each subscale were translated into a range from 0 to 100 for the analysis. The BDI-II has high internal consistency ($\alpha = 0.92$) and good reliability (0.30 and 0.31 in Persian) within the Iranian population.^{44,45} Furthermore, the internal validity in the current study was high, with a coefficient of $\alpha = 0.92$.

The Beck Anxiety Inventory (BAI) was used to measure anxiety symptoms. It comprises 21 items that measure common anxiety symptoms.⁴⁶ Each item is rated on a scale from "0" (*not at all*) to "3" (*strongly*), with a total score ranging from 0 to 63. The classification of anxiety ranges from not at all to minimal (0–7), mild (8–15), moderate (16–25), or severe (26–63). The total score indicates the severity of the anxiety symptoms. The scores for each subscale were translated into a range from 0 to 100 for the analysis. The BAI has high internal consistency reliability ($\alpha = 0.92$) and promising validity.^{46,47} In this study, the internal consistency reliability was high, with a Cronbach's α coefficient of 0.97.

2.4 | Data processing and analysis

After data collection, the data were analyzed using SPSS version 22 software. Quantitative data were presented as the mean and standard deviation, while qualitative data were presented as frequency and percentage. The normality assumption of the questionnaire values was confirmed through the Kolmogorov-Smirnov test, skewness, and kurtosis measures falling within the range of -1 to 1 for quantitative variables. Mean values were compared with demographic variables using independent t tests and ANOVAs, with effect sizes reported as Cohen's d and η^2 . Pearson's correlation coefficient was used to examine the correlation between questionnaire values.

A multiple regression model was employed to investigate the simultaneous effect of different variables on the suicide motive score, with tolerance statistics and VIF used to detect collinearity. VIF values below five and tolerance index close to zero indicated no collinearity among independent variables. Power analysis was conducted to assess sample size adequacy. All tests were two-tailed, with a significance level of $p < 0.05$ considered statistically significant.

3 | RESULTS

3.1 | Sociodemographic characteristics of the respondents

The results of the study indicated that the mean age of the participants was 25.78 (± 5.89 standard deviation) years, with an age range spanning from 15 to 35 years. Most of them were female, 65 (59.1%) were female, 57 (51.8%) were married, 60 (54.5%) were residing in urban areas, and 48 (43.6%) had family problems. The most common method of committing suicide was the use of pills and psychotropic drugs (66.4%), followed by self-poisoning (9.1%). The most common reason for suicide attempts was family problems (43.6%) (Table 1). According to the study results, only 10 people (11%) showed no signs of depression, while the rest showed varying degrees of depression: 42 people (38.2%) had moderate depression, 35 people (31.8%) had mild depression, and 22 people (20%) had severe depression. In addition, 38 people (34.5%) had moderate anxiety, 30 people (27.3%) had mild anxiety, and 31 people (28.2%) had severe anxiety (Figure 1).

The results of the study showed the mean total scores for suicidal attempt motivation (32.46 ± 16.11), depression (34.60 ± 20.50), and anxiety (34.14 ± 15.69) for both women and men. The mean anxiety score was significantly greater (approximately 10 points) for men than for women ($p = 0.008$). However, no significant differences in the other variables were found between men and women ($p > 0.05$). With regard to education level, the one-way analysis of variance showed that suicidal motivation and anxiety were greater in people with a primary school education ($p < 0.05$). In terms of marital status, single people also showed greater suicide motivation and anxiety than did married and divorced people ($p < 0.05$). No significant differences were found in terms of residence (urban vs. rural) regarding suicide motivation, anxiety, or depression ($p > 0.05$). According to the one-way analysis of variance, there was a significant difference only between the different income levels for the suicide motivation variable. People with low and middle incomes had higher suicide motivation scores ($p < 0.05$). Participants with a history of divorce had higher suicide motivation scores (Table 2).

In this study, Pearson's correlation coefficient was used to examine the relationships between variables. All components and variables showed a significant positive relationship at a significance level of 0.01. With an increase in anxiety and depression scores, each

TABLE 1 Distribution of sociodemographic characteristics of participants.

Variable	Category	Frequency	%
Sex	Men	45	40.9
	Women	65	59.1
Marital status	Single	50	45.5
	Married	57	51.8
	Divorced	3	2.7
Place of living	City	60	54.5
	Village	50	45.5
Education	Elementary	19	17.3
	Middle school and high school	57	51.8
	Diploma	28	25.5
	University degree	6	5.5
Income level	Good	8	7.3
	Average	37	33.6
	Poor	65	59.1
Divorce history	Yes	11	10.0
	No	99	90.0
Employment	Freelancer and farmer	19	17.3
	Worker	16	14.5
	Unemployed	18	16.4
	Student/soldier	10	9.1
	Housewife	47	42.7
Diseases history	History of physical disease	7	6.4
	History of mental disease	18	16.4
	History of addiction	7	6.4
	None	78	70.9
Attempt suicide method	Pills and psychoactive drugs	73	66.4
	Agricultural poisons	4	3.6
	Hanging	6	5.5
	Self-harm	10	9.1
	Chemical materials	2	1.8
	Drugs and derivatives	8	7.3
	Self-immolation	7	6.4
Cause of attempt suicide	Family problems	48	43.6
	Financial problems	17	15.5
	Addiction	15	13.6
	Spouse violence	15	13.6

TABLE 1 (Continued)

Variable	Category	Frequency	%
	Spouse physical or mental diseases	3	2.7
	No history	12	10.9

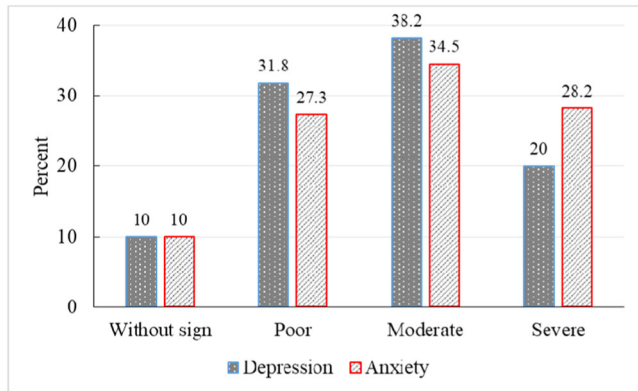


FIGURE 1 Prevalence of anxiety and depression in participants.

dimension of suicidal motivation increased significantly. Participants with higher anxiety and depression scores had higher suicide motivation scores (Table 3).

Based on the established assumptions of multiple linear regression analysis, this model was used to investigate the simultaneous effect of different variables on suicidal motivation values. The influence of age, gender, marital status, place of residence, reasons for suicide attempts, education level, income, divorce history, medical history, and anxiety and depression levels on the suicide motivation score was investigated. Significant effects were observed for anxiety, sex, education level, and medical history. With each increase in the anxiety score, the suicide motivation score increased by 0.54 points ($B = 0.548$; $p < 0.001$). The suicide motivation score was 5.8 points greater for women than for men ($B = 8.514$; $p = 0.016$), and the score was 3.272 points greater for people with a history of illness than for people without a disease of illness ($B = 3.272$; $p = 0.016$). The coefficient of determination (R^2) for this model was 0.534 (Table 4).

4 | DISCUSSION

This study investigated the motivations for suicide attempts and related factors in Asadabad in western Iran. Suicide is influenced by many factors, including cultural, social, economic, and demographic characteristics and cultural and moral values. In the present study, the rate of suicide attempts was greater in women than in men (59.1% vs. 40.9%), which confirms previous and recent reports about the increased risk of suicide in women.^{48,49} In many countries, women tend to have a higher rate of attempted suicide, whereas men

have a higher rate of completed suicide. This difference has been attributed to women being more susceptible to socioeconomic challenges and psychological stress compared to men. Furthermore, in certain societies, the disregard for women's social and individual rights within the prevailing culture can lead to depression and psychological issues, ultimately contributing to suicide among women. Supporters of the interpersonal theory of suicidal behavior propose that a lack of belongingness and feelings of being a burden to others are predictive factors for suicidal ideation and attempts.⁵⁰

In the current study, suicide attempts were found to be more prevalent among individuals with a history of mental illness. Previous reports in Iran have also shown a significantly higher rate of suicide attempts among individuals with depression.⁵¹ In Shiraly's study, people who already had poor mental health were more likely to commit suicide. A lack or low level of self-esteem, problem-solving skills, and seeking skills in critical situations in the field of mental disorders may make a person prone to suicide due to stressful factors. Therefore, there is an urgent need to improve mental health and provide support services. According to social learning theory, psychiatric disorders, including depression, are key antecedents of suicide,⁵² and many suicides involving depressed people are a model for other depressed people in society. Additionally, according to the stress-diathesis model, people who are exposed to crises of psychiatric and social disorders are more likely to exhibit suicidal behavior.⁵³

As with other studies,^{54,55} most perpetrators were young (25.78) in this study, which means that younger people are more likely to commit suicide. Possible factors, such as despair, low self-esteem, lack of understanding from parents and others, and unemployment, can be considered sources of mental and emotional tensions, which may ultimately lead to suicide in young people.¹⁷ This finding emphasizes the importance of trying to design suicide prevention programs and interventions and encouraging family bonds that may have a protective effect on youth.⁵⁴

Consistent with the findings of Robustelli et al.⁵⁵ and Khajedaluae et al.⁵⁶ the results of the current study revealed that suicide attempts were more prevalent among married individuals. In contrast, Shiraly et al.⁵⁰ reported a higher incidence of suicide attempts among single individuals. This variation may be attributed to diverse lifestyles in different regions. In Iranian society, the social stigma associated with divorce and societal pressure to persevere in relationships can lead to feelings of frustration and family discord, potentially increasing the risk of suicide.⁵⁷

In our study, more suicide attempts were observed among homemakers, which was consistent with the results of studies conducted in Iran.⁵⁸ Similarly, according to a study in China, unemployment was associated with an increased risk of committing suicide.⁵⁹ Work is a protective factor against suicide, which can be related to suicide due to social and economic issues and stressful life conditions. A number of studies have shown that gender conflict can have a significant impact on individuals' attitudes, behaviors, cognition,⁶⁰ and mental health.⁶¹ Studies^{60,61} have shown that experiencing gender conflict can lead to feelings of marginalization, discrimination, and a decrease in an individual's potential.

TABLE 2 Comparison of mean suicide attempt motivation, anxiety, and depression at different levels of demographic variables.

Characteristics	levels	Suicide attempt motivation		Anxiety		Depression	
		Mean (SD)	Test	Mean (SD)	Test	Mean (SD)	Test
Gender	Men	33.32 (14.41)	$T_{108} = 0.467$ $p = 0.641$	40.88 (20.53)	$T_{108} = 2.75$ $p = 0.008$	36.37 (13.37)	$T_{108} = 1.24$ $p = 0.217$
	Women	31.86 (17.27)		30.26 (19.47)		32.60 (17.05)	
Effect size (Cohen's <i>d</i>)		0.091		0.534		0.241	
Marital status	Single	36.69 (18.76)	$F_{2,107} = 3.298$ $p = 0.041$	41.62 (22.07)	$F_{2,107} = 5.844$ $p = 0.004$	35.65 (15.63)	0.421 $p = 0.658$
	Married	29.00 (12.92)		28.74 (17.10)		32.86 (15.47)	
	Divorced	27.78 (4.70)		29.10 (23.24)		33.33 (25.20)	
Effect size (η^2)		0.058		0.098		0.011	
Place of living	City	32.60 (17.66)	$T_{108} = 0.101$ $p = 0.920$	35.61 (19.38)	$T_{108} = 0.562$ $p = 0.580$	34.13 (17.27)	$T_{108} = 0.011$ $p = 0.992$
	Village	32.29 (14.21)		33.40 (21.91)		34.16 (13.74)	
Effect size (Cohen's <i>d</i>)		0.019		0.108		0.002	
Education level	Elementary	43.57 (20.84)	$F_{2,107} = 6.218$ $p = 0.001$	43.94 (22.84)	$F_{2,107} = 3.876$ $p = 0.011$	33.00 (17.58)	$F_{2,107} = 0.461$ $p = 0.710$
	Middle school and high school	32.46 (14.35)		32.92 (17.64)		34.81 (14.65)	
	Diploma	24.34 (12.61)		28.23 (19.84)		32.31 (16.00)	
	University degree	35.11 (8.99)		50.79 (27.73)		39.95 (20.04)	
Effect size (η^2)		0.150		0.099		0.015	
Income level	Good	28.01 (13.09)	$F_{2,107} = 10.773$ $p < 0.001$	31.31 (18.65)	$F_{2,107} = 2.170$ $p = 0.119$	33.04 (14.89)	$F_{2,107} = 0.516$ $p = 0.598$
	Average	41.65 (17.65)		39.90 (21.72)		35.18 (16.72)	
	Poor	26.10 (13.95)		36.90 (26.18)		38.29 (18.30)	
Effect size (η^2)		0.168		0.039		0.010	
Divorce history	Yes	30.43 (15.61)	$T_{108} = -0.439$ $p = 0.662$	29.00 (19.83)	$T_{108} = -0.983$ $p = 0.344$	33.77 (12.26)	$T_{108} = -0.103$ $p = 0.934$
	No	32.68 (16.22)		35.23 (20.58)		34.18 (16.08)	
Effect size (Cohen's <i>d</i>)		-0.139		-0.303		-0.026	

Suicide was more common in people with lower education levels and financial status. The results of other studies in Iran^{58,62} showed that most suicide victims were illiterate and had poor economic status.

In our study, the most common motivation for suicide was family conflicts. Similar studies^{63,64} have shown that family conflicts are a predisposing factor for committing suicide. According to previous studies,^{33,65} the suicide rate is lower for people who receive high social support from their family.

Additionally, the most common method used to commit suicide was drug poisoning. According to other studies conducted in Iran,^{37,66} drug poisoning is the primary method of suicide in the western provinces of Iran, including Ardabil, Ilam, and Hamadan. The prevalence of suicide attempts involving drugs can be attributed to factors such as the perception of their safer consequences compared to more invasive methods, their availability, and the lack of strict regulations on selling drugs without a doctor's prescription in Iran.

According to the current study, the overall mean score for suicide motivation was 32.46 ± 16.11 . A study in northwest Iran

reported an increase in the general trend of suicide (8.26 per 100,000 people).⁶⁶ Furthermore, a national study in Iran revealed that Iran has the highest increase in deaths due to suicide among the countries in the Eastern Mediterranean and Islamic regions. According to the theory of social learning, in societies where the suicide rate is high, people's attitude toward suicide becomes easier, and they approve of the behavior; however, in societies with a low suicide rate, there are relatively fewer models that provide logical justifications for suicide and more models for enduring psychiatric illnesses and stressful life events.⁶⁷ According to the Integrated Motivational-Volitional (IMV) model, personal and social protective factors, such as reasons for life, belonging, connection, and positive thinking about the future, can act as motivational modifiers for committing suicide and reducing suicide attempts in society. The Cry of Pain (CoP) model, a theory of suicide, highlights the importance of social support in influencing suicidal behaviors.⁶⁸ Furthermore, the Schematic Appraisals Model of Suicide (SAMS) suggests that social support can play a role in countering and containing suicidal ideation. Cultivating positive relationships and enhancing intimate connections can assist individuals in coping with

TABLE 3 Correlations between suicide attempt motivation and its dimensions and the variables of age, depression, and anxiety.

Variable	Anxiety		Depression		Age	
	<i>r</i>	<i>p</i> Value	<i>r</i>	<i>p</i> Value	<i>r</i>	<i>p</i> Value
Hopelessness	0.544**	<0.001	0.309**	<0.001	-0.046	0.632
Psychache	0.498**	<0.001	0.239*	0.012	0.019	0.841
Escape	0.578**	<0.001	0.321**	<0.001	0.080	0.405
Burdensomeness	0.646**	<0.001	0.406**	<0.001	-0.018	0.851
Low belongingness	0.586**	<0.001	0.286**	0.002	0.054	0.574
Fearlessness	0.608**	<0.001	0.311**	<0.001	0.037	0.700
Help-seeking	0.524**	<0.001	0.393**	<0.001	0.013	0.894
Interpersonal influence	0.521**	<0.001	0.239*	0.012	-0.015	0.879
Problem-solving	0.596**	<0.001	0.368**	<0.001	-0.018	0.853
Impulsivity	0.550**	<0.001	0.337**	<0.001	0.012	0.901
Motivations of suicide attempts	0.632**	<0.001	0.359**	<0.001	0.014	0.887

**Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level.

TABLE 4 Factors affecting suicide attempt motivation based on the multiple linear regression model.

Variables	<i>B</i>	Standard error	β	<i>t</i>	<i>p</i> Value
(Constant)	-1.053	19.479		-0.054	0.957
Anxiety	0.548	0.079	0.698	6.905	<0.001
Depression	0.034	0.093	0.033	0.369	0.713
Age	0.321	0.233	0.117	1.377	0.172
Gender	8.514	3.465	0.261	2.457	0.016
Marital status	-2.391	2.496	-0.082	-0.958	0.340
Place of living	3.293	2.643	0.102	1.246	0.216
Cause of attempt suicide	0.312	0.729	0.033	0.428	0.670
Employment	-0.596	0.670	-0.092	-0.890	0.376
Education level	-4.723	1.485	-0.230	-3.180	0.002
Income level	-1.740	1.867	-0.068	-0.932	0.354
Divorce history	-1.239	4.131	-0.023	-0.300	0.765
Diseases history	3.272	1.331	0.199	2.459	0.016

stress, alleviating depression and despair during challenging life circumstances, and bolstering resilience.⁶⁹

The results of this study revealed that a significant number of suicide attempters suffered from depression (34.60 ± 20.50) and anxiety (34.15 ± 15.69). Anxiety and depression, which are known to be strong predictors of suicidal thoughts and attempts, had a positive and significant relationship with suicide motivation.

According to a qualitative study in western Iran,⁷⁰ depression was one of the psychological and emotional problems reported by women who attempted suicide. Depression, hopelessness about the future, and anxiety have been identified as strong psychological risk factors for suicide attempts. According to Roohafza et al.⁷¹ 60% of individuals who attempted suicide had a history of depression. Joiner's Interpersonal Theory of Suicide (ITS) suggests that the tendency toward suicide arises when individuals face thwarted belongingness and perceived burdensomeness.^{72,73} The relationship between interpersonal factors (thwarted belongingness and perceived burdensomeness) and suicidal ideation is closely linked to depression and anxiety. Perceived heaviness is a person's perceived belief in his family and peers, and thwarted or failed belonging is synonymous with social alienation and loneliness, the experience of being outside, and not being part of the family and peer group. Suicidal tendencies emerge when people experience unbearable feelings of perceived heaviness, thwarted belonging and suicide. According to this theory, feelings of isolation and depression contribute to a large extent to the desire to commit suicide.⁵³ Additionally, according to the stress-diathesis model,⁵³ stress is a key factor for psychological injuries, and suicide is thought to be a reaction to severe, unbearable stress. According to this model, both distal and proximal risk factors contribute to the increased risk of suicide. Distal factors such as developmental, personality, family and genetic factors (e.g., childhood adversity, family history of suicide, impulsive, and aggressive personality traits) combine with proximal risk factors like life events, stress, and psychiatric disorders (including substance abuse) to elevate the risk of suicide. According to Mann and Currier⁷⁴ compared to nonsuicide attempters, people who attempted suicide had higher depression and suicidal ideation scores and fewer reasons for living.

Additionally, suicide attempters displayed traits such as aggression, impulsivity, family history of suicide, head injury, and experiences of child abuse. The three-step theory of suicide and the suicide strain theory suggest that hopelessness and depression are predisposing factors for suicidal thoughts. Individuals can mitigate these risks by employing various coping strategies.^{75,76} People can protect themselves against despair and suicidal behaviors by using various types of coping strategies.⁷⁵

Multiple linear regression analysis revealed that anxiety, sex, education, and disease history were risk factors for suicidal motives. Chen et al.⁷⁷ and Busby Grant et al.⁷⁸ corroborated the role of anxiety in suicide attempt motives. According to the stress-diathesis model, these people probably have impulsive and aggressive behavioral changes due to emotional regulation disorders and high anxiety, are less able to learn about possible solutions to these situations, and have less understanding of their role in solving problems. Hence, they suffer from problem-solving and decision-making problems, which may lead to suicide attempts.⁵³ Additionally, according to social learning theory, because young people are more vulnerable to adverse social events and need more support to solve their problems, an anxious social environment may affect them, causing thoughts and attempts to commit suicide.⁵²

According to our findings, there was a significant relationship between gender and suicide attempts. Similar to this study, other studies in Iran⁷⁹ and Karkin and Eskin⁸⁰ found a relationship between gender and suicide, but the findings were contrary to the findings of other studies.^{81,82} These differences may be related to different cultural issues governing the studied populations and gender composition. Additionally, there could be a statistical reason for this difference. Some researchers compare the study results between men and women without controlling for possible confounding factors,^{83,84} whereas we used multiple regression to control for confounding effects. Therefore, to determine the true relationship between suicide attempts and gender, the use of statistical modeling is recommended.

In this study, a significant relationship was found between a history of illness and suicide attempts, which was comparable to the results of Kassie et al.⁸⁵ and Alami et al.¹⁷ According to the interpersonal theory of suicide, individuals with illnesses may perceive themselves as burdens on others due to a lack of fulfilling relationships, leading them to believe that their deaths would be beneficial to their friends, family, and society. Compared to other groups, these people have lower levels of life expectancy, self-esteem, and problem-solving skills, so they have a lower tolerance threshold and act impulsively, resulting in a desire to die and a greater risk of suicidal thoughts.⁷²

In agreement with the results of our study, other studies conducted in Iran^{66,86} have shown that the probability of committing suicide is greater for people who have a lower level of education. According to Mirahmadzadeh et al.⁸⁶ and Azizi et al.⁷⁹ people with an academic education have a lower chance of dying by suicide. According to Joyner's interpersonal theory,⁷³ people with low education levels are exposed to hopelessness and thwarted belongingness due

to insufficient job opportunities, economic problems, and unfavorable social conditions. In these people, perceived burdensomeness acts as a moderating factor of suicide attempts. Additionally, according to the theory of social learning, people in difficult situations are more exposed to despair and isolation due to a lack of social support, intimacy, and empathy, so they are prone to suicidal thoughts.⁵² Therefore, health policymakers in Iran need to pay more attention to this issue.

4.1 | Limitation of study

This study, like other studies, has its own strengths and limitations. It is crucial to pay attention to the use of standard and valid tools, which helps to avoid collecting inaccurate information. The adopted research method, the use of multiple analyses using a large number of suicide risk factors, and the first effort to identify suicide risk factors in the studied city were some strengths of the study. However, due to the cross-sectional design of this study, detailed examination of causal relationships was not feasible. The study was conducted in a small area with a limited population, so caution is advised when extrapolating its methods and findings to larger communities. The research used self-reported data, which are subject to bias. Since suicide is a stigma in Iran's social culture, families try to hide from it, so there are limitations related to noncooperation and the cooperation and trust of some participants. Additionally, 2 years of access to information about suicide attempters was one of the other limitations. Additionally, it is a challenge to persuade suicide attempters to complete questionnaires, but with great effort and time, we were able to check the complete information over 2 years. Despite the anonymous nature of the study, participants may have intentionally or unintentionally misreported or underreported their responses to questions due to cultural and social determinants of suicide. Since the studied sample was selected only from Asadabad city, we are concerned about generalizing our findings to other parts of Iran and larger societies. It is recommended that qualitative research methods be used to identify risk factors for suicide attempts among teenagers and young people in different cultures and regions. The results can be used for mental health programs in Asadabad and Iran.

5 | CONCLUSION

The results of this study showed that a wide range of different social, economic, and cultural factors and mental disorders, including anxiety and depression, are the main factors related to suicide attempts. Therefore, according to the cultural conditions in society, such as forced marriages at a young age, patriarchy, and so forth, social officials and policymakers should develop preventive and protective strategies to address emotions and tough situations and prevent suicidal thoughts by creating resilience and providing high self-esteem, problem-solving skills, help-seeking, and social support.

Effective multilevel interventions at both the community level and within healthcare systems can significantly contribute to preventing and reducing the risk of suicide. Examples of interventions include providing gatekeepers, such as teachers, peers, counselors, and clergies who educate others on suicidal risk symptoms to help identify and refer those at risk; providing campaign public education; using school-based suicide awareness programs on mental health; receiving predischARGE education and follow-up contact for psychiatric patients discharged from the emergency department or hospital who have experienced a suicidal crisis; using media approaches, such as reporting responsibly at the population level to prevent suicide; using psychotherapy approaches, especially cognitive psychotherapy; and limiting access to suicide devices.

Additionally, it is necessary to screen for suicidal thoughts in the populations of schools, universities, and medical clinics to identify people at risk. It is also suggested that specialist doctors and primary care nurses be trained in recognizing and responding to mental distress, suicidal thoughts, and depression. Standard screening tools with high sensitivity and specificity should also be used to identify people at risk. Furthermore, doctors should use algorithms based on electronic health records and internet-based screening methods and provide treatment and continuous passive monitoring to further reduce the suicide rate. Telephone services should also be provided for people who are at risk of suicide.

AUTHOR CONTRIBUTIONS

Fatemeh Darabi: Conceptualization; data curation; funding acquisition; methodology; project administration; supervision; validation; visualization; project administration. **Arash Ziapour:** Methodology; visualization; writing original draft; writing review and editing. **Hassan Ahmadiania:** Data curation; formal analysis; resources; methodology; resources; software.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

The data sets used in the study are available from the corresponding author on reasonable request.

ETHICS STATEMENT

This study was approved by the ethics committee of the Asadabad School of Medical Sciences with ethical code (IR.ASAUMS.REC.1400.028). The ethical principles of this study were strictly followed. Participants were allowed to withdraw from the study anytime if they wished to do so. In addition, all participants were involved in the research process, and their information

was kept confidential. The purpose of this research was thoroughly explained to the participants through the cover page of the questionnaire, and they were assured that their information would be kept confidential by the researcher. Informed consent was obtained from the participants as they agreed to participate in the study by reviewing the questionnaire's cover page. Additionally, for participants under 18 years of age, consent from a parent or guardian was also obtained.

TRANSPARENCY STATEMENT

The lead author Fatemeh Darabi affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained.

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