

Original Article

Evaluation of Suicide Attempt Cases Admitted to the Emergency Department: A 5-Year Retrospective Study

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Abstract

Background: Emergency service workers have essential responsibilities in determining risk factors for suicide attempts and the traumatizing effects of suicide attempts on the person and directing them for psychiatric treatment.

Objective: This retrospective study aimed to determine the causes, demographic, and clinical characteristics of suicide attempts cases admitted to the emergency department.

Methodology: This study evaluated the data of 689 cases admitted to the emergency department with a suicide attempt between January 2016 and December 2020 were evaluated retrospectively. The patients' sociodemographic characteristics, data on suicide incidence, and features of a suicide attempt were recorded. Categorical data were presented as frequency and percent.

Results: Among the 689 cases screened, 52.4% were 20 years old and younger, 72.3% were female, and 56.0% were married. Of the cases, 70.2% were first-time suicide attempters, 78.5% received psychiatric treatment in the last six months, and 87.4% took medication. The most common cause of suicide attempts was family problems (38.7%).

Conclusion: In cases of suicide admitted to the emergency department, psychiatric consultation should be requested, and they should be referred to psychiatry after discharge for psychiatric treatment.

Key Words: Attempted Suicide, Emergency Department, Retrospective Study

Introduction

According to the World Health Organization (WHO, 2023) data, more than seven hundred thousand people die yearly due to suicide. Every suicide is a tragedy that affects families, societies, and entire countries, leaving long-lasting effects on those left behind. Emergency services are the first place for patients with suicide attempts (Atli et al., 2014). Therefore, retrospective and prospective studies are needed to define the demographic characteristics, causes, and risk factors of people who attempt suicide (Akbaba et al., 2021).

A relationship exists between suicide attempts and psychiatric illnesses (Coban et al., 2022). There is also a relationship between the risk of suicide and reasons such as childhood traumas, family problems, and marital discord (Atli et al., 2014; Yagci et al., 2018). Emergency service workers have essential responsibilities in determining risk factors for suicide attempts and the traumatizing effects of suicide attempts on the person and directing them for psychiatric treatment. In addition, a suicide attempt is defined as a crisis, and it is recommended to refer these people to the Crisis Intervention Unit (Ercan et al., 2016). Therefore, this study aimed to

determine the characteristics of suicide attempts to guide emergency service workers.

Objective: This retrospective study aimed to determine the causes, demographic, and clinical characteristics of the suicide attempts cases admitted to the emergency department of a training and research hospital between 2016-2020.

Methodology

This study evaluated the data of 689 cases admitted to the emergency department with a suicide attempt between January 2016 and December 2020 were evaluated retrospectively. The study was approved by the university ethics committee (Decision no: 2021/01-42; Date: 22 February 2021). All procedures were carried out in accordance with the principles of the Declaration of Helsinki.

Six hundred eighty-nine patients admitted to the emergency department after suicide attempts between January 2016 and December 2020 were enrolled.

The study sample data were accessed via the hospital data automation system and written medical records. The patients' sociodemographic characteristics, data on suicide incidence, and features of a suicide attempt were recorded.

1. Sociodemographic characteristics were sex, age, marital status, educational status, and the number of children.

2. Data on suicide incidence and features of a suicide attempt were history of suicide attempt, number of suicide attempts, psychiatric treatment in the last six months, method of suicide, cause of suicide, and the month of suicide.

The method of suicide was recorded as hanging, medication intake, chemical product, asphyxia by gas inhalation, sharp object injury, jumping off a height, firearm, and other. The causes of suicide were recorded as a family problem, psychiatric disease, problems experienced with the opposite sex, communication problems, domestic violence, school problems, physical illness, loneliness, economic problems, developmental problems, loss of a family member, etc.

The data were analyzed with IBM SPSS V24. Descriptive results were presented as frequency and percent.

Results

Sociodemographic characteristics

When the total of the cases was examined (Table 1), it was found that 52.4% were 20 years old and younger, 26.6% were 21-30 years old, and 16.8% were 31-40 years old. Especially in 2019, 69.6% of the cases were 20 years and younger. Of the cases, 72.3% were female. In the five years, females' suicide attempts were more than males. Only in 2020, the number of men who attempted suicide increased (35.9%).

Approximately 56.0% of the cases were married, and 32.8% were single. The number of married couples who attempted suicide increased in 2016 and 2019 (62.3% and 60.6%, respectively). When the educational status of those who attempted suicide were examined, it was determined that 58.6% were primary/secondary school graduates, and 24.5% were high school graduates (Table 1).

The percentage of suicide cases who graduated from primary/secondary school in 2019 increased to 69.6% and decreased to 43.0% in 2020. However, high school graduate suicide cases rose in 2020 (38.0%). Of the cases, 32.8% had one child, and 27.0% had none (Table 1).

Suicide incidence and features of a suicide attempt

Table 2 shows the data on suicide incidence and features of a suicide attempt. Of the cases, 70.2% had not attempted suicide before. In other words, 70.2% were first-time suicide attempters. Approximately one in five were second-time suicide attempters. Of the cases, 78.5% received psychiatric treatment in the last six months. This percentage in 2020 increased to 86.6%. When the suicide methods were examined, it was determined that the majority (87.4%) took medication. Sharp object injury took second place, and asphyxia by gas inhalation took third place (Figure 1).

Table 3 shows suicide causes. The first three causes of suicide were family problems (38.7%), psychiatric illnesses (20.8%), and domestic violence (8.4%). In 2020, the first year of the pandemic, family problems decreased, but psychiatric problems, domestic violence, and economic problems increased.

In 2016 and 2017, about half of the cases attempted suicide due to family problems (59.0% and 51.2%, respectively).

Figure 2 shows the number of suicide attempts by month. When examined in general, it was found that the number of suicide attempts in June and March was higher than in other months. There was an

increase in February and June in 2016, July and August in 2017, March and June in 2018 and 2019, and June and November in 2020. In 2020, that is, in the first year of the pandemic, the number of suicide attempts decreased considerably in February, and then the numbers remained close to each other by month.

Table 1. Sociodemographic Characteristics

	2016	2017	2018	2019	2020	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Age						
≤ 20 years	54(44.3)	57(45.6)	66(50.0)	117(69.6)	67(47.2)	361(52.4)
21-30 years	42(34.4)	36(28.8)	31(23.5)	42(25.0)	32(22.5)	183(26.6)
31-40 years	16(13.1)	25(20.0)	30(22.7)	9(5.4)	36(25.4)	116(16.8)
41-50 years	8(6.6)	7(5.6)	5(3.8)	-	6(4.2)	26(3.8)
≥ 51 years	2(1.6)	-	-	-	1(0.7)	3(0.4)
Sex						
Female	93(76.2)	87(69.6)	101(76.5)	126(75.0)	91(64.1)	498(72.3)
Male	29(23.8)	38(30.4)	31(23.5)	42(25.0)	51(35.9)	191(27.7)
Marital status						
Married	76(62.3)	65(52.0)	69(52.3)	102(60.6)	75(52.8)	387(56.2)
Single	36(29.5)	35(28.0)	55(41.7)	48(28.6)	45(31.7)	219(32.8)
Divorced	7(5.7)	17(13.6)	6(4.5)	9(5.4)	15(10.6)	54(7.8)
Widowed	3(2.5)	8(6.4)	2(1.5)	9(5.4)	7(4.9)	29(4.2)
Educational status						
Illiterate	8(6.6)	2(1.6)	6(4.5)	8(4.8)	5(3.5)	29(4.2)
Literate	3(2.5)	3(2.4)	1(0.8)	3(1.8)	6(4.2)	16(2.3)
Primary/secondary school						
Primary/secondary school	76(62.3)	73(58.4)	77(58.3)	117(69.6)	61(43.0)	404(58.6)
High school	21(17.2)	32(25.6)	35(26.5)	26(15.5)	54(38.0)	168(24.5)
University	14(11.4)	15(12.0)	13(9.9)	14(8.3)	16(11.3)	72(10.4)
Number of children						
None	40(32.8)	24(19.2)	32(24.3)	47(28.0)	43(30.3)	186(27.0)
One	28(23.0)	39(31.2)	48(36.4)	62(36.8)	49(34.5)	226(32.8)
Two	32(26.2)	42(33.6)	32(24.2)	30(17.9)	33(23.2)	169(24.5)
Three	17(13.9)	14(11.2)	16(12.1)	21(12.5)	14(9.9)	82(11.9)
Four or more	5(4.1)	6(4.8)	4(3.0)	8(4.8)	3(2.1)	26(3.8)

Table 2. Data on Suicide Incidence and Features of a Suicide Attempt

	2016	2017	2018	2019	2020	Total
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
History of suicide attempt						
Yes	46(37.7)	29(23.2)	34(25.8)	43(25.6)	49(34.5)	201(29.2)
No	76(62.3)	96(76.8)	98(74.2)	125(74.4)	93(65.5)	488(70.8)
Number of suicide attempts						
First time	76(62.3)	96(76.8)	98(74.2)	125(74.4)	93(65.5)	488(70.8)
Second time	36(29.5)	23(18.4)	32(24.2)	29(17.3)	34(23.9)	154(22.4)
Third time	9(7.4)	6(4.8)	1(0.8)	12(7.1)	12(8.5)	40(5.8)
Fourth time	1(0.8)	-	1(0.8)	2(1.2)	3(2.1)	7(1.0)
Psychiatric treatment in the last six months						
Yes	85(69.7)	94(75.2)	107(81.1)	132(78.6)	123(86.6)	541(78.5)
No	37(30.3)	31(24.8)	25(18.9)	36(21.4)	19(13.4)	148(21.5)
Method of suicide						
Medication intake	109(89.4)	99(79.2)	125(94.6)	157(93.4)	112(78.9)	602(87.4)
Sharp object injury	6(4.9)	9(7.2)	3(2.3)	6(3.6)	12(8.5)	36(5.2)
Asphyxia by gas inhalation	1(0.8)	5(4.0)	2(1.5)	3(1.8)	8(5.5)	19(2.7)
Hanging	1(0.8)	-	1(0.8)	2(1.2)	7(4.9)	11(1.6)
Chemical product	2(1.6)	6(4.8)	-	-	-	8(1.2)
Jumping off a height	2(1.7)	4(3.2)	-	-	2(1.5)	8(1.2)
Firearm	1(0.8)	2(1.6)	-	-	1(0.7)	4(0.6)
Other	-	-	1(0.8)	-	-	1(0.1)

Table 3. Cause of Suicide

	2016	2017	2018	2019	2020	Toplam
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Family problem	72(59.0)	64(51.2)	43(32.6)	62(36.9)	25(17.5)	266(38.7)
Psychiatric illness	26(21.4)	23(18.4)	23(17.4)	35(20.8)	36(25.4)	143(20.8)
Domestic violence	7(5.8)	9(7.2)	9(6.8)	12(7.1)	21(14.8)	58(8.4)
Problems experienced with the opposite sex	5(4.1)	12(9.6)	6(4.5)	11(6.5)	17(12.0)	51(7.4)
Communication problems	1(0.8)	3(2.4)	15(11.4)	14(8.3)	17(12.0)	50(7.2)

Economic problems	2(1.6)	5(4.0)	2(1.5)	6(3.6)	22(15.5)	37(5.4)
Developmental problems	-	-	7(5.3)	9(5.4)	1(0.7)	17(2.5)
Loss of a family member	1(0.8)	3(2.4)	5(3.8)	7(4.2)	-	16(2.3)
School problems	1(0.8)	4(3.2)	5(3.8)	4(2.4)	1(0.7)	15(2.2)
Loneliness	5(4.1)	2(1.6)	1(0.8)	3(1.8)	1(0.7)	12(1.7)
Physical illness	2(1.6)	-	-	-	1(0.7)	3(0.4)
Other	-	-	16(12.1)	5(3.0)	-	21(3.0)

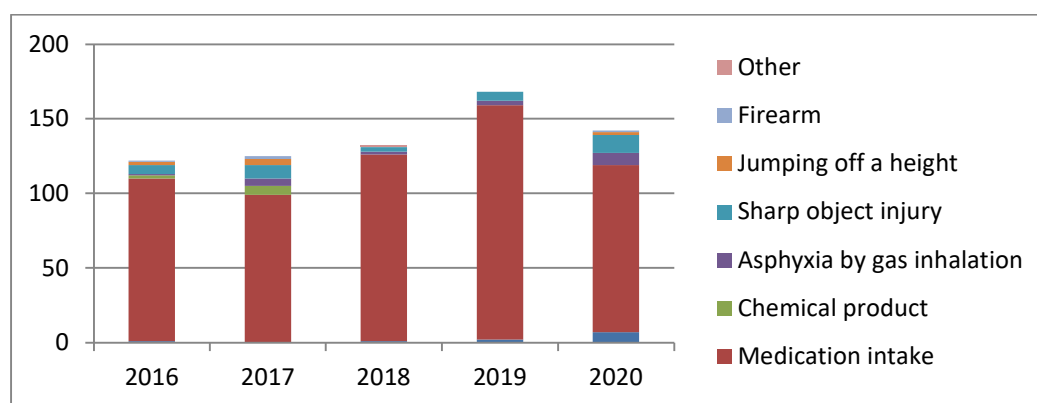


Figure 1. Suicide methods by years

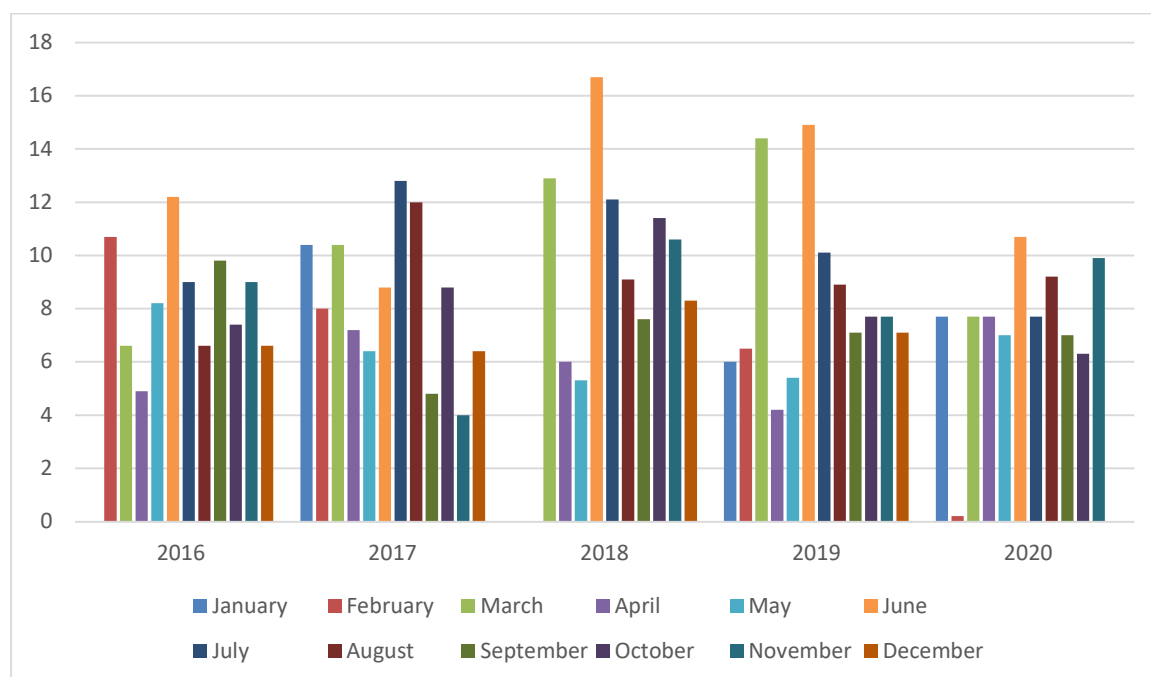


Figure 2. The number of suicide attempts by month

Discussion

This study aimed to determine the causes, sociodemographic, and clinical characteristics of the suicide attempts cases admitted to the emergency department. The study demonstrated that suicide attempts were more common at younger ages. Similarly, the studies found that younger age was associated with suicide attempts (Delibas & Erdogan, 2015; Dendup et al., 2020; Mamun et al., 2022). In a systematic review study investigating the risk factors for suicide in young people between 10-25 years old, three types of risks were defined: the social environment and life events, psychological factors, and sociodemographic characteristics (Junior et al., 2020). Young people need to be supported both environmentally and spiritually. Those with mental illness and childhood trauma need to receive psychiatric treatment.

This study found that females attempted suicide more than males. Similar to this finding, Turkish studies showed that female gender was related to suicide attempts (Aktas et al., 2022; Celik et al., 2022; Delibas & Erdogan, 2015; Gunduz et al., 2016). The studies in other countries determined that the female gender was associated with having suicidal ideation and tendencies (Dendup et al., 2020; Mamun et al., 2022; Manouchehri et al., 2022). Contrary to this finding, Ata et al. (2021) found that more than half of the patients admitted to the emergency department with a suicide attempt were male. Women were more prone to suicide attempts than men, but men used more precise methods (Freeman et al., 2017). It was reported that females generally attempted suicide due to problems in romantic relationships (Mamun et al., 2022; Manouchehri et al., 2022). In line with the findings of this study, it can be said that females needed more effective coping methods to cope with the problems they experienced.

This study determined that suicide attempt was higher in married people than in single ones. This finding was similar to the findings obtained in other studies (Aktas et al., 2022; Mete et al., 2019). The number of singles who attempted suicide in this study was also not less. In some studies, suicide attempts were higher in unmarried than in married ones

(Celik et al., 2022; Delibas & Erdogan, 2015; Ercan et al., 2016; Kodik & Ozdemir, 2021; Manouchehri et al., 2022). In line with this result, it is essential to investigate the reasons for suicide attempts of individuals, regardless of their marital status, whether they are married or single. For these reasons, supportive and preventive interventions should be planned.

The most common causes of suicide attempts in this study were family problems, psychiatric illnesses, and domestic violence. Similar to this finding, in one study, family problems were at the top of the causes of suicide attempts (Akbaba et al., 2021). Aktas et al. (2022) found that women attempted suicide due to family problems and men due to psychiatric illnesses. Another study determined that domestic violence was strongly associated with suicide attempts in married women (Indu et al., 2017; Rahmani et al., 2019). This finding shows that people's coping mechanisms and conflict resolution methods are insufficient in the face of the problems they experience. It can also be said that individuals with psychiatric illnesses are an important risk group for suicide attempts, and they need support in this regard.

Most cases were first-time suicide attempters and received psychiatric treatment in the last six months. The most important risk factor for suicide was a previous suicide attempt (Aktas et al., 2022; Bilsen, 2018). Psychiatric illnesses were associated with suicide attempts, and people with personality disorders and younger women with affective, anxiety, or substance abuse disorders also presented the highest numbers of attempts (Goni-Sarries et al., 2018). Follow-up of individuals with psychiatric illness is necessary to prevent the recurrence of suicide attempts. In addition, being supported with psychosocial skills in the first attempt and receiving therapy with psychiatric treatment may prevent the recurrence of suicide attempts.

This study determined that the first three methods used in suicide attempts were taking medication, sharp object injury, and asphyxia by gas inhalation. Different results were found in studies conducted in Turkey. In one study, drug overdose was ranked first, while in another study, hanging was ranked first

(Bork et al., 2021; Inanc, 2021). In another studies, there were differences in methods between young people and adults. Young people used non-lethal methods more than adults (Kim et al., 2020; Lee et al., 2019). The methods used in the suicide attempt also varied according to gender. Sharp objects, hanging in boys, and poisoning in girls was more common (An et al., 2020).

Finally, the present study found that the number of suicide attempts in June and March was higher than in other months. There was an increase in February and June in 2016, July and August in 2017, March and June in 2018 and 2019, and June and November in 2020. Hill et al. (2021) revealed higher rates of suicide attempts in February, March, April, and July 2020. Another study found an increase in early spring, and the peak of suicide attempts was reached in May and June before decreasing to a minimum in August (Akkaoui et al., 2022). Aktas et al. (2022) defined that the suicide rate was high in July and August. We can say that there is a significant increase in suicide attempts, especially in spring and summer. The increase has been associated with climatic changes, especially temperature changes and seasonal changes (Akkaya-Kalayci et al., 2017).

Limitations: In this study, case records were reviewed retrospectively. Therefore, prospective studies are needed. In a prospective study, standard measurement tools can be used, as well as in-depth interviews with people who attempted suicide.

Key Points

- This retrospective study on suicide cases admitted to the emergency service indicated that most cases were first-time suicide attempters and received psychiatric treatment in the last six months.
- The main finding of this paper is that suicide attempts were high in young, female, and married people. Family problems, psychiatric illnesses, and domestic violence were the leading causes of suicide.
- Key implication for trauma practice from this study is that in cases of suicide admitted to the emergency department, psychiatric consultation should be requested, and they should be referred to psychiatry after discharge for psychiatric treatment.

Conclusion: There is an increase in suicide attempts every year. However, suicide is a preventable health problem. Since emergency services are the first place people who attempt suicide apply, defining the risk factors in these cases is essential. This study determined that suicide attempts were high in young, female, and married people. Family problems, psychiatric illnesses, and domestic violence were the leading causes of suicide. Most cases were first-time suicide attempters and received psychiatric treatment in the last six months. The first three methods used in suicide attempts were taking medication, sharp object injury, and asphyxia by gas inhalation. There is an increase in suicide attempts in the spring and summer months. Whatever the reason, a person who attempts suicide should seek psychological treatment. Therefore, in cases of suicide admitted to the emergency department, psychiatric consultation should be requested, and they should be referred to psychiatry after discharge for psychiatric treatment.

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