

Retrospective Analysis of Suicide Attempt with Analgesics

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Abstract

Aim: This study aims to determine the sociodemographic characteristics of and the type of analgesics taken by patients who were admitted to our emergency service for attempting suicide by taking an analgesic.

Materials and Methods: Records of 201 patients, who were admitted to our emergency service as a result of getting suicide purpose medicine as long as eight years, were retrospectively assessed.

Results: In this study, it was determined that 210 patients took analgesics for suicide purpose. Of these, 71.1% were females. Of all patients, 49.2% were single, 48.8% were married, and 2% were divorced. The frequency of suicide attempt between the ages of 15 and 24 years was higher (56.7%). It was determined that 157 (78.1%) patients attempted suicide for drawing attention. It was decided that patients were mostly admitted to the emergency service between 21:00 and 24:00 h after taking the drug. Furthermore, it was determined that as an analgesic type, paracetamol and nonsteroidal anti-inflammatory drugs (NSAID) were most frequently taken. The number of suicide attempts with multiple drugs was higher than that with a single drug (57.7%). While 103 (51.24%) patients were discharged after emergency service intervention, 73 (36.3%) patients were admitted to various clinics.

Conclusion: In emergency services, the most frequently observed the suicide method was taking drugs. Moreover, in the medicines analgesic intake frequency takes an important place within the drugs. Analgesics, particularly derivatives, including paracetamol and NSAID, were the preferred drug group in suicide attempts because of their easy availability in society. (*Eurasian J Emerg Med* 2015; 14: 172-6)

Keywords: Suicide, analgesics, retrospective

Introduction

Suicide is a serious public health problem and is a leading cause of death worldwide (1). Moreover, according to the data obtained from the World Health Organization, suicide is one of the leading causes of death in developed countries (2). Admissions to emergency service because of considering or attempting suicide are frequently observed (3). Variation of the methods used for attempting suicide depends on the environmental conditions of the individual and those that are easy available (4). The most frequently used method in suicide attempts is drug intake (5-30). Analgesics constitute the most frequently used group of drugs in suicide attempts (6, 12, 14, 21, 23).

This study aimed at retrospectively analyzing the sociocultural and demographic characteristics of patients who attempted suicide

by analgesic drug intake and were admitted to our emergency service, types of analgesics that were taken, and types of analgesics and other groups of drugs that were taken together. Furthermore, we aimed at taking measures by assessing the characteristics of cases who attempted suicide via analgesic intake in the Elazığ province and by providing contribution to the data on a national basis.

Material and Methods

Patients who were admitted to the emergency service between January 2004 and December 2011 because of analgesic intake that was aimed at committing suicide were retrospectively analyzed. During the study, an average of 120 patients were daily admitted to the emergency service, and 201 patients were includ-

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ed in the study, who were determined to have attempted suicide with analgesics among the 1021 admitted patients, who attempted to suicide throughout the 8 year period. Patients' records were accessed through the emergency polyclinic admission register, and demographic characteristics of patients, admission times, admission durations, interventions made at the emergency service, type of analgesic taken, existence of multiple drug intake, whether multiple analgesic was taken or not, whether there was a psychiatric diagnosis that was made earlier, and psychiatric diagnoses that was made because of psychiatric consultation were recorded in a prepared form. Patients whose information was determined to be missing in the record and who were under the age of 15 years were excluded from the study.

Statistical analysis

Obtained data were analyzed by Statistical Package for the Social Sciences (IBM SPSS Statistics., New York, USA) 20.0 data analysis program. Chi-square test was used in the analysis of classified data, and regression analysis was used in the analysis of multiple variations. $p < 0.05$ was considered to be statistically significant.

Results

In this study, among a total of 1021 patients who attempted suicide, 201 patients (19.7%) attempted suicide with analgesics; 143 (71.1%) patients were females. A significant difference was observed between male and female genders with regard to suicide ($p < 0.05$). Average age of patients was 25.53 ± 8.31 years; that of females was determined as 25.43 ± 8.35 years, whereas that of males was determined as 25.76 ± 8.27 years. There was no statistical significance between males and females in terms of age ($p > 0.05$). Attempting suicide between the ages of 15 and 24 years was higher ($n = 114$, 56.7%), and 81 (71.05%) of patients in this age group were females. Age range was not statistically significant in terms of gender ($p > 0.05$). While 99 patients were single, 98 were married and four were widowed. Moreover, 76 (53.1%) female patients and 22 (37.9%) male patients were married (Table 1).

When education levels of patients were analyzed, it was observed that 91% of them graduated from elementary and high schools (Table 2). Attempting suicide between that ages of 15 and 24 years was higher ($n = 114$, 56.7%), and 81 (71.05%) patients in this age group were females (Table 3). It was determined that patients who were admitted because of attempting suicide were admitted to the emergency service most frequently between 9 pm and 12 am. The patients' time of admission to the emergency service after the incident was an average of 180 ± 11.53 min; this time was an average of 165.09 ± 118.63 min in males, whereas it was 186.9 ± 178.52 min in females ($p < 0.05$).

Table 1. Marital statuses of patients who attempted suicide via analgesic intake

Marital status	Number of patients	%
Single	99	49.2
Divorced/Widowed	4	2.0
Married	98	48.8
Total	201	100.0

When the attempt to commit suicide was analyzed in term of genders, it was determined that it was higher in females ($n = 143$, 71.1%) ($p < 0.05$). It was determined that 157 (78.1%) patients attempted suicide to attract attention (Table 4). Furthermore, 184 (91.5%) patients attempted suicide with a single type analgesic. Forty-three (21.4%) patients previously received psychiatric diagnosis, and their average of age was 27.72 ± 7.44 years. It was determined that 29 (14.42%) patients were previously diagnosed with a depressive disorder (Table 5). There was no significance between genders in terms of having previously received a psychiatric diagnosis ($p > 0.05$). Being a single male was statistically significant in attempting suicide with a single type of analgesic ($p < 0.05$).

The most frequently used analgesic types were derivatives of nonsteroidal anti-inflammatory drugs (NSAID) (42.8%) and paracetamol (39.8%) (Table 6), and paracetamol was determined as the drug that was most frequently used in taking single type of analgesic drugs (41.3%). It was determined that 42 (52.5%) patients who attempted suicide with paracetamol attempted to suicide only with paracetamol as an analgesic substance, whereas 23 (27.05%) patients who attempted suicide with NSAID attempted suicide only

Table 2. Educational backgrounds of patients who attempted to suicide via analgesic intake

Educational background	Number of patients	%
Illiterate	2	1.0
Primary School	44	21.9
Middle School	31	15.4
High School	108	53.7
University student	15	7.5
University	1	0.5
Total	201	100.0

Table 3. Age ranges of patients who attempted to suicide via analgesic intake

Age ranges (years)	Number of patients	%
15-24	114	56.7
25-34	54	26.9
35-44	25	12.4
45-54	6	3.0
55-64	2	1.0
>65		
Total	201	100.0

Table 4. Reasons of patients for attempting suicide via analgesic intake

	Number of patients	%
To die	41	20.4
To attract attention	156	77.6
Other	4	2.0
Total	201	100.0

with NSAID. The male patient rate (58.9%) was higher in attempting suicide by taking multiple analgesics. There was no significance between female/male and married/single in attempting suicide by taking multiple analgesics ($p>0.05$). It was determined that patients who took analgesics with multiple drugs were significantly higher compared with patients who took only analgesics ($p<0.05$). It was determined that attempting suicide by taking multiple drugs increased with age ($p<0.05$).

The average duration of staying at the emergency service was 249.55 ± 225.59 min. Moreover, 103 (51.24%) patients were discharged after emergency service intervention, whereas 73 (36.3%) patients were hospitalized at various clinics (Table 7). A diagnosis of impulsive suicide attempt was made in 190 (94.5%) patients at the end of a psychiatric assessment. Among all patients, impulsive suicide attempt in females was higher (73.2%).

Discussion

Suicide is an important public health problem in our country, and it attracts attention with its increasing frequency, particularly in the young age group. In our study, we attempted to determine the sociodemographic characteristics of patients who were admitted to the emergency service because of attempting suicide by taking analgesics, most frequently observed age groups, types of analgesics that were most frequently taken with the aim of suicide, and drug types that were used in attempting suicide with multiple analgesics. It was determined that attempting suicide with analgesics was higher in young patients, particularly females.

It was observed that attempting suicide with a single type of analgesic was higher than attempting suicide with multiple drugs. It was determined that NSAID and paracetamol were preferred in suicide attempts with analgesics.

Table 5. Existence of previous psychiatric diagnosis in patients who attempted suicide with analgesics

Psychiatric diagnosis	Number of patients	%
None	158	78.6
Anxiety disorder	7	3.5
Depressive disorder	29	14.4
Personality disorder	6	3.0
Psychosis	1	0.5
Total	201	100.0

Table 6. Types of analgesics taken by patients who attempted suicide

Psychiatric diagnosis	Number of patients	%
Paracetamol	80	39.8
NSAID	86	42.8
Metamizole sodium	13	6.5
Salicylate	20	9.9
Other	2	1.0
Total	201	100.0
NSAID: nonsteroidal anti-inflammatory drugs		

A significant reason for frequent admissions to emergency services is suicide. It was indicated in various studies that were conducted in our country that generally young and female populations attempt suicide. When we analyzed suicide cases in terms of genders, we found that higher rates of suicide were observed in females, which were consistent with the generally conducted studies (5, 7, 9, 11, 18, 23, 25, 26). We considered that the reason for more females attempting suicide was that they are emotionally more fragile than men and have a higher tendency to attract attention and obtain secondary gains because of their social positions within the community.

It was reported that suicide cases were more frequently observed in young patients (1, 6, 23, 25, 26), particularly females, and the age group of 15–24 years was considered risky with respect to suicide tendency (5, 8, 10). Furthermore, the results we obtained in our study are consistent with the literature. There might be an increase in tendency to behavioral problems, such as suicide, against incidents they encounter in daily life due to physical and mental changes because of adolescence period in individuals of this age group.

Suicide attempt by oral means is the most frequently preferred method, particularly by patients who attempt suicide with the aim of attracting attention and obtaining secondary gain (8, 27). In our study, 156 (77.6%) patients attempted suicide with the aim of attracting attention by orally taking drugs, which was consistent with other studies.

In other studies, the time during which suicide cases were most frequently admitted was between 4 pm and 12 am (6, 28); however, in our study, it was between 9 pm and 12 am. The reason for attempting suicide was reported to be obtaining secondary gain (8, 27). We also consider that the idea of obtaining secondary gain is more appropriate for these hours. Because the social environment gets crowded at these hours due to end of working hours and an appropriate environment occurs to obtain secondary gain.

The average admission hours to emergency service after a suicide attempt varies in different studies. In their study, Kavalcı et al. (26) and Al et al. (22) indicated that the time of admission to the hospital varies between an average of 155 and 180 min. Karcioğlu et al. (28) indicated that 50% of patients admitted to the emergency service within the first 2 h. In our study, the time of admission to the emergency service was found to be similar. However, the time of admission to the emergency service after the incident was longer in females; this suggests that suicide attempts in males are taken more seriously by their relatives and that they would want to take the individual to the hospital within a short time after the incident.

Table 7. Post-emergency intervention condition of patients who attempted suicide by taking analgesics

Final condition of patients	Number of patients	%
Discharged	103	51.2
Hospitalized	73	36.3
Referred	9	4.5
Left emergency service without permission	2	1.0
Rejected treatment	8	4.0
Left at his/her own will	6	3.0
Exitus	0	0.0
Total	201	100.0

Attempting suicide by taking drugs is the most frequent method among all suicide attempts (5-30). In the studies that have been carried out, attempt to suicide with analgesic drugs are at top. We considered that analgesics were preferred because they were easily available, unrestrictedly used, and commonly prescribed by doctors. Among analgesics, paracetamol, NSAID, and salicylate derivative drugs are most frequently used with the aim of attempting suicide (6, 12, 20, 21, 24). Furthermore, in our study, NSAID and paracetamol derivatives constituted the most frequently preferred analgesics. However, the most frequently used analgesics for attempting suicide with a single type of drug was those that contained paracetamol derivatives.

Fuller et al. (30) and Kekeç et al. (8) reported that multiple drug intake was frequently observed in drug intakes that aimed at suicide. In our study, we observed that attempting suicide with multiple drugs together with analgesics was higher (57.7%). Salicylate derivative drugs constituted the most frequently used analgesics in suicide attempts with multiple drugs (15.5%). Dal et al. (24) determined that pathological physical examination findings did not exist in 89.9% of poisoning cases, which were admitted to the emergency service. In our study, we determined this rate as 94.5%.

Söğüt et al. (31) reported that the rate of willingness to die in suicide attempts was higher in males than in females. We also determined in this study that attempt to suicide by taking multiple analgesic drugs was higher in males. We consider the reason of this situation may be that the willing to die is higher in males compared to females.

Chronic diseases, isolation from social life, and increases in chronic pains because of getting older increase the completed attempts of suicide. This may be the reason for increases in suicide attempts via multiple drug intake, parallel to age increase, which we have determined in our study (32).

The rate of gastric decontamination application was reported between 61% and 80% (24, 28, 29). In our study, gastric lavage application rate was 52.2% and active coal application rate was 61.2%. Thus, gastric lavage and active coal application are commonly used in emergency services in cases of suicide attempts by oral means.

Karacioğlu et al. (28) reported that most cases were discharged from the emergency service within the first 24 h. In our study, the average duration of staying at the emergency service was approximately 250 min and 51.2% of patients were discharged from the emergency service after their treatments. It can be said that emergency service intervention and observing most patients in suicide attempts are sufficient, and most of the time, there is no need to be hospitalized. We consider that it is important to train emergency service doctors in terms of assessing toxicological cases on this matter.

Study limitations

Low number of cases, being unable to learn the details of interventions made in the referred institution, and lack of detailed information because of the retrospective nature of the study constitute the limitations of our study.

Conclusion

In this study, we attempted to indicate that the data we obtained are consistent with general literature and that analgesic intake is the most frequently used method. Furthermore, it must be borne in mind that drugs that are available at homes for usage in other diseases are easily accessed and frequently used, and thus, can be

used in suicide attempts. We consider that NSAID and paracetamol derivatives are the commonly preferred analgesics because they are commonly used in the society and can be easily accessed.

Ethics Committee Approval: Ethics committee approval for this study was excluded because it is a retrospective study.

Informed Consent: Patient consent for this retrospective study has not been received.

Peer-review: Externally peer-reviewed.

Conflict of Interest: No conflict of interest was declared by the authors.

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