

Examining of The Individuals Who Have Attempted Suicide In The East of Turkey In Terms of Psychological Factors

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ABSTRACT

We aimed to retrospectively review the data of the people applying to our hospital due to suicide attempt in the last 8 years and to examine the psychiatric diagnoses and sociodemographic data of the patients. Methods: The data of 940 patients examined in our hospital between 2012-2019 due to suicide attempts were reviewed retrospectively. Characteristics like age, gender, occupation, marital status, previous psychiatric treatment, presence of psychiatric illness and presence of psychiatric drug if the attempt is by drug were examined from patients' data files. Results: In this study, 403 (42.9%) of the applicants were male and 537 (57.1%) were female. Suicide attempts were done by a sharp device, hanging, jumping off respectively, and the least by firearm and the most by drugs. Considering the distribution of psychiatric diagnoses, it was seen that 153 (31.1%) of them had depressive disorders, 121 (24.6%) had substance and alcohol use disorder and 55 (11.2%) had personality pathology. Conclusion: A significant number of the applicants applying the emergency department for suicide attempt were single, unemployed and students. The most common suicide attempt age range was 20-25. Psychological problems and psychiatric disorder history are important predictors of a person's future suicide attempt.

Keywords: Suicide, Suicide Attempted, Predictive Factors, Demographic Factors

Introduction

Suicidal behavior is voluntary self-killing attempt caused by the intention of ending one's life (1). The World Health Organization (WHO) defines suicide as self-harm in order to end an individual's life consciously (2). Suicide is divided into two categories as suicide attempts and completed suicides; suicide attempts involve attempts that do not result in death in a variety of ways, such as harming, poisoning and suffocating a person to die, while completed suicide results in death. More than 20 suicide attempts take place when compared to every completed suicide worldwide (3).

Suicide is known as a global public health concern (4). WHO data shows that 800,000 people die each year from suicide (5). WHO reports that the mortality rate associated with suicide was 10.6 per 100,000 in the world and 7.3 per 100,000 in Turkey in 2016 (5,6). In general, suicide accounts for 1.4% of early deaths worldwide (7). Generally,

women are more likely to have attempted suicide, while men are more likely to die from suicide (7). Although suicide rates are highest in both sexes above 70 years of age and show increase with age; suicide among young men has tripled in the past 30 years in developed countries (8,9). Overall suicide rates are relatively low in pediatric age groups. Suicide, the second most important cause of death between 15 and 29 years of age, is the most common cause of death among young women aged 15 to 19 (10). But suicide is a preventable cause of death, so it requires special attention (10).

While some of those who died due to suicide die at the first suicide attempt, some of them die as a result of recurrent suicide attempts. When a suicide attempt does not result in death, it may cause consequences such as an injury or a sequela, as well as it may have psychosocial and financial consequences. Suicide attempt, repetitive suicide attempt and suicide death rates are higher in people with psychiatric diseases (11). The most

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important risk factor in repetitive suicide attempts is the previous suicide attempt, in addition, mood disorders, personality disorders and unemployment have been identified as other important risk factors (12). There are differences among individuals from region to region and from country to country in terms of age and gender, socioeconomic status, suicide method, access to health services, etc. The relationship of suicide attempt with various psychological factors, mental illness, physical illness, and environmental factors has been shown (7). The prevalence rates and influencing factors of suicidal behaviour vary in between societies (13, 14).

Severe stressful events such as earthquakes, terrorist attacks, migration due to war, economic difficulties have occurred in the last 10 years, and it is predicted that they might have affected the number of suicide attempts. We have also observed that applications due to suicide attempts to our hospital have increased recently. In addition, even though it has been involved in many studies on suicide worldwide, the small amount of data related to suicide attempts (7) has led us to examine suicide attempts.

For this reason, this descriptive study has been planned to determine socio-demographic and clinical characteristics of the applicants due to suicide attempt, to examine the change of the number of applications by years and as a result to prepare for psychosocial interventions. For this purpose, the files of the patients who were examined in a university hospital's emergency department since 2012 due to suicide attempt have been retrospectively scanned.

Materials and Methods

For the study designed as a descriptive retrospective chart review, ethics committee approval was obtained with reference number of 102 at 15.03.2020 by the Dicle University institutional ethical review board. The study was carried out between March-June 2020. In this study, the data of patients who examined in a University hospital emergency clinic between 2012 and 2019 due to suicide attempt were scanned retrospectively. The hospital electronic data record system was scanned using the words "suicide" "suicide attempt". 940 cases were detected. All cases who had admitted to the emergency department with suicide attempt were included in the study. Data were obtained from the epicrisis notes of the cases reached. From the patients' files, parameters such as age, gender,

occupation, marital status, presence of psychiatric illness in his/her background, previous psychiatric treatment, whether it is multiple suicide attempts, suicide method, if there is a suicide attempt with drugs whether it is by a psychiatric drug, and presence of physical illness were assessed. The information of the cases was recorded into an SPSS file. There was no case with insufficient data or exclusion from the cases reached. The reason we chose 2012 as the starting year is that the previous records were insufficient due to the destruction of hospital records because of the earthquake that occurred in our city in 2011.

Statistical analysis: Descriptive statistics for the continuous variables were presented as mean \pm standard deviation, while count and percentages for categorical variables. SPSS (ver:20) statistical program was used for all statistical computations.

Results

The data of 940 patients who applied in the one University Hospital Emergency Service in 8-year period between the years of 2012-2019 due to suicide attempt were accessed and scanned retrospectively. In 2012-2019, it was observed that the year in which the application was highest due to suicide attempt was 2014 ($n = 221$ 23.5%), and the lowest year was 2018 ($n = 39$ 4.1%). The distribution of the applications by years is shown in Figure 1. The average age of all cases was 26 ± 8 (median (min-max) 23 (15-67)). The distribution of the cases by age groups is shown in Figure 2. The average age of men was 24.5 ± 7.76 , and the average age of women was 25.6 ± 9.48 . Detailed socio-demographic characteristics of all cases are presented in table 1. And detailed clinical features are presented in table 2. When the relationship between psychiatric disease status and gender is assessed; It is seen that 51.9% of those who have attempted suicide and have psychiatric disease are male and 48.1% are female. When the psychiatric disease status on the basis of gender is assessed; 61.8% of men had psychiatric illness, 38.2% had no psychiatric illness, 43% of women had psychiatric illness, 57% had no psychiatric illness. When psychiatric diagnosis and gender are assessed; 29.4% of those with depressive disorder were male and 70.6% were female. All of those diagnosed with substance and alcohol use disorder were men, personality pathologies were 69.1% in men and 30.9% in women. Looking at the distribution of gender; It was observed that 48.6% of men had substance and alcohol use disorder, 18.1% were diagnosed with depressive disorder,

Table 1. Sociodemographic Characteristics of Cases assessed due to Suicide Attempt

	Number of Cases	Frequency (%)
Gender distribution and Age Averages		
Female	537	57.1
Age Mean±SD: 25,6±9,482		
Male	403	42.9
Age Mean±SD: 24,52±7,759		
Marital Status		
Married	381	40.5
Single	559	59.5
Occupation		
Housewife	255	27.1
Worker	10	1.1
Officer	63	6.7
Retired	11	1.2
Student	188	20.0
Private Sector	34	3.6
Unemployed	379	40.5

15.3% had personality pathology, and 44.4% of women were diagnosed with depressive disorder.

When gender is assessed with the way of attempting suicide; 68.7% of those who attempted suicide with drug were women, 31.3% were men. We see that serious suicide attempt ways, such as cutting tools and firearms are more common in men than women, but other serious suicide attempt ways, hanging and jumping off are similar in men and woman (See Table 3).

When we look at the gender distribution, we see that the suicide attempt method that both genders resort to most frequently is drug use. It has been observed that 25.1% of men attempted suicide more than once, 74.9% of men attempted suicide for the first time, 40.8% of women attempted suicide multiple times, 58.8% of women attempted suicide for the first time. 68.4% of those who attempted suicide more than once were female and 31.6% were male. It was observed that the rate of having a psychiatric diagnosis in general was increasing in those who attempted suicide as the age increased in our patient group (15-20 age %21.2; 20.1-25 age %50.7; 25.1-30 age %62; 30.1-35 age %67.3; 35.1-40 age %61.5; 40.1-45 age %87.7; >45 age %70,5). The age group with the highest rate of recurrent suicide attempts was found to be 35-45 years old (35.1-40 years old 61.5%; 40.1-45 years old; 58.3%). It has been observed that 60.8% of housewives were diagnosed with depressive disorder, 44.2% of those without a profession were diagnosed with

substance and alcohol use disorder, and the most diagnosed group among all psychiatric diagnoses was depressive disorder with 31.1% and that substance and alcohol use disorder was in the second place with 24.6%. While the most common method used by both married people and singles is drug use, single's suicide attempts with jumping off, hanging and cutting- piercing tools are more than married ones' attempts, but it has been observed that suicide attempts with firearms are higher in married people. While the drugs preferred by 65.3% of those who have attempted suicide by taking drugs and who have psychiatric illness are psychiatric drugs, 93.8% of those with no psychiatric illness attempted suicide with drugs other than psychiatric drugs.

Discussion

In this study the sociodemographic and clinical features of the 940 cases (female %57 male %43) examined in our university hospital's emergency clinic between 2012 and 2019 due to suicide attempt were retrospectively analyzed. The fact that a period of 8 years was screened, and the large sample size are of the strengths of this study. Suicide attempt cases varied significantly within years and increased significantly in 2019 compared to the previous 2 years, suicide attempts were significantly more in 2014-2015. The age range with the most frequent suicide attempt was 20-25, the age range with the most frequent recurrent suicide attempt was 35-45. The half of the

Table 2. Clinical Features of Cases assessed due to Suicide Attempt

	Number of cases	Frequency (%)
Psychiatric illness		
Yes	480	51.1
No	460	48.9
Psychiatric diagnosis distribution		
Depressive disorders	153	31.1
Psychotic disorders	41	8.3
Mood disorders	45	9.1
Obsessive compulsive disorder	40	8.1
Anxiety disorder	37	7.5
Alcohol-substance use disorder	121	24.6
Personality pathologies	55	11.2
Suicide attempt method		
Drug	444	47.2
Jumping off	107	11.4
Firearm	51	5.4
Hanging	110	11.7
Cutting tools	228	24.3
Drug group		
Psychiatric drugs	143	35.0
Non-psychiatric drugs	265	65.0
Multiple suicide		
Yes	320	34.0
No	620	66.0
Physical illness (diabetes, hypertension, coronary artery disease, cancer, etc.)		
No	813	86.5
Yes	127	13.5
Family history of psychiatric illness		
Yes	164	17.4
No	776	82.6

applicants had a psychiatric illness. The probability of having a psychiatric diagnosis increased with the older age, and the most frequent psychiatric diagnosis was depressive disorder (the others were, respectively, alcohol and substance use disorders and personality pathologies). This study showed that being single among men increase the risk for the suicide attempt. Occupational risk factors were being unemployed, being housewife and being student. Suicide attempt most frequently was made by taking the drug. The male/female suicide attempt ratio (M: F = 3:4) was closer than the ratios throughout the world. And the male female (M %12.4; F %11.2) suicide attempt ratio with hanging is closer also. These two findings distinguish the study from other studies.

It is known that both personal factors and environmental stressors such as domestic factors, migration and economic factors have an impact on suicide risk (7,15). Stressful events that affected the region in the last decade such as 2011 Van earthquake, refugee immigration to our province because of the civil war in our neighboring country Syria, social events, terrorist attacks, fluctuations in economic indicators, migration from neighboring provinces may have caused these fluctuations over the years.

In our study a significant portion of the male cases who attempted suicide were unemployed. Suicide rates have been reported to increase during the time when the social order deteriorated after the economic crisis or wars (16). In the

Table 3. Comparison of the Clinical Features among Gender

	Female % (n) (N=537)	Male % (n) (N=403)
Marital Status*		
married	%50.7 (272)	%37 (109)
not-married	%49.3 (265)	%73 (294)
Presence of Mental Illness *		
no (n=460)	%57 (306)	%38.2(154)
yes (n=480)	%43 (231)	%61.8 (249)
Mental Illness (n=480) *		
Depressive disorders (n=153)	%44.4 (108)	%18.1 (45)
Psychotic disorders (n=41)	%11.1 (27)	%5.6 (14)
Mood disorders (n=45)	%11.9 (29)	%6.4 (16)
Obsessive compulsive disorder (n=40)	%10.3 (25)	%6 (15)
Anxiety disorder (n=37)	%15.2 (37)	%0 (0)
Alcohol-substance use disorder (n=121)	%0 (0)	%48.6 (121)
Personality pathologies (n=55)	%7 (17)	%15.3 (38)
Psychiatric Treatment History*		
yes (n=506)	%45.4 (244)	%65 (262)
no (n=434)	%54.6 (293)	%35 (141)
Suicide attempt method (n=940)*		
Drug (n=444)	%56.8 (305)	%34.5 (139)
Psychiatric drugs (n=143)	%24.9 (76)	%48.2 (67)
Non-psychiatric drugs (n=265)	%65.6 (200)	%46.8 (65)
Unknown (36)	%10.1 (31)	%5 (7)
Jumping off (n=107)	%11.4 (61)	%11.4 (46)
Firearm (n=51)	%4.3 (23)	%6.9 (28)
Hanging (n=110)	%11.2 (60)	%12.4 (50)
Cutting tools (n=228)	%16.4 (88)	%34.7 (140)
Number of suicide attempt *		
Recurrent (%34(n=320))	%40.8 (219)	%25.1 (101)
First (%66 (n=620))	%59.2 (318)	%74.9 (302)

*: p=0.000 (Chi-Square Tests)

study, women constituted an important part of suicide attempts, and housewives had an important place among women. We think that this situation of women in our region mostly caused by some reasons like involuntary arranged marriage, low education levels, not getting enough support psychosocially, experiencing severe incompatibility in the family and having difficulties in expressing the problems they face. In our study, the fact that the rate of students in all suicide attempts was 20% has drawn attention. The fact that the suicide attempt of students is so high may have been caused by perhaps distance from family, problems adapting to school, dormitory or city, generational conflicts, economic problems, increasing alcohol-substance use among young people and their risky ages. In the study in which suicide attempts were

recently examined in Bingöl province, sociodemographic risk factors like our findings were identified, and it has been observed that people who are single, student or non-employed attempted suicide more (11). As in both Bingöl sample and worldwide, women's suicide attempts were higher in our study, but it is noteworthy that the ratio of female to male is remarkably close to each other (F: M = 4:3), rather than 2-3 times more than men as in general literature (9,13). In another study examining 130 suicide attempt cases in a 5-year period (2013-2017) in the eastern region of our country, it was observed that the most frequent suicidal attempts were between the ages of 21-40, the most frequently psychiatric diagnose was major depression, and they attempted suicide most frequently by taking

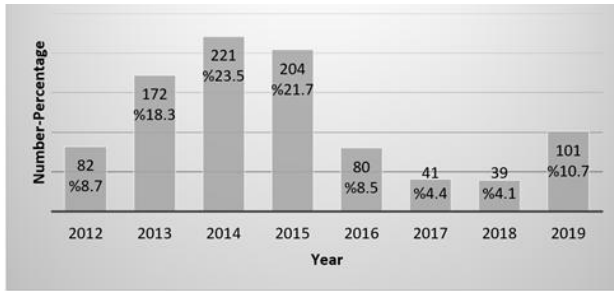


Fig.1. Distribution of suicide attempt cases by years

medication (17). It has been reported that being unmarried, psychiatric illness, and economic problems are risk factors for suicide attempt among males, that family conflicts and psychiatric illness are risk factors for suicide among females (17). Again, in this sample, the rate of women to men is close to each other just like the result of our study, unlike the world (17). It is noteworthy that not being married becomes prominent especially in male suicide attempts in our study too. That social disconnection (18), satisfaction with psychological needs, perceived social support (19), loneliness and hopelessness (20) are associated with the risk of suicide/suicide attempt may explain that most male suicide attempts are single. On the contrary, although there are studies stating that being married is a risk factor (21), people who are socially active in the society have less risk than those who are disconnected with the society, those who live alone or single are more likely to commit suicide than those who are married or have strong family ties, and adherence to religious values for Muslim countries are explained to be less risky (14,15).

In our study, the median age of suicide attempters was 23, and almost two thirds of the suicide attempts were between 15-25 ages. These findings are consistent with the data in the international literature that suicide attempts are significantly higher in adolescence and early adulthood (22,23). For 15-24 age range suicide is considered as one of the top three causes of death in young people (24). Considering that suicide attempts are an important risk factor for reattempt and mortality caused by suicide (25,26), follow-up and treatment of these age groups is important. In many studies, suicide rates peaked in two age groups: between 15-24 years old and 75 years old and above. It is noteworthy that in our sample, there was no case of 75 years and above, the second age group with high suicide risk, and the maximum age was 67. Looking at the literature data in this scope, it points to different risk factors for suicide (1,27). Adolescence and old age are considered as a

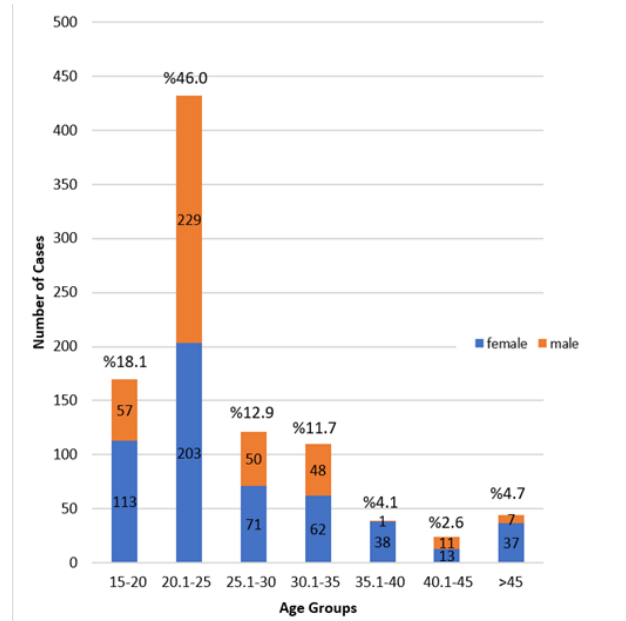


Fig.2. Distribution of suicide attempt cases by age groups

special risky life stage (1). According to Turkey Statistical Institute (TSI) 2015 data; completed suicides are mostly seen in men between the ages of 20-24 and women between the ages of 15-19 also. It is remarkable that in two studies recently conducted in our country, there was no second peak in the elderly age group in suicide attempt in Turkey (11, 17). The reason of this may be that the large family structure is still maintained, older individuals receive more social support and care, experiencing less loneliness.

In our study, those currently diagnosed with psychiatric illness accounted for more than half of all applications. The presence of psychiatric pathology or specific psychological symptoms is a known risk factor (1). As for the relationship between psychiatric pathology and suicide, in most cases, suicide is considered the result of psychological pain. In psychological evaluation studies, the presence of at least one psychiatric diagnosis during suicide is observed in 90-100% of the cases (1,28). Mood disorders, psychotic disorders and personality disorders come into prominence among completed suicides, and personality disorder and alcohol misuse comorbidity increases the risk up to 45 times than the general population (29,30). Mood, impulse-control, alcohol/substance use, psychotic, and personality disorders convey the highest risks for suicide and suicidal behavior and the presence of multiple disorders is associated with especially elevated risk (1). This study's findings is compatible with the literature in terms of psychiatric disorders that increase the risk of

suicide attempts. But, since the study was conducted as a retrospective screening of the cases assessed in the emergency department and every patient did not undergo psychiatric evaluation, psychiatric diagnosis rates may have been detected lower.

In this study, taking drugs was found the most common suicide attempt method like other studies (31). The preference of patients who have psychiatric diseases is mostly psychiatric drugs, especially antidepressants (32,33). If possible, preferring applications that are less risky in terms of poisoning, and have a wide security range, and to ensure that patients take medicines in a controlled manner are important for individuals who are risky in terms of suicide. While men use more violent and deadly methods in general, women use less deadly methods. But in this sample suicide attempt frequencies by hanging are close to each other among women and men.

The rates of having a psychiatric diagnosis tended to increase in those who attempted suicide as the age increases, and the most of subjects who attempted suicide between the ages of 35-45 had a previous suicide attempt. For those with psychiatric illnesses and those who have attempted suicide in the past, it is important to be careful in terms of suicide risk even after many years following the first attempt, and also it is important to monitor them with careful attention during the periods when the risk is particularly high such as in the one-year period after the first suicide attempt (25), and in the 4-12-week period following the discharge of the inpatients (7).

Despite the long study duration and large sample size, that the study was conducted through records in one center, that the sociological structure varies between regions in our country, and that they may have been affected differently by recent sociological events prevent the generalization of the findings to the general population. That only some of the patients were assessed by the psychiatrist may create restriction and this may have caused their psychopathologies not to be adequately revealed. In addition, the fact that some of the suicide-related deaths occurred during the first suicide attempt and some of them occurred after recurrent attempts suggest different factors may be involved in suicide attempts and suicide-related deaths. Therefore, these findings may not be same for completed suicide cases. So, suicide-related deaths should be assessed separately.

In conclusion, according to this study being a housewife, unemployed, student, single man,

having a psychiatric disease, having a previous suicide attempt are significant risk factors for suicide attempts. The male /female ratio is closer than the ratios throughout the world. These indicators point out that the role of socioeconomic problems in our region may be high among the factors leading to suicide attempt. But despite a lot of research has been done on the risks of suicidal behavior, precise predictions about the individual's behavior cannot be made. Suicide attempts should always be carefully assessed, should consult for the psychiatric assessment. And for the future studies it is recommended to perform psychiatric follow-up of people who attempt suicide, to examine the factors that increase the risk of recurrence in detail, to reduce the risk with intervention studies, and to examine the factors that reduce the risk.

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