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Original Article

The Profile of Self-Harm and Suicide in Iran Considering Gender Differences: A Multicenter Study Affiliated with the National Trauma Registry of Iran

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Abstract

Objective: The main objective of this study was to determine various characteristics and outcomes of self-harm and suicide in men and women with data obtained from the National Trauma Registry of Iran (NTRI).
Method: This retrospective multicenter study using data from the NTRI included all patients who went to the emergency department (ED) due to self-harm and suicide, considering the NTRI's specific inclusion criteria, from September 2016 to January 2023. We evaluated patients regarding demographics and clinical characteristics, various outcomes, and factors influencing in-hospital death. Statistical analyses were conducted using the STATA software version 15.0. The chi-square test was used to compare the distribution of variables between men and women. Also, the logistic regression models were applied to assess the predictors of in-hospital death.
Results: Self-harm and suicide cases were gathered from eleven geographically diverse hospitals across the country, and our study included 511 men and 347 women out of 50,661 registered trauma cases. Among them, 443 men (86.7%) and 267 women (76.9%) were between 18 and 49 years old (P < 0.001). Single women constituted 130 (37.3%) of the female cases, while single men were 313 (61.6%) of the male cases (P < 0.001). The three most common methods among our patients were poisoning with 234 (45.8%) of men and 245 (70.6%) of women cases, stab/cut with 208 (40.7%) of men and 54 (15.6%) of women cases, and fall with 16 (3.1%) of men and 26 (7.5%) of women cases (P < 0.001). The risk of death in patients with a Glasgow Coma Scale (GCS) score of 3 to 8 was 46.22 (95% CI = 18.66 to 114.45) times more than patients with a GCS score of 13 to 15.
Conclusion: Data on self-harm and suicide traumatology were gathered from eleven hospitals in Iran. Our findings indicated differences in the distribution of age and marital status between genders. Moreover, both genders used similar methods for self-harm and suicide, and gender did not affect the outcome.

Key words: *Self-Harm; Suicide; Trauma; Registry; Gender*

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A suicide attempt is the act of intentionally causing harm to oneself to end one's life, but without resulting in death. It includes actions such as self-poisoning, self-injury, or self-harm, regardless of whether the individual intended to die. Communities bear a considerable social and economic burden as a consequence of suicide attempts (1). Self-harm is characterized as the act of deliberately causing physical harm to oneself, driven by an intense urge or impulse, to manage overwhelming emotional distress or restore a sense of inner equilibrium (2). Self-harm poses a notable risk for future suicide attempts and is, therefore, a prominent risk factor for suicide, leading to a higher likelihood of death by suicide (3). The act of self-harm largely remains hidden within the community, presenting a significant challenge for clinicians and professionals in the mental health field who aim to provide timely and specific interventions. Effectively addressing this challenge remains a crucial priority for those working in the broader scope of mental health (4). Despite its potential significance for public health, limited data exist regarding the prevalence of overall suicidal thoughts or severe suicidal ideation. It is essential to consider specific factors contributing to variations in all aspects of self-harm and suicide within the local context. To address this significant public health issue and enhance prevention efforts, it is imperative to prioritize epidemiological surveillance and conduct relevant local research in each country to better understand the problem (5). Over the last two decades, there has been a notable increase in the frequency of emergency department (ED) visits concerning attempted suicide and self-inflicted injury within all major demographic groups (6). Moreover, the lifetime prevalence of suicide plans and suicidal ideation was found to be higher in developing countries compared to developed countries (7). Also, gender-related disparities were observed in terms of the method of self-inflicted injury leading to mortality, discharge to home, and the severity of injuries (8). The divergent suicide rates between men and women can be attributed to several potential factors. These include gender equality issues, variations in socially acceptable ways of managing stress and conflict for each gender, disparities in the availability and preference for different suicide methods, differences in alcohol consumption patterns, and varying rates of seeking mental health care among men and women (1). Based on our current knowledge, few studies have been conducted on the differences in various aspects of injuries caused by self-harm and suicide between women and men from a traumatological perspective, especially in developing countries such as ours. Additionally, studies tend to focus more on the preventive or psychological dimensions of this issue. However, self-harm and suicide are some of the most important reasons why patients seek emergency department (ED) care. Exploring the unique factors contributing to self-harm and suicide among men and women is crucial, considering societal and cultural factors as well as different help-seeking tendencies that might differ between genders. In this study, utilizing the data obtained from our ongoing registry, the National Trauma Registry of Iran (NTRI), we aimed to determine the diverse aspects of self-harm and suicide in today's Iranian society, with a main focus on patients' gender.

Materials and Methods

Procedure of the Study

We have conducted a retrospective analysis of prospectively gathered data from the NTRI. The NTRI started its work in 2016 with the efforts and focus of the Sina Trauma and Surgery Research Center, Sina Hospital, Tehran, Iran. Currently, numerous collaborating centers across the country participate in this registry system: Imam Khomeini Hospital in Urmia with 234 cases, Shahid Beheshti Hospital in Kashan with 159 cases, Shahid Modares Hospital in Saveh with 133 cases, Sina Hospital in Tehran with 132 cases, Al-Zahra Hospital in Isfahan with 113 cases, Imam Hossein Hospital in Shahroud with 27 cases, Taleghani Hospital in Kermanshah with 25 cases, Shahid Rahnemoun Hospital in Yazd with 16 cases, Shohada Hospital in Tabriz with nine cases, Peymaniye Hospital in Jahrom with six cases, and Shahid Beheshti Hospital in Qom with four cases form the largest part of our data. Collecting data from trauma patients and utilizing them can offer multiple advantages, including enhancing the quality of patient care, preventing injuries and decreasing their frequency, gaining a deeper understanding of how social and economic status influences outcomes, and enhancing the overall quality of research in practical applications (9). We studied all the patients who went to the ED of the 11 hospitals due to self-harm and suicide from different aspects. It should be noted that these patients met all the registration criteria considered for the NTRI.

Data Collection

Patients with a specific code in their medical records indicating traumatic injuries according to the International Classification of Diseases, 10th Revision (ICD-10), were registered in the NTRI if they met any of the following conditions: stayed in the hospital for more than 24 hours, deceased due to the injury, or being transferred from intensive care units in other hospitals (10). In each hospital, the registrars identify patients who met the inclusion criteria to be registered in the trauma registry system. Trained registrars, who are medical professionals (nurses), were taught how to use the registry platform and carry out the registration process over three days. They are present at the patient's bedside in the wards to complete the questionnaire by using their profiles, conduct interviews, perform physical examinations, and access the hospital information system (HIS) as the main database (11-13). Each of the registrars is required to complete a 99-item questionnaire

for each patient. The unique collection of data in this set included various types of information, such as demographics (18 variables), injury-related information (20 variables), pre-hospital information (22 variables), ED information (23 variables), hospital procedures (2 variables), diagnosis (2 variables), outcomes (6 variables), financial aspects (2 variables), and injury severity (3 variables). Registrars complete data forms and uploaded them to the NTRI web-based portal. This portal was created using the programming language "C#.net 4" and the server software "SQL-server 2012 r2". A trained reviewer then checked the entered data to ensure that they were complete, accurate, and consistent. Additionally, an independent controller, who is a surgeon, assessed the accuracy of injury severity data based on established guidelines. These guidelines, published by the Association for the Advancement of Automotive Medicine, included evaluating the abbreviated injury scale (AIS), AIS pre-dot code, and injury severity score (ISS). Factors such as completeness, accuracy, precision, correctness, consistency, compatibility, and timeliness are considered to ensure high-quality data (14).

Measures

Demographic and clinical variables that were compared between male and female groups are age, nationality, marital status, education level, alcohol consumption, substance abuse, sedative consumption, place of injury, cause of injury, and the Glasgow Coma Scale (GCS). We divided the level of education into four groups: Illiterate (no formal education), Primary (primary school), Secondary (middle school and high school), and Tertiary (diploma and higher education). Also, home, school, and street were the places that had the highest number of self-harm and suicide among the available options, and the other options were grouped as “Others” (Table 1). In addition, suffocation, poisoning, blunt force, stab/cut, and fall were considered options for the cause of injuries. The analyzed outcomes among female and male patients included admission to the intensive care unit (ICU), mechanical ventilation, length of stay (LOS), and discharge status. In the next step, we investigated the association of these variables with death by performing the regression model.

Statistical Analysis

Numbers and percentages were used to describe nominal and categorical variables. The chi-square test was employed to compare the distribution of variables between men and women. Finally, the logistic regression models were applied to assess the predictors of in-hospital death. $P < 0.05$ was considered statistically significant. Statistical analyses were conducted using the STATA software version 15.0 (Stata Corp, College Station, TX, USA).

Ethical Consideration

Ethical approval for this study was granted by the Sina Hospital, Tehran University of Medical Sciences, Tehran, Iran (Ethical approval number: IR.TUMS.SINAHOSPITAL.REC.1399.090). All procedures adhered to the ethical guidelines outlined in the Declaration of Helsinki and subsequent revisions or similar ethical standards. Prior to their participation, all individuals involved in the study provided informed consent orally.

Results

Figure 1 demonstrates that out of the 50,661 trauma cases registered in the NTRI, 858 (1.7%) cases involved self-harm and suicide. We identified 511 (59.6%) male patients with an average age of 32.23 ± 13.16 years and 347 (40.4%) female patients with an average age of 29.71 ± 12.97 years (P = 0.006).

Figure 1. The Share of Males and Females among All Intentional and Unintentional Injuries Documented in the National Trauma Registry of Iran (NTRI).

Given Table 1, patients aged 18 - 49 were involved in 710 (82.8%) cases, among whom 443 (51.9%) patients were single; of these single participants, 313 (61.6%) were women and 130 (37.7%) were men (P < 0.001). Moreover, 572 (68.4%) cases of our patients had secondary education, accounting for 67.9% and 69.2% of injuries in males and females, respectively. Of those who committed suicide at home, which was the place of occurrence of 82.3% of all incidents, 368 (74.9) were male, and 326 (94.5%) were female (P < 0.001).

Table 1. Baseline Characteristics of Injuries Caused by Self-Harm and Suicide in Studied Patients (N (%)).

Variable	Male (N = 511)	Female (N = 347)	Total (N = 858)	P-value
Age				
< 18	**56 (11.0)**	**70 (20.2)**	126 (14.7)	
18 - 49	**443 (86.7)**	**267 (76.9)**	710 (82.8)	**0.001**
≥ 50	12 (2.3)	10 (2.9)	22 (2.6)	
Nationality				
Iranian	479 (95.6)	327 (95.1)	806 (95.4)	
Non-Iranian	22 (4.4)	17 (4.9)	39 (4.6)	0.708
Missing	10	3	13	
Marital status				
Single	**313 (61.6)**	**130 (37.7)**	443 (51.9)	
Divorced /widow	**18 (3.5)**	**23 (6.7)**	41 (4.8)	**< 0.001**
Married	**177 (34.8)**	**192 (55.7)**	369 (43.3)	
Missing	3	2	5	
Education grade				
Illiterate	30 (6)	15 (4.4)	45 (5.4)	
Primary	76 (15.3)	50 (14.8)	126 (15.1)	
Secondary	338 (67.9)	234 (69.2)	572 (68.4)	0.774
Tertiary	54 (10.8)	39 (11.5)	93 (11.1)	
Missing	13	9	22	
Place of injury				
Home	**368 (73.9)**	**326 (94.5)**	694 (82.3)	
School	15 (3)	4 (1.2)	19 (2.3)	
Street	**37 (7.4)**	**6 (1.7)**	43 (5.1)	
Others	**78 (15.7)**	**9 (2.6)**	87 (10.3)	**< 0.001**
Missing	13	2	15	

*The Post hoc statistical test was performed to test for differences between each pair of categories, and significant cases are bolded in the table.

In Table 2, 76 men and 80 women consumed sedatives before injury (P = 0.002). The most common cause of injury among our cases was poisoning (45.8% of men and 70.6% of women), followed by stab/cut (40.7% of men and 15.6% of women) (P < 0.001).

Table 2. Clinical Characteristics of Injuries Caused by Self-Harm and Suicide in Studied Patients (N (%))

Variable	Male (N = 511)	Female (N = 347)	Total (N = 858)	P-value
Cause of injury				
Suffocation	**20 (3.9)**	**4 (1.2)**	24 (2.8)	
Poisoning	**234 (45.8)**	**245 (70.6)**	479 (55.8)	
Blunt force	**19 (3.7)**	**2 (0.6)**	21 (2.4)	**< 0.001**

Variable	Male (N = 511)	Female (N = 347)	Total (N = 858)	P-value
Stab/Cut	**208 (40.7)**	**54 (15.6)**	262 (30.5)	
Fall	**16 (3.1)**	**26 (7.5)**	42 (4.9)	
Others	14 (2.8)	16 (4.5)	30 (3.6)	
Alcohol consumption				
Yes	21 (4.1)	6 (1.7)	27 (3.1)	0.050
No	490 (95.9)	341 (98.3)	831 (96.9)	
Substance abuse				
Yes	**79 (15.5)**	**15 (4.3)**	94 (11.0)	**< 0.001**
No	**432 (84.5)**	**332 (95.7)**	764 (89.0)	
Sedative consumption				
Yes	**76 (14.9)**	**80 (23.1)**	156 (18.2)	**0.002**
No	**435 (85.1)**	**267 (76.9)**	702 (81.8)	
GCS†				
3 - 8	30 (5.9)	24 (6.9)	54 (6.3)	
9 - 12	74 (14.6)	51 (14.7)	125 (14.7)	
13 - 15	403 (79.5)	271 (78.3)	674 (79.0)	0.83
Missing	4	1	5	

*The Post hoc statistical test was performed to test for differences between each pair of categories, and significant cases are bolded in the table. † GCS: Glasgow Coma Scale

As shown in Table 3, only 35 (4.1%) recorded fatalities among individuals who engaged in self-harm and suicide; 18 were male and 17 were female. There was no significant association between the gender of victims and outcomes reviewed during this study, encompassing ICU admission, mechanical ventilation, LOS, and death.

Table 3. The Association between Injury Outcomes and Gender of Victims (N (%)).

Variable	Male (N = 511)	Female (N = 347)	Total (N = 858)	P-value
ICU † admission				
Yes	79 (15.5)	55 (15.9)	134 (15.6)	0.877
No	432 (84.5)	292 (84.1)	724 (84.4)	
Mechanical ventilation				
Yes	56 (11)	35 (10.1)	91 (10.6)	0.684
No	455 (89)	312 (89.9)	767 (89.4)	
LOS ‡ median (IQR) (hours)	61.0 (71.0)	49.0 (56.75)		
Discharge status				
Dead	18 (3.5)	17 (4.9)	35 (4.1)	0.317
Alive	493 (96.5)	330 (95.1)	823 (95.9)	

† ICU: Intensive Care Unit. ‡ LOS: Length of Stay

As illustrated in Table 4, the final regression model showed a significant relationship between GCS scores and death. Patients with a GCS score of 3 to 8 had a significantly higher risk of death (OR: 46.22, 95% CI: 18.66 to 114.45) compared to those with a GCS score of 13 to 15. In addition, death in patients with a GCS score of 9 to 12 was 5.02 times more than those with a GCS score of 13 to 15 (OR: 5.02, 95% CI: 1.78 to 14.15).

Table 4. Final Regression Model of the Association between Death and Characteristics of Injuries Caused by Suicidal Behaviors.

	Crude OR	95% CI‡	P-value
GCS†			
13 to 15	Ref	Ref	Ref
9 to 12	**5.02**	**1.78 to 14.15**	**0.002**
3 to 8	**46.22**	**18.66 to 114.45**	**< 0.001**
Age			
< 18	Ref	Ref	Ref
18 to 49	2.24	0.61 to 8.20	0.22
≥ 50	2.03	0.25 to 16.22	0.50
Gender			
Male	Ref	Ref	Ref
Female	1.32	0.61 to 2.85	0.48

†GCS: Glasgow Coma Scale. ‡CI: Confidence Interval

Discussion

The results of this multicenter analysis contribute to our understanding of gender-based differences in various features of self-injurious and suicidal behaviors. This study is based on data collected from eleven trauma centers nationwide over six years. The higher prevalence of self-harm and suicide among males aligns with previous research (15-18). On the other hand, Rezaeian's research revealed a higher likelihood of suicide among females from Eastern Mediterranean countries compared to males (19). In 2016, age-standardized suicide rates (per 100,000 population) in Iran were 4.9 for men and 3.1 for women. Comparatively, in similar developing countries with middle and low-income in the Middle East, such as Iraq, these rates reach 4.7 and 3.4, respectively, and in Jordan, they stand at 4.7 and 2.7, respectively. On the other hand, in countries with higher incomes in the same region, such as Qatar, these rates reach 7.3 and 1.1, and in the United Arab Emirates to 3.5 and 0.8 (20). One potential issue we might face is underreporting of self-harm and suicide cases, particularly among women. Even though various individuals, such as family members and doctors, are responsible for documenting such incidents, people in our region may hesitate to report them due to social, cultural, and religious factors. This hesitancy is especially noticeable when it comes to suicide cases, as there might be a reluctance to acknowledge them as intentional deaths (21). Most of our cases were aged between 18 to 49 years; however, people over 50 years old accounted for only 2.6% of suicides. Ting *et al*. also reported the same age distribution in their results as the present study (6). The average age of female patients in our study was 29.71 ± 12.97 years, while this value in Bukur *et al*.'s study equals 37.8 ± 16.6 years (22). Based on the study conducted by Ajdacic-Gross *et al*., suicide was the number one cause of death among young girls between the ages of 15 and 19 worldwide (23).

Interestingly, our results do not fully confirm the concept of the "gender paradox of suicidal behavior" proposed in some studies. This concept suggests a gender difference in suicidal behavior, with self-harm attempts being more prevalent among women while men demonstrating higher levels of lethality in completed suicides (24-26). Following identifying this minor discrepancy in our findings, we opted to employ a regression model to explore the potential relationship between the variables under investigation and death, which can indicate the severity of the injury more than other outcomes. No significant differences were observed between men and women when comparing outcomes such as mortality, ICU admission, mechanical ventilation, and LOS (as shown in Table 3), which was also a confirmation that suicide severity did not differ significantly between genders in our study. After conducting the final regression analysis, it became apparent that only the GCS exhibited a significant relationship with the outcome of death, which was foreseeable. The univariable regression model showed that the GCS has a significant relationship with death. Our analyses indicated that death in patients with a GCS score of 3 to 8 was 46.22 times more than in patients with a GCS score of 13 to 15. This study validates the conclusions drawn from earlier published research, explicitly indicating that a lower admission GCS score was a predictive factor for a poorer outcome (27-30). Nonetheless, our study did not find a significant relationship between gender and death, which can be attributed to the limited number of death cases. Based on our study findings, the majority of male suicide cases were single, whereas married women exhibited a higher prevalence of suicide attempts compared to single women. As shown previously by Khan *et al*., married women had significantly higher rates of suicide and intentional self-harm compared to both married men and single women (31). It is worth mentioning that the true

extent of suicide is often underestimated when compared to the population reality, primarily because out-of-hospital incidents and non-emergency department injuries and deaths are inevitably excluded (11). Within our study cases, 4.1% of male individuals and 1.7% of female individuals had engaged in alcohol consumption prior to their acts of suicide or self-harm. Due to the formality of Islam in Iran, alcohol consumption is prohibited, and as a result, it may not be fully documented in patients; the numbers obtained from the NTRI and used in our study may be lower than expected. Shaikh *et al*. investigated that in developing countries, young people are more susceptible to experiencing negative encounters, including alcohol abuse (32). Moreover, another study analyzing 482 self-harm and suicide cases discovered that men and women reported alcohol consumption prior to the incidents at rates of 24.7% and 24.6%, respectively (18). Among the individuals screened during Bukur *et al.*'s study, opiates and alcohol emerged as the most frequently abused drugs prior to sustaining injuries (22). Luna and colleagues illustrated that alcohol played a role in 50% of intentional injuries seen in major metropolitan trauma centers, and this prevalence of alcohol involvement was found to be three to four times higher in comparison to other patients admitted with accidental injuries (33). In Ting *et al.*'s study, they found that one-third of the patients whose suicide screening completed had consumed alcohol or had evidence of abuse before their suicide (34). Furthermore, based on Tabatabaei *et al*.'s study, which was recently conducted in one of the eleven centers that contributed to our study, alcohol consumption was identified in 5% of cases involving self-harm or suicide (17).

In our study, 368 men and 326 women committed suicide or self-harm at home, which is a total of 82.3% of our study subjects. The remaining 17.7% commited suicide or engaged in self harm at the following places: streets (5.1%), schools (2.3%), and other places (10.3%), including dormitories, sanatoriums, penitentiaries, administrative institutions, religious places, sports places, commercial, industrial, or agricultural areas which are mentioned under the title "Others" in Table 1. Of the total 43 studied self-harm injury cases in Gal *et al.*'s study, over 88% of the incidents took place within the confines of homes or residential institutions, while a significantly smaller proportion occurred on streets or highways (15). Hoeflein *et al*. (2020) conducted a study entitled "Ethnic Variations in Suicide Method and Location," which indicated that the most common suicide location across various ethnicities encompassing Asian/Pacific Islander, Latino/a/x, and white is inside the home. However, among black suicide cases, an equal proportion occurred inside and outside the home, with half taking place in each setting (35).

Among the cases we studied, the most common cause of injury was inhalation, drug, or substance poisoning. Out of 858 patients, 479, including 245 women and 234 men, tried to harm themselves or end their lives through poisoning. Stab/cut injuries were the second most common, with 208 men and 54 women. Fall, suffocation, blunt force, direct burns, use of firearms, indirect burns, and road traffic collisions (RTCs) followed, totally constituting 13.7% of the patients. In Tabatabaei *et al*.'s study (17), out of 119 cases of self-harm or suicide registered at the NTRI in Sina Hospital in Tehran, only three people chose the poisoning way for self-harm or suicide. Even though, except for Sina Hospital in Tehran, in all four other hospitals that account for the largest number of cases in our study and are mentioned above, more than 60% of suicide and self-harm cases occurred due to various types of poisoning. This disparity can be justified by referring to the fact that Sina Hospital is located in the capital of Iran, Tehran, and as a result, healthcare services are more accessible than even some other metropolises in Iran, and the referral system to a specialized poisoning center is much more facilitated than all other cities in the country. In accordance with a clinical review by K. Hawton and A. James, in 2005, the second most prevalent way that youths deliberately harm themselves is self-poisoning, following self-cutting (36). Furthermore, according to a study conducted by Alves *et al*. in Brazil, poisoning emerged as the predominant method of suicide attempts. The most frequently utilized agents were medications, followed by actual poisons like chemicals or rat poison (37). Also, based on the findings of Balvardi *et al*.'s study involving 768 individuals who sought medical assistance for a suicide attempt in Sirjan's hospitals over one year (consisting of 391 females and 377 males), self-poisoning through drug intoxication emerged as the prevailing method utilized (38). In a part of the study by Fisher and colleagues, gender differences in suicide methods are noted. Among 518 women who died by suicide in that study, the most common suicide method was drug poisoning, observed in 165 cases. In 2011, Rasouli and colleagues highlighted that out of 2,991,624 emergency department admissions for injuries, 5.3% were linked to intoxication, and intoxication resulted in death in 3.8% of cases (39). In contrast, out of 1829 men who died due to suicide in the study, the most common method of suicide was shooting, which was seen in 968 of the cases, and drug poisoning, with 7%, was the fourth common method (40).

Among the 858 patients included in our study, 17 women and 18 men eventually passed away while hospitalized, resulting in an overall mortality rate of 4.1%. As per the World Health Organization (WHO), suicide ranks as the third most common cause of death in the age group of 15 to 44 years (41). Bukur *et al*., in a part of their study, compared the outcomes of patients with self-inflicted stab wounds and gunshot wounds and found that 8.4% of their 369 cases died within 24 hours in the hospital (22). In Europe, men have lower rates of attempted suicide compared to women but have higher rates of completed suicides. This suggests that suicidal

behavior among men is more lethal than among women (42). As noted by Lee *et al*., there is a need to develop tailored suicide prevention initiatives based on age and gender (43). Suicide or self-harm are pivotal social concerns that depend on several factors. Presently, individuals across other age groups, both men and women, experience suicidal ideation. Consequently, it is crucial to conduct regular screenings based on life events, feelings of hopelessness, and psychopathology to address these issues (8).

These findings highlight the complex nature of gender differences in self-harm and suicide, emphasizing the need for further research to explore the underlying factors and variations across different populations. Additionally, enhancing the quality of life for individuals across economic, social, and cultural domains can play a crucial role in reducing the rate of suicide and self-harm. Raising public awareness about warning signs of suicide contributes to mitigating this problem.

Limitation

The present registry-based study has limitations in fully capturing the entire pattern of suicide and self-harm in Iran. However, our findings highlight an important trend: despite women being fewer in number and younger on average, they exhibited almost the same percentage and slightly more severe injuries based on lower GCS scores. Despite the acceptable sample size of this study, we found a low number of fatal cases, so conducting studies with a higher sample size and more fatal cases is recommended. In the NTRI questionnaire, there is only one option under the title of self-harm/suicide; as a result, in our study, it was not possible to separate these two, and this is one of the weaknesses of this study. Additionally, not recording the type of substance or sedative consumed before the injury also made it difficult for us to interpret these data. Furthermore, the global public stigma, and particularly the stigma in the Iranian society towards self-harm and suicide, may have led to underreporting compared to the reality of the incidence. The NTRI is a national project for trauma registration in Iran, which mainly deals with reporting the characteristics of each injured patient from the viewpoint of traumatology. For this reason, this study, which is the first comprehensive report of cases involving self-harm or attempted suicide obtained from the NTRI, cannot be used to develop preventive policies for self-harm and suicide.

Conclusion

This study analyzed all registered cases in the NTRI to compare the patterns of self-harm and suicide between men and women. Men constituted the majority of the self-harm and suicide cases in our study. Although both genders had comparable age distributions, women demonstrated a higher proportion of self-harm and suicide cases among individuals under 18. Marital status distributions varied between men and women, with a greater percentage of married, divorced, or widowed women involved in self-harm and suicide. In contrast, single men constituted a larger portion of those engaging in self-harm and suicide. Poisoning was the most frequently employed method of suicide. Our findings indicated that increased mortality rates were associated with lower GCS scores. While in our study, men have a greater number of self-harm and suicide cases, it is noteworthy that the resulting injuries they experience tend to have almost the same severity compared to women. This observation raises intriguing questions regarding the underlying factors contributing to this disparity, and further research in population-based settings is warranted to validate and expand upon the findings of our registry-based study. The results of this study highlight the significance of strengthening self-harm and suicide screening and prevention practices to reduce adverse outcomes in individuals, particularly among youngsters.

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Conflict of Interest

None.

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