doi: 10.5505/abantmedj.2020.69672

Abant Tıp Dergisi

Özgün Makale / Cilt 9 Sayı 1 Yıl 2020

Abant Medical Journal

Original Article / Volume 9 Issue 1 Year 2020

Acil Servise Başvuran İntihar Olgularının Klinik ve Sosyodemografik Özelliklerinin İncelenmesi

Investigation of Clinical and Socio-demographic Characteristics of Suicide Cases Admitted to Emergency Department

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Öz

AMAÇ: İntihar, önlenebilir bir ölüm nedenidir. İntiharın önlenmesi için vaka verilerinin iyi analizi esastır. Bu çalışmanın amacı acil servise başvuran intihar olgularının klinik ve sosyodemografik özelliklerinin incelenmesidir.
GEREÇ ve YÖNTEMLER: Bu çalışma geriye dönük olarak gerçekleştirilmiş tanımlayıcı bir çalışmadır. "Bir kamu hastanesi acil servisine 1 Ocak 2015 - 31 Ekim 2018 tarihleri arasında, intihar veya intihar girişimi nedeniyle başvuran hastaların dosyaları, intihar formları ve elektronik kayıtları analiz edilmiştir.
BULGULAR: Uygun kayıtlara sahip 168 vakanın 92 si analiz edildi. İntihar vakalarının % 65.2'sini kadınlar oluştururken, % 69.6'sı 15-29 yaş aralığında ve % 40'ı öğrenci idi. En yaygın intihar yöntemi ilaç-toksik madde alımı (% 84.8) ve en yaygın intihar nedenleri aile sorunları (% 26.1) ve akıl hastalıkları (% 16.3) idi. Vakaların% 89.1'inde daha önce hiç bir intihar girişimi öyküsü yoktu, % 13'ünde önceki altı ay içinde psikiyatrik hastalık nedeniyle ilaç kullanım öyküsü vardı.
SONUÇ: Vakaların detaylı analizi intiharın önlenmesinde ilk adımı oluşturmalıdır. Bu nedenle, hastanelerin elektronik veri tabanlarından ve hasta kayıtlarından elde edilen verilerin kalitesinin arttırılması gerekmektedir.

Anahtar Kelimeler: intihar girişimi, intihar, acil servis

Abstract

OBJECTIVE: Suicide is a preventable cause of death. Good analysis of case data is essential for the prevention of suicide. The aim of this study is to investigatethe clinical and socio-demographic characteristics of suicide cases admitted to emergency department.
MATERIALS and METHODS: This is a descriptive study performed retrospectively. The files, suicide forms and electronic records of patients who admitted to a public hospital emergency department between 1 January 2015 and 31 October 2018 due to suicide or attempted suicide were analyzed.
RESULTS: Ninety-two of the 168 cases with appropriate records were analyzed. Women represented 65.2% of the suicide cases, 69.6% were aged 15-29, and 40% were students. The most common method of suicide was drug-toxic substance use (84.8%), and the most common reasons for suicide were family problems (26.1%) and mental illnesses (16.3%). No previous history of attempted suicide was present in 89.1% of cases, while 13% had a history of medication use due to psychiatric disease within the previous six months.
CONCLUSION: Detailed analysis of cases must constitute the first step in suicide prevention. The quality of data obtained from hospitals' electronic databases and patient records therefore needs to be increased.

Keywords: Attempted suicide, suicide, emergency department

INTRODUCTION

Suicide is defined as violence inflicted by individuals upon themselves for the purpose of ending their lives actually resulting in death. If this violence does not result in death, this is known as attempted suicide (1). Suicide is one of the important causes of mortality worldwide (2). According to the World Health Organization (WHO), more than 800,000 suicide-related deaths occur every year, and there are many more cases of attempted suicide. The seriousness of the situation is more apparent when one considers that a suicide-related death takes place every 40 second somewhere in the world (3). According to figures for 2013, 41,149 individuals lost their lives due to suicide in the USA alone, while 494,169 presented to emergency departments (ED) due to self-harm (1). According to Turkish Statistical Institute (TSI) figures for

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Geliş tarihi / Received: 10.10.2019 **Kabul tarihi / Accepted:** 23.01.2020 **Çıkar Çatışması / Conflict of Interest:** Yok / None

2015, the crude domestic suicide rate was 4.11 in 100,000, and 3211 cases ended in death (4).

Although there has been an increase in activities aimed at suicide prevention and early treatment in recent years, suicide-related deaths and disablement, and associated workforce losses and the burden imposed on national economies show that suicide is still a major public health problem. The 66th World Health Assembly held in May 2013 adopted the first WHO Mental Health Action Plan for the purpose of suicide prevention. The aim under this plan was to reduce the suicide rate by 10% by 2020 (3).

As stated in the Mental Health Action Plan, data obtained from analyzing the prevalence of cases of suicide and attempted suicide in a community, their demographic characteristics and the methods employed play an important role in the evaluation of suicide cases and the development of prevention strategies (3). ED is generally the first and only place of presentation for cases of attempted suicide (5). These departments are therefore of great importance in the identification, prevention and treatment of suicide cases. The purpose of this study was to investigate the clinical characteristics and socio-demographic characteristics of suicide cases admitted to ED.

MATERIALS and METHODS

Study Design

This is a descriptive study performed retrospectively.

Study Setting

This study was conducted in the ED of a public hospital with an annual census of 78,000 patients. The records of patients presenting due to suicide and attempted suicide between 1 January 2015, and 31 October 2018, were subjected to analysis.

Data Collection

Cases with diagnoses of self-harm on the hospital's electronic record system were scanned, and since these patients' medical data were not recorded on the system, their archived patient charts were examined. However, only the treatments administered to these patients were written on the charts, and no data obtained were of sufficient quality. Finally, we examined the suicide records completed by the emergency physician and archived by the hospital's statistical unit, and inclusion in the study of these cases was based upon these. The data obtained were transferred onto previously prepared data collection form.

Patient selection

Patients aged 18 or over were included in the study. Patients with missing data were excluded.

Statistical Analysis

The data obtained were analyzed using SPSS for Windows version 21.0 (SPSS Inc., Chicago, USA) software. Frequency distributions were employed for categorical variables. Any value of p below 0.05 was regarded as statistically significant.

Primary Outcome

The socio-demographic characteristics, reasons for suicide, methods employed and other factors potentially associated with suicide in patients presenting to the ED due to suicide or attempted suicide.

RESULTS

One hundred sixty-eight patients aged 18 or over presented to our ED due to suicide or attempted suicide between 1 January 2015, and 31 October, 2018.

Fifty-one patients scanned with a diagnosis of self-harm on the electronic record system were excluded since no suicide reports were available, and 25 were excluded to missing data on the

suicide forms, and the study was completed with 92 patients. The mean age of the cases was 28.15±12.54 years (min: 14, max: 71). In terms of age, 64 (69.6%) of cases were 15-29, 19 (20.7%) were 30-44, 5 (5.4%) were 45-59, and 4 (4.3%) were 60 or over. Mean ages were 26.97±13.69 among women and 30.38±9.85 among men. The socio-demographic data are presented in the Table 1. Suicide events were most common between 16:00 and 20:00 (28.3%), followed by 20:00-24:00 (22.8%), and 00:00- 04:00 (19.6%). Generally, the majority of cases occurred after sundown, in the hours of darkness. In terms of methods, 78 (84.8%) of subjects committed suicide by means of drug-toxic substance consumption, 5 (5.4%) by stabbing, 3 (3.3%) by hanging, 2 (2.2%) by using firearms, 2 (2.2%) by jumping from heights, and 2 (2.2%) by inhaling propane gas (Figure 1). The analysis of reasons for suicide was presented in Table 2, and analysis of reasons for suicide by occupations was presented in Table 3. No previous history of attempted suicide was determined in 80 (89.1%) of cases, while 7 (7.6%) subjects had attempted suicide at least once before, and 3 (3.3%) had made at least 2 previous attempts. A family history of suicide was present in only 2 cases. Twelve cases (13%) had a history of medication use due to psychiatric disease within the previous six months. Suicide attempts were planned beforehand by 21.7% of cases. Attempts by 3 patients presenting due to attempted suicide ended in death. These 3 patients were all male. Two committed suicide by means of firearms, and one by hanging. Cardiopulmonary resuscitation was applied to all 3. One of the 3 had a previous history of psychiatric disease and medication use. In terms of treatment administered to patients presenting to our ED, 75 (81.5%) received various treatments including medication, dressings, and splint suture, while 17 (18.5%) received no treatment and were merely kept under observation.

Figure 1. Percentage of Suicide Methods

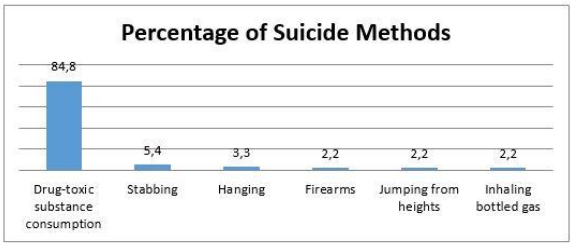

Figure 1: Form of suicide percentages

Table 1: Distribution of cases in terms of the frequencies of various socio-demographic characteristics

	Number (n)	Percentage (%)
Sex		
Female	**60**	**34.8**
Male	**32**	**65.2**
Marital Status		
Single	**50**	**54.3**
Married	**37**	**40.2**
Separated-Widowed	**5**	**4.4**
Education		
University Graduate	**36**	**39.1**
High School Graduate	**28**	**30.4**
Primary School Graduate	**19**	**20.7**
Literate after Attending a Course	**6**	**6.5**
Illiterate	**3**	**3.3**
Employment Status		
Student	**37**	**40.2**
Working	**22**	**23.9**
Housewife	**21**	**22.8**
Unemployed	**12**	**13.0**

Table 2: Reasons for Suicide

Reason for Suicide	Number (n)	Percentage (%)
Family Problems	24	26.1
Mental Illness	15	16.3
Problem with the Opposite Sex	11	12.0
Interpersonal Conflict	8	8.7
Financial Problems	7	7.6
Loneliness	5	5.4
School-Related Problems	4	4.3
Chronic Diseases	4	4.3
Unknown	4	4.3
Exam Anxiety	3	3.3
Developmental Disabilities	3	3.3
Work-Related Problems	2	2.2
Alcohol and Substance Addiction	1	1.1
Bereavement	1	1.1
Total	**92**	**100.0**

Table 3: Reasons for suicide among students and housewives

Occupation	Reason for Suicide	Number (n)	Percentage(%)
Students			
	Family Problems	9	23.7
	Problems with the Opposite Sex	9	23.7
	Interpersonal Conflict	5	13.2
	Mental Illness	5	13.2
	School-Related Problems	4	10.5
	Development Period Problems	3	7.9
	Exam Anxiety	2	5.3
	Loneliness	1	2.6
	Total	38	100.0
Housewives			
	Family Problems	6	28.6
	Mental Illness	5	23.8
	Unknown	2	9.5
	Chronic Diseases	2	9.5
	Alcohol and Substance Addiction	1	4.8
	Financial Problems	2	9.5
	Interpersonal Conflict	1	4.8
	Domestic Violence	1	4.8
	Bereavement	1	4.8
	Total	**21**	**100.0**

DISCUSSION

The great majority of cases of suicide, regarded as a preventable cause of mortality, occur in low- and moderate-income countries. This has been attributed to insufficient awareness in these countries for preventing suicide and treating it in time, and also to the fact that inadequate resources are set aside for both the prevention of suicide and for early and effective intervention (3). Yet health care systems play an important role in the prevention of suicides (6). Since suicide is a sensitive issue, and even an illegal action in some countries, it is known that very few cases are recorded, and that since record systems are inadequate and erratic, particularly in low and moderate income countries, the available data do not reflect the true facts (3). Considering that these individuals will present to ED, such departments are of critical importance in terms of preventing and identifying suicide (6). In addition, since work aimed at preventing suicide will rely on the data record systems, data for presentations due to suicide, particularly in ED, need to be completed with particular care. According to WHO figures for 2012, Turkey was classified among those countries with narrow-ranging and insufficient suicide records (3). This study reveales that the electronic database records in our hospital are inadequate, that data of 76 cases in the electronic records are inconsistent with the attempted suicide forms, that 25 of the cases are recorded with different diagnoses instead of suicide in the electronic record system, and that 51 of the attempted suicide cases don't have any suicide form recorded.

Suicide is more common among women (2, 7). Previous studies from Turkey have also shown greater rates of suicide among women (8, 9, 10). The WHO reports that the suicide-related death rate in wealthy countries is three times higher among women, but that this decreases to 1.5-fold higher in low and moderate income countries, and that 50% of violent death among

men worldwide and 71% of those among women are due to suicide (3). Women represented the majority of suicide cases (65.2%) in the present study, while all the deaths related suicide were male.

Suicide is one of the most common causes of death, particularly among young people (1, 2, 7, 11). This has been attributed to young people being more defenseless in the face of stress-creating situations (11). The WHO states that suicide is the second most common cause of death worldwide in the 15-29 age group (3). TSI figures for 2015 also show a greater disposition to suicide among young people (4). In agreement with the previous literature, 69.6% of the suicide cases in our study involved individuals aged 15-29, and 20.7% involved individuals aged 30-44, while the remainder were aged 45 or over.

Low education levels are a known risk factor for suicide (12). According to TSI data, suicide rates decrease as education levels rise (4). In the present study, and in complete contrast to the previous literature, the prevalence of suicide increased in line with education levels, attempted suicide was most common among university and high school graduates, and suicide rates decreased in line with education level. We think that due to the high level of education of the population in the provincial center served by our hospital, and the fact that many people with low education levels generally living in rural areas and villages did not present to the hospital in which the study was conducted, may have resulted in a higher prevalence of suicide among educated individuals.

Various factors such as anxiety, functional insufficiency, family history, and depressive symptoms can lead to suicide attempts (12). According to Atlı et al., family problems are the most common cause of attempted suicides (9). Atay et al. reported that major depressive disorder and diffuse anxiety disorder increase the risk of suicide. In addition, panic disorder and specific phobia are associated with increased death ideation (13). Family problems (26.1%) and mental illnesses (16.3%) were the two most common causes of suicide in the present study. When reasons for suicide were classified in terms of occupational groups, the majority of cases were observed to consist of students (40%) attempting suicide due to family problems or problems with the opposite sex, followed by housewives attempting suicide due to family problems and mental illnesses.

Studies from Turkey have reported that suicides generally occur at 16:00-24:00 (9, 14, 15). The majority of cases in the present study were concentrated between 16:00 and 04:00. During the daytime, individuals have factors such as work and school to keep their minds and bodies engaged and to keep feelings of loneliness at bay. The fact that cases of suicide are concentrated after 16: 00 both in the previous literature and in the present study may be attributed to individuals being capable of being alone after the above factors have been removed in the evening hours and to their subsequently being able to concentrate on negative thoughts. .

The most common methods of committing suicide are intoxication, hanging and firearms (2, 3). Halder and Mahato reported that intoxications or drug overdoses were the most common methods used to commit suicide, followed by hanging and drowning (11). Studies from Turkey have shown that 91.4% of suicide cases involve consumption of drugs or toxic substances, and that individuals who actually die as a result of suicide either hang themselves or employ firearms (7, 8). We determined that 84.8% of the cases in this study attempted suicide by means of consuming drugs or toxic agents, while the remainder employed methods such as sharp objects, firearms, jumping from heights, hanging, and inhaling propane gas. Two of the cases that actually resulted in death involved firearms, and the other case involved hanging. In the light of these results, we think that drug

misuse is one of the most serious problems, and that probable factors such as unprescribed medication sales and lack of family awareness need to be investigated and preventive measures adopted.

Previous attempted suicide, depression or other mental diseases, alcohol or substance use, a history of violence or suicide in the family, physical disease, and loneliness are regarded as risk factors for suicide (1). The most important risk factor in the general population is a previous history of attempted suicide (3). Halder and Mahato reported that the majority of cases of attempted suicide were not planned beforehand, and that 83% involved sudden, impulsive emotions (11). In the present study, 7.6% of cases had attempted suicide once previously and 3.3% twice before, while 13% had received a psychiatric diagnosis and had a history of medication use within the previous six months, and 21.7% had planned their attempted suicides beforehand. It is seen that these results are consistent with the literature.

Attempted suicide can result in severe injuries, fractures, brain damage or organ failure (1). In terms of treatments administered to cases presenting to the ED, 81.5% received various forms of treatment, while none was applied in 18.5% of cases. Considering that all these cases of suicide were preventable, activities aimed at preventing suicide will not only reduce health care costs, but will also lower the workload in ED.

Study Limitations

There are a number of limitations to our study. The first is the low patient number, which is due to the low population in the province in which the study was performed and the fact that a large proportion of patients initially presented to hospitals in neighboring provinces. The results may not therefore exactly reflect the cases in the province. Another limitation is the absence of data before 2015 in the hospital medical record system and the inadequacy of the records kept. The other limitation is the retrospective nature of this study. We believe prospective studies with more sample sizes are required.

As a conclusion it is clear that since the most common method for suicide is medication abuse, it is important that unnecessary medication use and unprescribed medicine sale must be prevented. If suicide is to be prevented, the causes and prevalence of suicide must be identified as a priority, risk factors must be determined, and the relation with psychiatric diseases and societal problems must be determined. Data obtained in this manner will provide answers to questions such as the exact nature of the problem, the causes, and what needs to be done to rectify the problem. Unfortunately, however, the fact that the requisite importance is not attached to data recording in hospitals represents a major obstacle to the development of a new approach to suicide prevention. Health workers, and particularly psychiatrists and ED physicians, have a major responsibility in this context.

Informed Consent: Written consent was obtained from the participants.

Conflict of Interest: Authors declared no conflict of interest.

Financial Disclosure: Authors declared no financial support

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