

Investigating Psychiatric Disorders in Patients with Suicide Attempt

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ABSTRACT

Background: Attempting suicide is considered one of the important indicators of the mental health of individuals in society. One of the important issues in suicide is psychiatric disorders and related factors. Given that no comprehensive study was conducted in Yazd province, this study aimed to assess psychiatric disorders in patients with suicide attempts.

Methods: This analytical cross-sectional study was conducted on 344 patients with suicide attempts at Shahid Beheshti Hospital from March 2021 to March 2022. The type of psychiatric illness was diagnosed based on the clinical interview and DSM-5 diagnostic criteria. All information was extracted from medical records entered into SPSS version 22 and analyzed. $P < 0.05$ was assumed significant.

Results: The average age of the patients was 27.09 ± 11.78 years. Among them, 145 were men (42.2%) and 199 were women (57.8%). The most common psychiatric disorder was Major depressive disorder (MDD) (46.5%). Moreover, the lowest frequency of psychiatric disorders was schizophrenia (1.2%). There was a significant relation between psychiatric disorders and variables, including age, history of physical illnesses, number of suicides, gender, and suicide method ($P < 0.05$). A significant relation was seen between the severity of diseases and gender ($P < 0.05$).

Conclusion: Among the various types of psychiatric disorders, MDD was more prevalent in individuals who commit suicide. Hence, it was essential to focus more attention on this particular group of patients. Additionally, the use of medication was the most common method of suicide. It should also be noted that the severity of suicide was higher in men.

Keywords: Adjustment disorder, major depressive disorder, suicide attempt

Introduction

Suicide is one of the most threatening behaviors (Asadpour, et al, 2013, Bidaki et al., 2021, Bidaki, et al., 2016, Shahbaziyanikhonig et al.,2020) and a social harm in today's society (Shahbaziyanikhonig et al.,2020). Suicide can be seen in all social classes, but the factor that has heightened the significance of this issue is the structural change and the trend of individuals involved in this behavior becoming younger (Shahbaziyanikhonig et al., 2020, Bakhtar et al., 2017). The rate of suicide in adolescents under 14 years old is 0.6 per hundred thousand people, while this statistic increases to 7.4 per hundred thousand people among those aged 15-19. A study in Iran showed that the highest prevalence of suicide occurs in the age range of 10 to 20 years (Shahbaziyanikhonig et al., 2020).

Successful suicide is when the injury leads to death. If suicide does not lead to death, it is called a suicide attempt (Tidemalm et al., 2008). The decision to commit suicide may be impulsively and without a plan (Pompili et al., 2008). On the other hand, impulsiveness/ aggression may be a powerful risk factor for suicidal behavior. Impulsivity is fundamentally linked to the control of thoughts and behavior, as well as the ability to observe and conform to social norms in society (Pompili et al., 2008).

In addition, mental health problems represent the most prevalent and extensively studied risk factor linked to suicidal ideation, suicide attempts, and completed suicide. Approximately 90% of individuals who die by suicide meet the diagnostic criteria for one or more psychiatric disorders (Wilcox et al., 2004). Major depression increases the risk of suicide in those who have attempted suicide (Tidemalm et al., 2008).

Another study reported that many individuals who resort to self-immolation often have psychiatric disorders, including major depression and anxiety disorders (Faraji et al., 2015). Dong et al., revealed that many individuals who have died by suicide had mental disorders, particularly major depressive disorder (MDD), which was present in approximately half to two-thirds of suicide cases.

The combined lifetime prevalence of suicide attempts was 31% (95% CI: 27%–34%), and the combined 1-year prevalence was 8% (95% CI: 3%–14%) in a study of 27,340 individuals diagnosed with MDD (Dong et al., 2019). Even during long-term antidepressant treatment, there were reported rates of 1.45 suicide deaths and 2.76 suicide attempts per 1000 patient-years among individuals with MDD (Braun et al., 2022). According to studies, pharmacological treatment of psychiatric disorders, including depressive disorder decreases the risk of suicide after a suicide attempt (Tidemalm et al., 2008).

It seems that understanding the risk factors associated with suicide in individuals is vital for guiding clinical practice and suicide prevention efforts. Liu et al. reported that psychological, social, familial, individual, and environmental factors significantly influence the risk of suicidal behavior among teenagers, potentially contributing to elevated suicide risk through a variety of direct, indirect, or synergistic pathways (Liu et al., 2024).

Given that the suicide rate in the world has increased and it is considered the most prominent mental health problem and the fact that committing suicide was influenced by several risk factors, including, cultural and regional factors (Khazaei et al., 2003), and the role of psychiatric disorders in patients with suicide attempt was limited, and no comprehensive study was done in this regard in Yazd province, this study aimed to assess the role of psychiatric disorders in patients with suicide attempt admitted to Shahid Beheshti Hospital.

Methods

This cross-sectional-analytical study was conducted on 344 patients with suicide attempts referred to Shahid Beheshti Hospital from March 2021 to March 2022. Individuals who died by suicide or whose families did not cooperate were excluded from the study.

Psychiatric consultation was conducted by a psychiatrist and the type of expert psychiatric illness was diagnosed based on clinical interview

and the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) criteria and recorded in the consultation sheet.

The data collection was completed through a checklist including personal characteristics (such as age and sex), method of suicide, number of suicides, type of psychiatric disorder, severity of suicide, and treatment status.

The collected data were entered into SPSS version 22 (IBM SPSS Inc. Chicago, IL, USA). Frequency and percentage as well as mean and standard deviation were used to report the data.

The chi-square test and ANOVA test were used for the analysis of data.

Results

This study was conducted on 344 patients with a mean age of 27.09 ± 11.78 years. Of these patients, 145 were men (42.2%) and 199 were women (57.8%). The frequency of demographic variables, including gender, suicide method, suicide severity, and drug category is shown in Table 1.

The frequency of psychiatric disorders and other problems is shown in Table 2.

Table 1. The frequency of demographic variables

Variables	N (%)
Gender	
Men	145 (42.2%)
Women	199 (57.8%)
Comorbidity disease	
Yes	50 (14.5)
No	294 (85.5)
Under treatment	
Yes	68 (19.8)
No	276 (80.2)
Suicide method	
Medicine	252 (73.3)
Narcotic	69 (20.1)
Poison	16 (4.7)
Others	7 (2)
Suicide severity	
Hospitalization in ward	191 (55.5)
Hospitalization in CCU	89 (25.9)
Hospitalization in ICU	64 (18.6)
Drug category	
Taking more than one type of medicine	125 (36.3)
Benzodiazepine	55 (16)
Analgesic	34 (9.9)
Other drugs	34 (9.9)

Table 2. The frequency of psychiatric disorder

Psychological disorders	N (%)
Major depressive disorder (MDD)	160 (46.5)
Bipolar Disorder	18 (5.2)
Adjustment Disorder	99 (28.8)
Personality Disorder	41 (11.9)
Other	
Substance use Disorder	10 (2.9)
Obsessive-compulsive Disorder	5 (1.5)
Schizophrenia	4 (1.2)
Mixed depression and anxiety disorder	7 (1)



As shown in Table 2, MDD was the most common psychological disorder (46.5%).

The relation between psychiatric disorders with

variables, including age, number of suicides, gender, suicide method, and severity of suicide is shown in Table 3.

Table 3. The relation between psychiatric disorders with variables

Variables	MDD Mean \pm SD / N (%)	Bipolar Disorder Mea \pm SD / N (%)	Adjustment Disorder Mean \pm SD / N (%)	Personality disorder Mean \pm SD / N (%)	Other disorders Mean \pm SD / N (%)	P- value
Age	27.89 \pm 12.18	37.16 \pm 14.78	23.3 \pm 8.66	24.26 \pm 10.88	34 \pm 11.45	< 0.001
The number of suicide	1.46 \pm 0.8	1.16 \pm 0.51	1.16 \pm 0.71	1.53 \pm 0.88	1.38 \pm 1.13	< 0.001
Gender						
Male	65 (40.6)	10 (55.6)	31 (31.3)	20 (48.8)	19 (73.1)	0.002
Female	95 (59.4)	8 (44.4)	68 (68.7)	21 (51.2)	7 (26.9)	
History of physical illness						
Yes	22 (13.75)	6 (33.3)	8 (8.1)	10 (24.4)	4 (15.4)	0.019
No	138 (86.25)	12 (66.7)	91 (91.6)	31 (75.6)	22 (84.6)	
Suicide method						
Medicine	114 (71.3)	15 (83.3)	81 (81.8)	29 (70.7)	13 (50)	0.025
Narcotic	31 (19.4)	1 (5.6)	14(14.1)	12 (29.3)	11 (42.3)	
Poison	11 (6.9)	1 (5.6)	2 (2)	0 (0)	2 (7.7)	
Others	4 (2.5)	1 (5.6)	2 (2)	0 (0)	0 (0)	
Severity of Suicide						
ward	88 (55)	10 (55.6)	61 (61.6)	19 (46.3)	13 (50)	0.35
CCU	44 (27.5)	2 (11.1)	25 (25.3)	12 (29.3)	6 (23.1)	
ICU	28 (17.5)	6 (33.3)	13 (13.1)	10 (24.4)	7 (26.9)	

As shown in Table 3, a significant relation was seen between psychiatric disorders with age, number of suicides, gender, history of physical

illness, and suicide method ($P < 0.05$).

The relation between the severity of disease and variables is shown in Table 4.

Table 4. The relation between the severity of disease and variables

Variables	Mild to moderate N (%)	Severe N (%)	Very severe N (%)	P-value
Gender				
Male	70 (36.6)	39 (43.8)	36 (56.3)	0.02
Female	121 (63.4)	50 (56.2)	28 (43.8)	
Under treatment				
Yes	39 (20.4)	15 (16.9)	14 (21.9)	0.70
No	152 (79.6)	74 (83.1)	50 (78.1)	
The psychiatric disorder				
MDD	88 (55)	44 (27.5)	28 (17.5)	0.35
BD	10 (55.6)	2 (11.1)	6 (33.3)	
Adjustment Disorder	61 (61.6)	25 (25.3)	13 (13.1)	
Personality disorder	19 (46.3)	12 (29.3)	10 (24.4)	
Others	13 (50)	6 (23.1)	7 (26.9)	

As demonstrated in Table 4, a significant relation was seen between the severity of the disease and gender.

In this regard, the highest frequency of patients

with mild to moderate disease severity was observed among women (63.4%).

In addition, the highest frequency of patients with a very severe disease was observed among men

(56.3%).

Discussion

In the current study, we evaluated the role of psychiatric disorders in patients with suicide attempts admitted to Shahid Beheshti Hospital and the findings showed that the most common psychiatric disorder in patients with suicide attempts was MDD (46.5%). Depression among adolescents significantly heightens the risk of suicide, which ranks as the second to third leading cause of death in this age group. Research indicates that over half of adolescent suicide victims were diagnosed with a depressive disorder at the time of their passing (Thapar et al., 2012). Naghizadeh et al. revealed that depression was a factor that, besides affecting mental health, hurt physical well-being, job performance, and social functioning. Therefore, a significant portion of a depressed person's life is affected by problems. The pervasive presence of negative factors can reinforce the desire to end this negative life, leading a depressed person to contemplate suicide (Naghizadeh, 2022).

Furthermore, the present study revealed a significant relationship between the type of psychiatric disorders and the incidence of suicide. In this regard, the number of suicides was significantly higher in patients with MDD and personality disorders. Other studies have also identified a significant relationship between personality disorders, such as borderline personality, and suicide (Oumaya et al., 2008). Zaheer et al. revealed that 49.4% of participants with personality disorders have a lifetime history of high-lethality suicide attempts (Zaheer et al., 2008). Cai et al. revealed that MDD patients faced an elevated risk of suicidality compared to non-MDD controls. It was essential to include routine screening for various forms of suicidality in the management of MDD, followed by prompt treatment for individuals identified as at risk of suicide (Cai et al., 2021).

It was also noted that a substantial number of individuals who attempted suicide were not

undergoing the necessary treatments, highlighting the importance of addressing patients' adherence to the required treatments. Salehi et al. revealed that therapy can be useful and efficient for the treatment of depression spectrum disorders and intervention in critical situations such as suicide attempts (Salehi et al., 2020). Qurashi et al. evaluated a prospective study of medication noncompliance, suicidal ideation, and suicidal behavior in recently discharged psychiatric inpatients and revealed that noncompliance with medication is linked to suicidal ideation (Qurashi et al., 2006). These studies emphasize the treatment of these patients.

Cai et al., also revealed that routine screening for various aspects of suicidality should be integrated with prompt treatment for patients exhibiting suicidal tendencies (Cai et al., 2021). All of these studies emphasize the importance of treating patients with psychological disorders.

In this study, the most commonly reported method of suicide was through medicine (73.3%). The reason for this may be the availability of these methods, and additionally, the tendency of individuals to choose more drastic means for suicide appears to be less. Bidet et al. revealed that the most common poisoning method used in suicide was the use of drugs (Bisel et al., 2014). Ashkani et al. also achieved the same result (Ashkani et al. 2002). Furthermore, the current study revealed that a larger number of individuals who attempted suicide reported the use of more than one type of drug.

In this study, the average age of suicide attempts was 27 years, indicating a higher prevalence of suicide attempts among young people. This finding was consistent with other studies in this regard (Bolu et al., 2012, Zare et al., 2010). Therefore, based on the results of the present study and other research, it appears that the prevalence of all psychiatric comorbidities in individuals with suicide attempts in the age range under 30 years was greater than in those over 30 years.

Additionally, we observed that the frequency of suicide attempts in women with MDD was more



than in men. In the study by Zare et al., in Rafsanjan, the suicide rate in women was twice that of men (Zare et al., 2010), aligning with our findings. Kashi et al. conducted a study in this regard and observed that the rate of depression was higher in women than men (Kashi et al., 2020). This observation was consistent with our study.

Moreover, the frequency of underlying disease in these patients was 14.5%. Additionally, a significant difference was observed in the frequency of patients with psychiatric disorders in terms of a history of physical illness. Ashkani et al. reported that the severity of suicide was higher in individuals with a history of previous physical diseases (Ashkani et al., 2002). Naghizadeh et al. revealed that there was a significant relationship between the variables of general health in all dimensions, including, physical symptoms and suicidal ideation (Naghizadeh et al., 2022). In general, to prevent suicide, it is necessary to pay serious attention to mental disorders and factors related to suicide. Furthermore, the most important limitation of this study is the accuracy of the data in the medical records of patients.

Conclusion

Among the various types of psychiatric disorders, MDD was more prevalent in individuals who commit suicide. Hence, it was essential to focus more attention on this particular group of patients. Additionally, the use of medication was the most common method of suicide. It should also be noted that the severity of suicide was higher in men.

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Conflict of interest

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Ethical consideration

This study was approved by the Ethics Committee of Shahid Sadoughi University of Medical Sciences.

Code of ethics

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Authors' contribution

Z. S., conducted the study; P. R. and H. O., designed the study; H. Gh., S. M. Y. A., Sh. A. Sh., wrote the study; and G. Kh. and R. B., edited the manuscript

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