doi:10.22100/ijhs.v9i2.1003
Original Article

IJHS 2023;9(2):32-37
ijhs.shmu.ac.ir

IJHS
International Journal of Health Studies

Suicide Attempt and related factors: A Cross-sectional Study in Northeast of Iran

Tahereh Naseri Booriabadi[1], Tahereh Jalali[2], Zahra Kordi[3], Mansooreh Fateh[4], Farideh Sadeghian[5*]

[1] Department of Health Information Technology, School of Allied Medical Sciences, Shahroud University of Medical Sciences, Shahroud, Iran.
[2] Department of Clinical Sciences, School of Medicine, Shahroud University of Medical Sciences, Shahroud, Iran.
[3] MSc of Epidemiology ,Shahroud University of Medical Sciences, Shahroud, Iran.
[4] Director of Diseases Control Unit, Shahroud University of Medical Sciences, Shahroud, Iran.
[5] Center for Health Related Social and Behavioral Sciences Research, Shahroud University of Medical Sciences, Shahroud, Iran.

Received: 12 October 2022
Accepted: 5 November 2022

Abstract

Background: *Suicide attempt is a significant mental health problem worldwide. Current upward trend of this problem is alarming, due to its detrimental family, social, and economic consequences. This study was aimed to present a picture of suicide attempts and related factors in northeast of Iran.*

Methods: *In this cross-sectional descriptive analytical study, the trauma registration information forms of the ministry of health of Iran, were used in the emergency department(ED) of three hospitals in Shahroud at northeast of Iran during two Iranian calender years (April 1, 2016 to 30th March 2017). The data of people who attempted suicide and referred to ED of these hospitals were collected by trained nurses. Data analysis was done using SPSS software.*

Results: *The findings showed that 793 people with a diagnosis of suicide attempt were referred to the emergency department of hospitals within 2 years. Of which 321 people (40.5%) were males and 470 people (59.3 %) were females. The rate of suicide attempts among males was 125.9 per 100,000, in females 186 per 100,000 and totally was 155.8 per 100,000. Suicide attempte in the age group under 30 years old (71.2 %) was more than in other age groups and complete suicide was significantly more in males. The ratio of male: female suicide attempt was 0.68. In the age group of 10 to 60 years, the percentage of suicide attempts was higher in females than in males, but in the age group of 60 to 80 years, the percentage of suicide attempts was higher in males, and this difference was significant(p-value=0.035). Also, there was a significant difference in the place of suicide attempts between male and female (p-value=0.029).*

Conclusions: *Rate of suicide attempt in our study region was higher than national average. Considering that young people and teenagers, especially girls and young females, are the trainers of the future happy and dynamic generation, as well as males over the age of 60 years, are among the vulnerable groups, immediate local effective preventive interventions are needed. These can be designed to provide psychological consultation and mental health educational services to families and individuals. Continuous monitoring of people with a history of suicide attempts is crucial.*

Keywords: Suicide attempt, Iran, Shahroud, Trauma.
***Corresponding to:** F Sadeghian, **Email:** farsadeghian@gmail.com
Please cite this paper as: Naseri Booriabadi T, Jalali T, Kordi Z, Fateh M, Sadeghian F. Suicide attempt and related factors: a cross-sectional study in northeast of Iran. Int J Health Stud 2023;9(2):11-16.

Introduction

Suicide and suicide-related behaviors are major public health problems in the world and about 800,000 people die by suicide every year.[1] In general, suicide is the cause of 1.4% of premature deaths in the world. Moreover, after road accidents, it is the second main cause of death in the age group of 15 to 29 years. According to the report of the world health organization in 2019, more than 77% of the world's suicides occurred in middle and low-income countries.[2]

In recent years this important psychological problem has a growing trend, due to social, economic, and cultural factors.[3] In addition, due to the subsequent social, economic, and psychological consequences of suicide, several damages[4] affecting families, communities and even the whole countries with long-term effects on the survivors.[2]

In 2020, suicide has been considered the 12th leading cause of death in the United States, and 45,979 citizens of this country have lost their lives due to suicide. The number of attempted suicides in this country is estimated at 1.20 million, and an average of 130 suicides occurs daily in the United States.[5]

In Europe, more than 58,000 deaths occur due to suicide every year and suicide attempts are estimated to be 20 times higher.[6]

In 2016, two-thirds of suicide deaths occurred in various Asian countries and the suicide rate in Iran was 4 cases per 100,000 people.[7] As an Islamic country, Iran has the lowest rate of suicide; but in the course of global changes, it has experienced a growing trend in the occurrence of complete suicides and suicide attempts. It has the highest suicide rate among Islamic countries.[8,9]

It is critical that attempted suicide is a clinically main risk factor for complete suicide.[10] Studies have shown that the previous suicide attempts, personality disorders, being females under age of 51 years with substance use disorders, anxiety, and depression are related factors for suicide attempts. The male: female ratio of completed suicide was upper in the most countries, globally this ratio is estimated at 1.7.[11]

In 2016, reported ratio for Iran was 1.6. All over the world, suicide attempts are more common among females than males; it is a phenomenon that is seen often 10 to 30 times more than complete suicides. Vulnerable age groups are reported 15 to 24 years old, and there are more suicide attempts in rural areas

compared to urban areas. The place of the accident is reported for females inside and for males outside the home.[7]

Local interventions based on national programs are effective in preventing suicidal behaviors.[12] To design preventive measures and reduce the burden of suicide in the studied area, it is necessary to identify the related characteristics and the pattern of suicide. Given the vulnerability of the studied area, relevant factors for interventions and local policies in the health sector should be identified. With attention to this important growing psychological problem and in order to there is no evidence of suicide attempts in this region. This study was conducted with the aim of presenting a picture of suicide attempts and related factors in Shahroud

Materials and Methods

This is a descriptive-analytical study that was conducted cross-sectionally in a period of 2 years from April 1, 2016 to the end of March 2017 in Shahroud.

The data collection tool was the data registration form of the trauma patients of the deputy of the health at Shahroud university of medical sciences affiliated to the ministry of health of Iran, which was completed by a trained nursing expert in the emergency department of three teaching hospitals. Imam Hossein and Bahar hospitals are public and Khatam-Al-Anbiya hospital is a private. This form included age, sex, region and location of the accident, mechanism of accident, and consequences of the accident. Data analysis was done using SPSS software and descriptive and analytical statistics.

This study was approved by the ethics in research council of Shahrood university of medical sciences with code of IR.SHMU.REC.1397.133 and the personal information and characteristics of the participants were kept confidential.

Results

In this study, 793 individuals with a history of suicide attempts visited the emergency room of three hospitals in Shahrood within 2 years; 321 individuals (40.5%) were male and 470 (59.3%) were females, and the gender of 2 people was not recorded.

The frequency distribution of the studied variables by gender is presented in table 1. Less than half (44.6 %) committed suicide in 2016, and 55.4 % in 2017. The frequency of suicide attempt in 2017 was higher than in 2016 but no significant difference was observed between these two years (p-value=0.084).Over half of the participants (56.7%) were females in 2017 and, 62.8% were female in 2016.

Most of those who attempted suicide (99.2 %) lived in urban areas, and six cases (0.8 %) were in rural areas, but no significant difference was found between the rural and urban. Most of the cases (35.8 %) in the age group of 20 to 30 years, 48 individuals (1 %) in 60 to 70 years, and 1 person (0.1%) in 70 to 80 years, attempted suicide. The age information of 11 people (1.4%) was unknown. In the age group, 10 to 20 years, 63.7%, 20 to 30 years 57.8%, 30 to 40 years 55.9%, were females. In the age group of 70 to 80 years, 100% were males. In the age groups of 10 to 60 years, the percentage of suicide attempts was higher in females than in males, but in the age groups of 60 to 80 years, the percentage of suicide attempts was higher in males than in females. This difference was significant (p-value=0.035). Figure1 shows the frequency of age groups of people who attempted suicide by gender. On holidays 18.9 % committed suicide and on non-holiday 81.1 %. Of Individuals who committed suicide during holidays 61.3% and of individuals who committed suicide during non-holidays 59% were females (p-value=0.569).

Our results showed that the highest frequency of committed suicide by day of week was related to Monday (17.8 %), Sunday(16.4 %), and Tuesday(14.4 %). During all days of the week, the percentage of females was higher than males but there was no significant difference in terms of genders by day (p-value=0.461).

The highest frequency of suicide attempt cases by month were in August (13.2%), October (11.%) and February (10.1 %) respectively. In all months of the year, the percentage of females was higher than males (P.value=0.555). The frequency of suicide attempt by season is indicated in table1, there were 23.2 % in spring, 22.7 % in summer, 27.4 % in autumn, and 26.7 % in winter. In all seasons, the percentage of females was higher than males (p-value=0.645). In addition, 32 cases (4 %) of suicide attempt occured at home, 1 case (0.1 %) at school, 2.1 % in other places and 743 cases were unknown. Of those who committed suicide at home 75 cases were females, and 58.8% of those who committed suicide in other places were males and this difference was significant (P.value=0.029).

At emergency department of three hospitals, of 793 suicide attempt cases during 2 years, 45.8% were hospitalized, 2 individuals died, and 428 individuals were either treated as outpatient or sent to other cities. Of those who were treated 63/3% were females and 2 cases who died were males. Males had significantly more complete suicides than females (P.value=0.037).

In table 2, the suicide rate per 100.000 people in each age group is presented by gender. Totally the rate of suicide attempts was 155.8 per 100,000 population, among females was upper than males with rate of 186 per 100,000 and in males was 125.9 per 100,000. The highest suicide attempt rate was related to 10-20 years old age group.

Table-1 Charactristics of suiside attempt and its association by gender during two years.

Table 1.Charactristics of suiside attempt and its association by gender during two years

Charactristics		gender				total		Pvalue
		male		Female				
		n	%	n	%	n	%	
Year	1396	131	37.2	221	62.8	352	44.5	0.084
	1397	190	43.3	249	56.7	439	55.5	
Residency	urban	320	40.8	465	59.2	785	99.2	0.231
	rural	1	16.7	5	83.3	6	0.8	
Age group	10-20	99	36.3	174	63.7	273	35	0.035
	20-30	119	42.2	163	57.8	282	36.2	
	30-40	67	44.1	85	55.9	152	19.5	
	40-50	14	31.8	30	68.2	44	5.6	
	50-60	9	45	11	55	20	2.6	
	60-70	7	87.5	1	12.5	8	1	
	70-80	1	100	0	0	1	0.1	
Month	January	24	46.2	28	53.8	52	6.6	0.555
	February	28	35	52	65	80	10.1	
	March	18	34.6	34	65.4	52	6.6	
	April	24	41.4	34	58.6	58	7.3	
	may	31	41.9	43	58.1	74	9.4	
	June	16	33.3	32	66.7	48	6.1	
	July	21	33.9	41	66.1	62	7.8	
	August	43	41.3	61	58.7	104	13.1	
	September	23	46	27	54	50	6.3	
	October	42	47.2	47	52.8	89	11.3	
	November	19	33.9	37	66.1	56	7.1	
	December	32	48.5	34	51.5	66	8.3	
Days of week	Saturday	47	47.5	52	52.5	99	12.5	0.461
	Sunday	56	43.1	74	56.9	130	16.4	
	Monday	55	39.3	85	60.7	140	17.7	
	Tuesday	40	35.1	74	64.9	114	14.4	
	Wednesday	43	45.3	52	54.7	95	12	
	Thursday	36	36	64	64	100	12.6	
	Friday	44	3.9	69	61.1	113	14.3	
Vacation	Holiday	58	38.7	92	61.3	150	19	0.596
	No holiday	263	41	378	59	641	81	
Season	Spring	70	38	114	62	184	23.3	0.645
	Summer	71	39.4	109	60.6	180	22.8	
	Fall	87	40.3	129	59.7	216	27.3	
	Winter	93	44.1	118	55.9	211	26.7	
Place	House	8	25	24	75	32	64	0.029
	School	1	100	0	0	1	2	
	others	10	58.8	7	41.2	17	34	
Result suicide	treated	133	36.7	229	63.3	362	45.8	0.037
	death	2	100	0	0	2	0.3	
	other	185	43.4	241	56.6	426	53.9	

Table2. Suicide rate per 100,000 people in each age group by gender

Age(Year)	Sex	Mid-year Population*1000	Suicide	
			n	Rate
10-20	Male	32938	99	300.56
	Female	31349	174	555.04
	Total	64287	273	424.66
20-45	Male	108367	196	180.87
	Female	107725	267	247.85
	Total	216092	463	214.26
45-60	Male	37438	13	34.72
	Female	37802	22	58.20
	Total	75240	35	46.52
60-70	Male	14583	7	48.00
	Female	16090	1	6.22
	Total	30673	8	26.08
70-80	Male	8173	1	12.24
	Female	8848	0	0.00
	Total	17021	1	5.88
>80	Male	5558	0	0.00
	Female	5266	0	0.00
	Total	10824	0	0.00
Total	Male	251045	316	125.87
	Female	249463	464	186.00
	Total	500508	780	155.84
Male/ Female Ratio			0.68	

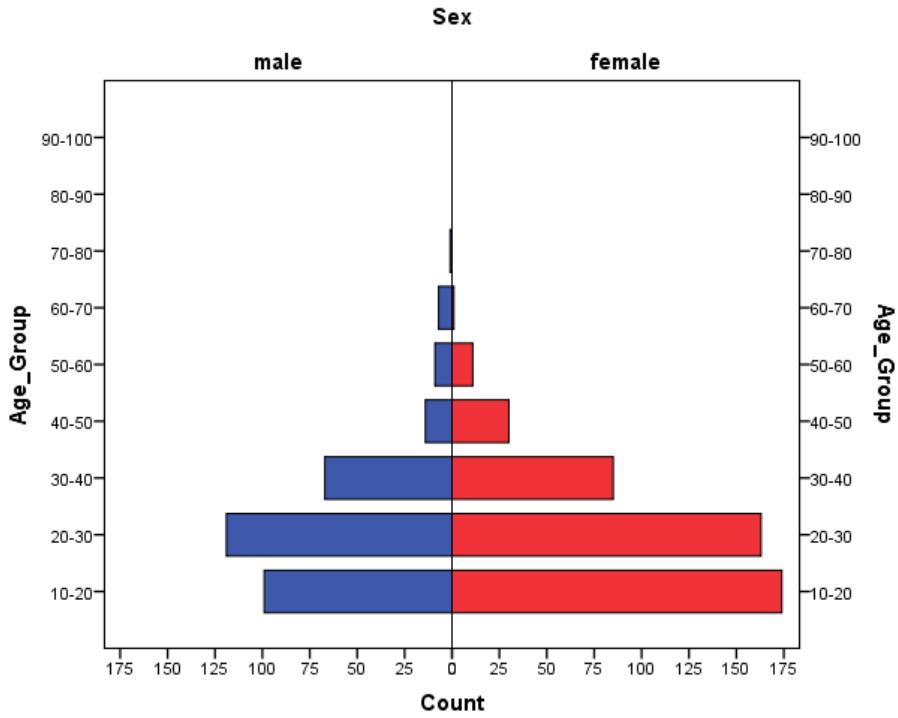

Figure1. Frequency of age groups among suicide attempt by gender

Discussion

In this study, we intended to identify the frequency and rate of suicide attempts and related factors in northeast of Iran. The findings showed that the rate of suicide attempts in Shahroud has increased during the 2-year period of the study. Rostami et al. (2016) found that, the incidence of suicide attempts increased from 2001 to 2012.[13] Climate are one of the factors influencing the occurrence of suicide attempts and complete suicide. The findings of a study in Iran showed that the highest rate of suicide attempts (114.7 per 100,000 people) and the lowest rate of complete suicide (2.8 per 100,000 people) related to Isfahan, Yazd, Semnan, and Qom.[14]

In our study, the rate of suicide attempts among males was 125.87/100,000, among females 186.00/100,000 and a total 155.84/100,000.

Meanwhile, the suicide rate in Iran is estimated at 91.65 per 100,000 (82.2 in males and 115.79 in females per 100,000) in a previous study.[13] Our results are upper than Iranian average in males, females and totally.

A systematic review and meta-analysis study in Iran showed that the average age of committing suicide in males is 29.8 and in females is 27.4. The findings of this study also showed that the youngest population of complete suicide is related to the eastern regions of the country.[15]

Our findings showed that there were more suicide attempts in females and complete suicide in males. Other studies have also shown that, in general, the burden of suicide-related behaviors is higher in females than in males, and one of the most consistent findings related to suicide is the high rate of suicide attempts in females compared to males.[16]

Previous research evidence in Iran[17-20] and the findings of Sirigadis et al.[21] confirm that females commit suicide more than males, and complete suicide in males is more due to the use of aggressive methods. This finding is in line with the findings of Freeman et al. in Europe, which show that males act more seriously in committing suicide compared to females.[6]

Therefore, it is necessary to pay more attention to mental health improvement of community and perform psychological and educational interventions. For making people flexible touching several stressors and to overcome the harmful influences of stress from everyday life experiences. Strengthening the position of males and females in mental health of youth, providing family livelihood and creating job opportunities and business prosperity are other basic solutions in this field.

The occurrence of suicidal behavior in females can be caused by their gender vulnerability to the damage caused by psychosocial stressors.[16]

Considering the high position of females and mothers in creating joy and peace in the family and their supportive role in the family, it is necessary to develop suicide prevention strategies with an emphasis on female's mental health needs; because some females commit suicide when faced with

difficult situations. Of course, in most cases, they do not want to kill themselves and they mostly intend to change their environment and conditions, and by committing suicide, they intend to publicize their inappropriate mental conditions. This requires paying more attention to control aggressive behaviors and correctly facing failures.

Among the factors related to suicide, age is important. The findings of a study in 54 countries showed that most cases of suicide were related to the age groups of 15 to 24 years and 65 to 74 years, and this phenomenon has been growing in younger people in recent decades.[22] The present study showed that suicide attempts were more in the young and adolescent age group (age group 20-30 years and after them, the age group of 10-20 years). A previous study3 confirms this trend. For example, the study of Pirai et al. and Zarenejad et al. showed that suicide is more common in the age group of 11 to 20 years and 20 to 29 years.[18,23] The study of Simber et al.[24] in 2017 shows that suicidal thoughts and complete suicide are more common among teenage girls than boys.

The research of Bazarafshan et al. showed that individual, family, and social factors are among the factors influencing suicide attempts in adolescent.[25] Doost Mohammadi et al.[26] study also showed that the most important suicide risk factors include lack of problem-solving thinking, stress, lack of social, family, and emotional support, lack of family cohesion, and family conflicts and differences.

Considering the frequency of suicide attempts in the age group under 30, it is important to carry out supportive, counseling, educational, and therapeutic interventions for this age group.

Zalsman et al.[27] study showed that school-based awareness planning can decrease suicide attempts with OR=0.45, and suicidal ideation by OR=0.5. One of the national suicide prevention strategies is educational aimed at increasing public awareness of dealing with daily stress and strengthening life skills. For this end, holding educational workshops, educating the family and the community, and explaining instructions through media are required.[26]

Considering the important role of the young population in the economic growth and prosperity of society, it is very important to carry out timely therapeutic interventions for people who suffer from mental disorders. In this context, the findings of Zalsman et al.[27] showed that effective pharmacological and psychological treatments for depression are important in preventing suicide attempts.

On basis of our results, the highest frequency of suicide attempts by day of week was on Monday and Sunday, and the highest frequency of suicide by month was in August. In all months of the year, the percentage of females was more than males. Also suicide attempts were higher on non-holidays and the highest frequency occurred in autumn. This finding is contrary to the study of Zarenejad et al. (2014) and the findings of Mubasheri et al. (2012). The seasonal pattern of suicide in their study showed that the highest frequency occurred in spring.[19,23]

Our findings showed that females mostly committed suicide at home and males mostly outside the home. Perhaps this issue can be attributed to the frequency of suicide attempts among housewives. The study of the Zarenejad et al. confirm this argument; because it showed that most suicide cases were related to housewives.[23] It seems that some housewives do not have good problem-solving skills to deal with conflicts. On the other hand, not having an independent job identity and society's lack of attention to the importance of housekeeping skills can lead to their immersion in family problems, despair, and suicide attempts.

Missing data was one of the problems in this research, so accurate recording of information is also very important and needs to be taken into account.

This study, while presenting the epidemiological pattern of suicide attempts in northeastern Iran, clarified the unknown points for providing a local preventive program.

According to this study results, the rate of suicide attempts in the region of Shahroud is more than the Iranian average for males, females and totally. The highest frequency of suicide attempts was among age group of 10 to 30 years and females. This picture of suicide attempts, alarming the health policy makers about the health of adolescents and young people, especially females, who play an important role in the growth of the population and future generation. They will guarantee the economic and social development of the country. Therefore, it is very important to carry out mental health interventions and prevent risky behaviors. Effective local preventive interventions include designing a dynamic system in the field of data completion, monitoring, and continuous support of vulnerable group would be effective. According to the WHO patterns, it is recommended to use a multi-sectorial strategy to prevent suicidal behaviors that require taking into account the social and cultural proportions in each situation. Seemingly, it is important to have a surveillance system in this direction.

Acknowledgement

This study was approved by research committee of Shahroud university of medical sciences (SHMU) (Grant No. 97102). We appreciated Vice-Chancellor for research of SHMU for supporting.

Conflict of Interest

The authors declare that they have no conflict of interest.

References

1. Andersson A-L, Sokolowski M. Accident or suicide? Improvement in the classification of suicides among road traffic fatalities in Sweden by extended psychosocial investigations, during the years 2010-2019. J Safety Res 2022;80:39-45. doi:10.1016/j.jsr.2021.11.004

2. World Health Organization. Suicide 2021.

3. Balvardi M, Imani Goghary Z, Babaee K, Izadabadi Z. Suicide and Attempted Suicide Epidemiology in Sirjan in 2018. Int J High Risk Behav Addict 2021;10:e108648. doi:10.5812/ijhrba.108648

4. Mivehyan M. Investigating suicidal suicide factors in Kermanshah province. Journal of Civil & Legal Sciences (Ghanonyar) 2017;3:99-117.

5. Mirahmadizadeh A, Rezaei F, Mokhtari AM, Gholamzadeh S, Baseri A. Epidemiology of suicide attempts and deaths: a population-based study in Fars, Iran (2011-16). J Public Health (Oxf) 2020;42:e1-11. doi:10.1093/pubmed/fdy218

6. American Foundation for suicide prevention. Suicide Statistics 2021.

7. Freeman A, Mergl R, Kohls E, Székely A, Gusmao R, Arensman E, et al. A cross-national study on gender differences in suicide intent. BMC Psychiatry 2017;17:234. doi:10.1186/s12888-017-1398-8

8. Tandon R, Nathani MK. Increasing suicide rates across asia- a public health crisis. Asian J Psychiatr 2018;36:A2-A4. doi:10.1016/j.ajp.2018.09.006

9. Hassanian-Moghaddam H, Zamani N. Suicide in Iran: The facts and the figures from nationwide reports. Iran J Psychiatry 2017;12:73.

10. Lin C-Y, Harnod T, Lin C-L, Kao C-H. Suicide attempt and suicidal drug overdose in chronic obstructive pulmonary disease patients with or without depression. Front Psychiatry 2020;11. doi:10.3389/fpsyt.2020.00270

11. Goñi Sarriés A, Blanco Beregaña M, Azcárate Jiménez L, Peinado Jaro R, López Goñi JJ. Are previoussuicide attempts a risk factor for completed suicide? Psicothema. 2018. doi:10.7334/psicothema2016.318

12. Bachmann S. Epidemiology of suicide and the psychiatric perspective. Int J Environ Res Public Health 2018;15:1425. doi:10.3390/ijerph15071425

13. World Health Organization. National suicide prevention strategies: progress, examples, and indicators 2018.

14. Rostami C, Daliri S, Sayehmiri K, Delpisheh A, Sayehmiri F. The incidence of suicide attempt in Iran (2001-12): A meta-analysis. J Kermanshah Univ Med Sci 2016;19:e69752. doi:10.22110/jkums.v19i7.2692

15. Daliri S, Bazyar J, Sayehmiri K, Delpisheh A, Sayehmiri F. The incidence rates of suicide attempts and successful suicides in seven climatic conditions in Iran from 2001 to 2014: A systematic review and meta-analysis. Scientific Journal of Kurdistan University of Medical Sciences 2017;21:1-15. doi:10.22102/21.6.1

16. Sharif Nia H, Heidari M, Naghavi N, Lehto RH, Haghdoost AA, Jafari-Koulaee A, et al. Age changes and suicidal activity in Iran over the past decade: A systematic review and meta-analysis. OMEGA-Journal of Death and Dying 2020:0030222820966934. doi:10.1177/0030222820966934

17. Vijayakumar L. Suicide in Women. Indian J Psychiatry 2015;57:S233-8. doi:10.4103/0019-5545.161484

18. Taherifard A, Ahmadinia H, Vazirinejad R, Javadi Z, Tabatabaei SZ, Rezaeian M. A study of people who attempted suicide referred to the emergency ward of Ali Ibn Abi Taleb hospital, Rafsanjan, Iran (2016). Journal of Occupational Health and Epidemiology 2018;7:201-8. doi:10.29252/johe.7.4.201

19. Piraee E, Shahkolahi Z, Salehiniya H. Epidemiological study of suicide and attempted suicide and related factors in Kohgiluyeh, Iran. Journal of Isfahan Medical School 2014;32:1706-17.

20. Mobasheri M, Imani R, Alidosti M, Khosravi N. Epidemiologic study of suicide attempt cases in Chaharamahal and Bakhtiari province in 2003-2012. J Clin Res Paramed Sci 2013;1:e82312.

21. Hojjat S, Hatami S, Norozi Khalili M, Kazemi S, Danesh M, Samadi bilehsavar A, et al. Demographic characteristics of patients with suicide attempt in Bojnurd 2014. Journal of North Khorasan Universityof Medical Sciences 2016;7:537-50. doi:10.29252/jnkums.7.3.537

22. Tsirigotis K, Gruszczynski W, Tsirigotis M. Gender differentiation in methods of suicide attempts. Medical Science Monitor: International Medical Journal of Experimental and Clinical Research 2011;17:Ph65-70. doi:10.12659/msm.881887

23. Furqatovich UF, Sattorovich EZ. suicide–as a global problem facing humanity. Web of Scientist: International Scientific Research Journal 2022;3:349-54. doi:10.17605/OSF.IO/EJ7U4

24. Zarenezhad M, Gorgi Z, Sheikh Fathollahi M, Gholamzadeh S, Ghadipasha M, Rezaeian M. Epidemiological survey of suicide in Fars province in the south of Iran during 2003 to 2011. Journal of Rafsanjan University of Medical Sciences 2015;13:1129-40.

25. Simbar M, Golezar S, Alizadeh S, Hajifoghaha M. Suicide risk factors in adolescents worldwide: A narrative review. Journal of Rafsanjan University of Medical Sciences 2018;16:1153-68.

26. Bazrafshan M-R, Delam H. The factors influencing suicide attempts among adolescents: A review article. Journal of Health Sciences & Surveillance System 2020;8:10-5. doi:10.30476/JHSSS.2020.86164.1083

27. Doost Mohammadi F, Rezaeian M. The steps to develop a comprehensive suicide prevention strategy: A narrative review. Journal of Rafsanjan University of Medical Sciences 2020;18:1155-82.

28. Zalsman G, Hawton K, Wasserman D, van Heeringen K, Arensman E, Sarchiapone M, et al. Suicide prevention strategies revisited: a 10-year systematic review. The Lancet Psychiatry 2016;3:646-59. doi:10.1016/S2215-0366(16)30030-X