

Evaluation of Sociodemographic Characteristics of Adolescent Admitted to Pediatric Emergency Department Due to Suicide Attempts

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ABSTRACT

Background and Aim: In adolescence, suicide is accepted as an increasing problem in our country as in the whole world. It is important to make definitions about suicide attempt, to identify risk factors, and to recognize high-risk adolescents. The aim of this study was to investigate the sociodemographic characteristics of children admitted to the pediatric emergency department because of suicide attempt retrospectively.

Material and Method: The records of 102 children admitted to the Pediatric Emergency Department of the Health Sciences University Okmeydani Training and Research Hospital for suicide attempt, aged between 12-18 years were retrospectively analyzed.

Results: The age distribution of the children included in the study was 11-16 years and the mean age was 13.83 ± 1.42 years. Among patients 73.5% (n = 75) were female and 26.5% (n = 27) were male. Overdose drug intake was the most common method in suicide attempts (85.3%). Analgesic-anti-inflammatory drugs were the most commonly used drugs with a rate of 52.9% (n = 46). Psychiatric problems were detected in 71% of the patients who were followed up by psychiatrists. Conflict with family and girlfriend / boyfriend were the most common triggering factors for suicide attempt.

Conclusion: Regarding our results, being female and having mental disorders and problems in social relations were determined as important factors related to suicide attempt in adolescents.

Key words: Adolescent, suicide, psychiatric disorders, socio-demographic features

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INTRODUCTION:

Suicide is a deliberate and intentional act in order to harm oneself as a result of a psychological internal conflict that can cause death. It is the sign of severe emotional and communicative problems (1). In recent years, suicide attempts have become an important public health problem especially in adolescents in developed and developing countries, and it is observed that the number of young children attempting suicide is increasing (2,3). According to the World Health Organization, approximately 800,000 people, that every 40 seconds a person dies by suicide in the world. Suicide is the second among the causes of death in young people aged between 15-29 years, while suicide attempts are reported to be 20 times more frequent than completed suicides (4). Turkey Statistical Institute (TSI) reported the number of deaths as the result of suicides as 3211 in year 2015, and 13 % of these deaths were under 19 years of age and the highest ratio in women who committed suicide was in the 15-19 years age group with 18% (5).

For the suicide attempts in adolescents; a variety of methods are used including firearms, hanging, drug intake, drowning, burning, stabbing, jumping to traffic, and drowning in water (6). It has been reported that the most common suicide attempt method in adolescents is deliberate overdose medication (7). It has been observed that suicide attempts are more frequent in girls and girls attempt lethal methods at a lower rate than boys (8, 9).

Suicidal behavior is a complex sign affected by the presence of psychological disorders and symptoms, inadequate social support and communication, and socio-cultural and economic factors (10). Non-suicidal self-harm, past suicide attempt history, psychological disorders, personality disorders, nervousness, hopelessness of the future, family depression and suicide history, separation from parents due to death or

divorce, domestic problems, substance use, physical and / or sexual abuse, lack of access to social support, and homosexuality that is not approved by the environment are among the risk factors for suicide (11,12).

In adolescence, suicide and suicide attempts are accepted as an increasing problem in our country as in the whole world.

It is essential to make definitions about suicide attempt which is a serious public health problem, to identify risk factors, to identify high-risk adolescents and to plan preventive mental health services. The aim of this study was to investigate the socio-demographic characteristics of adolescents admitted due to suicide attempt retrospectively.

MATERIAL AND METHODS:

In this study, 102 patients aged 12-18 years who were admitted due to suicide attempt to the Pediatric Emergency Department of the Health Sciences University Okmeydanı Training and Research Hospital between January 2016 and January 2018 and were examined by the child psychiatrist during the pediatric emergency follow-up were retrospectively reviewed. The study was approved by the Ethics Committee of Health Sciences University Okmeydanı Training and Research Hospital (06.11.2018 / 898). The families and children included in the study were informed about the purpose of the study and their consent was obtained.

Inclusion criteria were as follows; being admitted to the emergency room between January 2016 and January 2018 with suicidal complaints, being in the 12-18 age group, and examined by a child psychiatrist during the emergency follow-up.

Exclusion criteria were; patients having a parent with mental retardation, who were under psychiatric medication with anxiety disorder, who were not consulted to child psychiatry during

pediatric emergency follow-up or who did not have child psychiatrist notes in the file were excluded from the study.

Patients were evaluated for age, sex, educational status, cause and method of suicide attempt, previous attempts, triggering factors (family problems, school problems, problems with the opposite sex, sexual abuse), suicide plan, and death request with case report forms.

Statistical analysis was performed using the SSPS Statistics 23.0 statistical program. Mann-Whitney U test was performed for the analysis of continuous variables, Chi-square test and Fisher's exact test were used for comparison of categorical variables between groups, and Phi and Cramer's V was used for measuring the association. Yates continuity correction was applied when necessary. Statistical significance level was accepted as 0.05. Cochran's and Mantel-Haenszel statistics method was used to standardize the effect of the data on other variables.

RESULTS:

The age distribution of the children included in the study was 11-16 years and the mean age was 13.83 ± 1.42 years. There was no statistically

significant difference between the girls (13.84 ± 1.44 years) and boys (13.81 ± 1.41 years) in terms of mean age ($p > 0.05$). Of the 102 patients, 73.5% ($n = 75$) were female and 26.5% ($n = 27$) were male. The female / male ratio was 2.8 / 1.

Of the 102 patients included in the study, 12.7% ($n = 13$) ingested toxic substances (thinner, detergent, dishwashing agent, corrosive substances, etc.), 83.3% ($n = 85$) had drug overdose, 2% ($n = 2$) had attempted suicide by incision alone and 2% ($n = 2$) had attempted suicide with both incision and taking drugs.

When suicide attempt methods were evaluated, it was seen that the most commonly used method was overdose of medications with 83.3% and analgesic-anti-inflammatory drugs came first with 52.9% ($n = 46$) in terms of drug preference (Table 1). The use of drugs as suicide attempt method in girls was 90.7% and it was 70% in boys. There was a statistically significant difference between genders regarding intervention method ($p < 0.05$). 57.8% ($n = 59$) of the patients did not have any symptoms at the time of emergency admission. 29 patients (28.4%) had GIS symptoms and 9 patients (8.8%) had CNS symptoms.

Table 1. Drugs Used by Adolescents for Suicide Attempt

Medication	Number (%)
Analgesics- Anti-inflammatory medications	46 (52.9%)
Drugs effecting central nervous system	14 (16%)
Antibiotics	9 (10.3%)
Proton pump inhibitors	7 (8.5%)
Antihistaminic	5 (5.7%)
Anti-depressants	2 (2.2%)
Mukolytics	2 (2.2%)
Anti- tuberculosis	1 (1.1%)
Thyroid medications	1(1.1%)

It was determined that, 81.4% ($n = 83$) of those who attempted suicide were attempting for the first time, and 19 cases (18.6%) had attempted

before. There was a statistically significant relationship between recurrent suicide attempts and age ($p < 0.05$) (Table 2).

Table 2: The relationship between the number of suicide attempts and age

		The number of suicide attempts				Total
		1 st attempt	2 nd attempt	3 rd attempt	5 th attempt	
Age	11 Years	n=6	n=0	n=0	n=0	n=6
		100%	0%	0%	0%	100%
	12 Years	n=15	n=2	n=0	n=0	n=17
		88%	12%	0%	0%	100%
	13 Years	n=12	n=1	n=0	n=0	n=13
		92%	8%	0%	0%	100%
	14 Years	n=26	n=4	n=1	n=0	n=31
		84%	13%	3%	0%	100%
15 Years	n=18	n=3	n=0	n=1	n=22	
	82%	14%	0%	5%	100%	
16 Years	n=6	n=3	n=4	n=0	n=13	
	46%	23%	31%	0%	100%	
Total		n=83	n=13	n=5	n=1	n=102

P < 0.05

There was no statistically significant relationship ($p > 0.05$) (Table 3) between gender and number of suicide attempts

Table 3: The relationship between the number of suicide attempts and gender

		The number of suicide attempts				Total
		1 st attempt	2 nd attempt	3 rd attempt	5 th attempt	
Gender	Female	n=62	n=7	n=5	n=1	n=75
		74.7%	53.8%	100%	100%	73.5%
	Male	n=21	n=6	n=0	n=0	n=27
		25.3%	46.2%	0%	0%	26.5%
Total		n=83	n=13	n=5	n=1	n=102
		100%	100%	100%	100%	100%

P > 0.05

When the triggering factors are examined; in 54 cases (52.9%), familial problems were in the first place, followed by 18 cases (17.6%) having

problems with the opposite sex and 13 cases (12.7%) with school problems (Table 4).

Table 4. Causes of Suicide Attempts in Adolescents

Familial problems	54 (52.9 %)
Problems with the opposite sex	18 (17.6%)
School problems	13 (12.7%)
Problems with friends	9 (8.8%)
Unfavorable living conditions	6 (5.9%)
Both school and familial problems	1 (1%)
Problems with both the family and the opposite sex	1 (1%)

In 25 (41%) of the 61 patients who underwent a psychiatric outpatient follow-up after discharging, a diagnosis of mood disorder was diagnosed, disruptive behavior disorder in 6 (10%) of them, anxiety disorder in 6 (10%), and additional disorders other than major mental disorders were diagnosed in 6 (10%) of them. No psychiatric disorder was detected in 18 (29%) patients with psychiatric control. In 92.2% of the patients, suicide was carried out unplanned, and in 94.1%, there was no desire for death.

DISCUSSION:

In this study, medical records of 102 adolescents who applied to our pediatric emergency department due to suicide attempt were retrospectively analyzed. Our findings indicate that the majority of the patients who attempted suicide are girls, mental disorders, especially mood disorders, are prevalent and triggering factors play a role in suicide.

In our study, it was determined that the majority of the cases (73.5%) who attempted suicide were girls. In other studies conducted in children and adolescents in our country, it was found that girls attempted suicide more than boys (13-17). In a study of 228 patients over the age of 14 years in our country, it was found that suicide attempts were more common in women with a ratio of 4:1. Since women who have attempted suicide in the adolescent age group may also attempt suicide in later periods more commonly than men, follow-up is important in this respect (18). It is

known that completed suicide is more common in male adolescents in many countries of the world, whereas suicide attempts are more common in female gender (8, 19).

It is seen that suicide attempt is rare in children and the frequency increases when evaluated with adolescence period. This situation is explained by the increase in mental disorders, especially mood disorders and substance use disorders, during adolescence (20). Based on the Turkey Statistical Institute (TUIK) data in 2015, most of the deaths caused by suicide were composed of young people under the age of 19 years with a total rate of 13%; in addition, the highest rate of suicide among women is seen in the 15-19 age group with 18% (5).

There were no deaths among the patients included in our study. The relatively small sample size, lack of trauma patients in our emergency department, and early access to emergency health services may have played a role.

In many studies conducted in our country, it is seen that the most common method used by adolescents in suicide attempts is drug overdose (13-15,17,21). In our study, it was found that 87 patients (85.3%) chose the drug overdose, 85 of the cases (83.3%) used the drugs alone and 2 (2%) took the drugs with incision, as a suicide attempt method. It was observed that the majority of the drugs taken for suicidal purposes (52.9%) were available in all households, such as analgesic-anti-inflammatory medications. The

fact that these drugs are easily accessible and applicable is considered to be effective in choosing this method more frequently. Preventing over-the-counter sales of drug groups where overdose is at high risk of death, reducing the number of drugs in the box, or keeping them at safe points at home can be an effective measure to reduce suicide deaths.

In our study, it was found that 19 (18.6%) cases had attempted suicide before. The youngest case with recurrent intervention was 12-year-old, and it was observed that recurrent suicide attempts were increasing with age between 14-16 years. It is stated that previous suicide attempt is a serious risk factor for subsequent attempts (9,22). In adolescents who have attempted suicide previously, the risk of subsequent interventions resulting in death has been reported to increase 10-60 times (20). These data show the importance of psychiatric support and treatment in adolescents attempting suicide.

In order to consider a behavior as a suicide, one must aim to harm himself / herself. Suicide intent may be explicit or implicit. It is not always easy to question the desire for death before the adolescent period (6). It has been reported that adolescents' self-harm behaviors are generally impulsive and they think for a short time like a few minutes before taking action (23). In our study, explicit desire to death was found in 5.9% of the cases and suicide plan was found in 7.8% of the cases.

It is known that psychosocial stressors frequently play a triggering role in adolescent suicides as the cause of suicide (24). It is stated that familial factors such as family conflict and social problems such as friendship problems with the opposite sex may lead to suicide attempts by increasing the adolescent's susceptibility to psychopathology and adaptation problems (25). In our study, when the reasons reported for the suicide attempt were examined, it was found that

52.9% had familial problems, 17.6% had problems with the opposite sex, 12.7% had problems in school, and 8.8% had problems with friends. These factors were also the leading causes in other studies (14,17,21).

The most important triggering factor for suicidal ideation and intervention is the presence of psychiatric disorders (26). It has been reported that depressive disorders and disruptive behavior disorders are important risk factors in adolescents with completed suicide attempts (22,27). In a study conducted in Turkey, in 73.6% of the adolescents who attempted suicide it has been identified psychiatric disorders (21). It has been suggested that depression is directly related to the probability of suicide in female adolescents, while depression increases the risk of suicide by preparing the background for substance use in boys (28). In our study, mental disorder was found in 71% of 61 (60%) patients who were followed up by psychiatrists after suicide attempt. Among those patients, 25 (41%) had mood disorder, 6 (10%) had destructive behavior disorder, 6 (10%) had anxiety disorder, and 6 (10%) had other non-major mental disorders. In other studies, mood disorders, including major depression, have been shown to be the triggering factor in the foreground (29,30).

Limitations of our study include the facts that no standard registration form was applied to the patients on their first visit, the psychiatrist admissions before the suicide attempt could not be questioned because of the retrospective nature of the study, and the data could only be evaluated with the information given by parents and adolescents. The inclusion of a limited number of cases in a single-center study over a certain period of time reduces the generalizability of the results. It is thought that researches with a larger sample, including control group, using structured interview techniques and standard scales will be useful.

In conclusion, identifying risk factors for suicide attempts may help to predict suicidal behavior. As a result of our study, being a female gender, various psychological disorders, especially depression, family conflict and problems with the opposite sex appear to be important factors related to suicide attempts especially in the adolescence. Adolescents' easy access to drugs poses serious risks in terms of suicide. Since previous suicide attempts are facilitating subsequent attempts, it is important to evaluate adolescents with a history of suicide attempts and to increase their participation in psychiatric treatment. In addition, it should not be ignored by physicians that adolescents with death wishes and plans have risk of repetitive suicide attempts.

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