Factors associated with anxiety and depression level in patients with a suicide attempt

Factors associated with suicide

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Abstract

Aim: This study aimed to determine the anxiety and depression levels of the patients who were admitted to the emergency department after a suicide attempt and to conclude whether they could be predicted before the suicide attempt

Material and Methods: The study was a cross-sectional descriptive study of 57 patients treated between June 2015 and December 2015. A questionnaire consisting of two parts was prepared for the participants. In the first part, the 8-item survey and in the second part, the Hospital Anxiety and Depression (HAD) Scale, consisting of 14 questions, were used.

Results: The scores of the participants were 10.05 ± 4.56 for the anxiety subscale and 9.33 ± 4.57 for the depression subscale. There was a statistically significant difference between the depression subscale scores according to educational status ($p < 0.05$). The depression subscale scores of the participants with a history of alcohol use were significantly higher than those who did not use alcohol ($p < 0.05$). According to the results of correlation analysis between age and anxiety and depression subscale scores, a significant relationship was found between depression and anxiety subscale scores ($r = 0.321$, $p = 0.015$).

Discussion: Preventing suicidal behavior may be possible by revealing and recognizing the various characteristics of people who have previously attempted suicide. Therefore, in this study, gender, age, education and job status, marital status, and related parameters were associated with suicide. The Pre-HAD scale can be used to estimate a suicide attempt.

Keywords

Suicide; Toxicology; Anxiety; Depression

Introduction

Self-annihilation, also called suicide, throughout its history, has been applied by individuals for various reasons, and as a result, it is a health problem that concerns the whole world, whether it results in death or not. A suicide that has three dimensions, such as suicidal ideation suicide attempt and completed suicide, it is the process of voluntarily ending the life of the individual because of aggression towards the self [1].

It is stated that suicide, which may have many reasons such as socio-demographic status, socioeconomic level, unemployment, stressful life events, and migration, varies from society to society, and the suicide rate increases or decreases with this effect. Individuals regard suicide as a point of departure or salvation for a situation in which they cannot escape. Some people only think suicide, and at this stage, suicide is a severe psychiatric emergency that requires treatment and results in death if left untreated. Some people take direct action instead of thinking about suicide. In this case, it is seen that specific reasons lead to suicide, but since they are not reflected outside or noticed, it occurs as an action.

Anxiety and depression may occur separately or together. Anxiety is a feeling of fear and worries that is challenging to describe. Depression, on the other hand, can be defined as an emotional, sad, and grieving mood, an abnormal mood dominated by sadness and unhappiness, which may occur in a healthy individual after loss, and a psychogenic disorder that continues with a specific group of symptoms and sometimes shows a cyclic disease. In anxiety and depression, symptoms such as fear, worry, panic attacks, pain, gastrointestinal complaints, excessive doubt, agitation, difficulty concentrating, sleep disturbance, weakness, easy fatigue, and suicidal thoughts may be observed. These symptoms allow us to predict the suicidal tendency of an individual [1,2].

According to the latest data of the Turkey Statistical Institute, in 2015, four out of a hundred thousand people committed suicide. The number of suicides that resulted in deaths increased by 1.3% compared to the previous year and reached 3.221. When the suicides were examined by age group, 34.3% of the suicides in 2015 were in the 15-29 age group. When the suicides were reviewed by gender, it was found that the highest rate of suicidal women was in the 15-19 age group accounting for 18%, and the highest rate was 12.8% in the 20-24 age group for men. It was determined that 33.3% of the suicidal men and 46% of the women were younger than 30 years of age. When the suicides were examined according to marital status, in 2015, 50.5% of the suicides were married individuals, 37.7% never married, 7.2% divorced, and 4.6% whose spouses died. When marital status was examined by gender, it was seen that 54% of the men who committed suicide in 2015 were married, 36.4% never married, 41.1% of the suicidal women were married, and 41% never married. In 2014, 22.2% of those who committed suicide were primary school graduates, while in 2015, this ratio was 23.7%. Primary school graduates were followed by secondary school with 21.4%, high school, and equivalent school with 20.9%, and higher education with 11.7% [2].

Many psychiatric histories, such as major depression, anxiety, alcoholism, bipolar disorder, schizophrenia, personality disorders (borderline, anti-social), and dysthymia, lead to higher rates of suicide. Besides, it is established that individuals with problems such as dermatological disease cancer, pre-brain tumor surgery, and post-traumatic stress disorder have a higher tendency to commit suicide [3-7].

The aim of this study was to make a prediction about whether the suicide attempt can be predicted in advance through determining the anxiety and depression levels and the factors affecting the patients who were admitted to the emergency department of a hospital with suicide attempt and who were treated in an inpatient toxicology intensive care unit with the Hospital Anxiety and Depression Scale (HADS) also recommended in the literature [3,4,8,9].

Material and Methods

This cross-sectional descriptive study consisted of 57 patients who attempted suicide between June 1, 2015 and December 31, 2015 and admitted to the emergency department of a training and research hospital, and therefore, were treated in the toxicology intensive care unit of the hospital. Permission for the study was obtained from the local ethics committee with approval number 290/2015. The inclusion criteria for the individuals were to be 18 years of age and older, to be conscious (unconscious patients were included in the study after the level of consciousness reached average level), and to have psychiatric consultation. Exclusion criteria were defined as being under 18 years of age, lack of consciousness, and being under treatment in the intensive care unit for any other reason other than a suicide attempt. The questionnaires were administered by the researchers to the individuals who agreed to participate after the patients were informed that the survey to be completed was conducted for scientific research, that there was no examination-like assessment, and that their name-surname information was not requested.

As a result of the literature review conducted by the researchers, a questionnaire consisting of two parts was prepared for the participants.

1. Survey Form: In the first section, a questionnaire consisting of age, sex, marital status, occupational status, educational background, past psychiatric history, family history of suicide attempt, alcohol-substance addiction was formed.

In the second part, the HADS, consisting of 14 Likert type questions, was used.

2. Hospital Anxiety and Depression Scale (HADS): This is a 4-point Likert-type scale that was developed to determine the risk of anxiety and depression and to measure the changes in the level and severity of them in the patient. There are 14 questions in total; odd numbers measure anxiety, even numbers measure depression. The reliability and validity of the scale in Turkish was realized by Aydemir et al. [10]. There are Anxiety (HAD-A) and depression (HAD-D) subscales. Cut-off scores for anxiety subscale result of the study conducted in Turkey were regarded as 10/11, and 7/8 for the depression subscale. Accordingly, those who score above these points are considered as risky. The scoring of each item in the scale is separate. Articles 1, 3, 5, 6, 8, 10, 11 and 13 show decreasing violence and scoring is 3, 2, 1, 0. On the other hand, items 2, 4, 7, 9, 12, and 14 are scored as 0, 1, 2, 3. The items 1, 3, 5, 7, 9, 11, and 13 were evaluated for the anxiety subscale. For the depression subscale, scores of

items 2, 4, 6, 8, 10, 12, and 14 are added together. The lowest score that the patients could get from both subscales was 0, and the highest score was 21.

Statistical analysis:

All data were transferred to the statistical package for Social Science 18.0 (SPSS Inc, Chicago, Illinois, USA) portable for Windows and analyzed. The risk of suicidal tendencies was determined using the anxiety (1-18) and depression (1-20) scores of the individuals with suicide attempts.

Results

The mean age of the participants was 27.35 ± 8.33 years. Of the participants, 75.4% were male, 47.4% single, 35.1% primary school graduates, and 70.2% were not employed. The percentage of participants who had no previous psychiatric history and family history of suicide attempts was 78.9%, and the rate of individuals without alcohol dependence was 84.2% (Table 1) (Table 2). The comparison of descriptive characteristics and scale scores are shown in Table 3. There

Table 1. Descriptive Characteristics of Patients (n = 57)

Variables	$\bar{x}$	Sd
Ages	27.35	8.33
	n	%
Gender		
Male	14	24.6
Female	43	75.4
Marital status		
Married	25	43.9
Single	27	47.4
Divorced	5	8.8
Occupational Status		
Employed	17	29.8
Unemployed	40	70.2
Education		
Elementary School	20	35.1
Junior High School	13	22.8
High school	19	33.3
University	5	8.8
Psychiatric Medical Records		
Yes	12	21.1
No	45	78.9
Suicide Attempt in Family		
Yes	12	21.1
No	45	78.9
Alcohol		
Yes	9	15.8
No	48	84.2

Table 2. Total Scores of HAD Scale

	X±Sd	Min	Max
Anxiety	10.05±4.56	1.00	18.00
Depression	9.33±4.57	1.00	20.00

Table 3. Descriptive Properties and Scale Scores Comparison

Features	Anxiety	Depression
Gender		
Male (14)	9.93±4.55	9.43±3.86
Female (43)	10.09±4.61	9.30±4.82
Test value	t=-0.116	t=0.089
p	0.908	0.929
Marital status		
Married (25)	9.76±4.88	9.84±4.66
Single (27)	10.30±4.20	8.89±4.77
Divorced (5)	10.20±5.63	9.20±3.35
Test value	F=0.090	F=0.276
p	0.914	0.760
Occupational Status		
Employed (17)	10.24±4.13	8.82±4.84
Unemployed (40)	9.98±4.77	9.55±4.50
Test value	t=0.196	t=-0.545
p	0.846	0.588
Education		
Elementary School (20)	10.30±4.29	10.80±4.60
Junior High School (13)	12.23±4.97	10.46±4.52
High school (19)	8.84±4.51	8.26±4.12
University (5)	8.00±3.08	4.60±2.51
Test value	F=1.879	F=3.495
p	0.144	0.022[a]
Psychiatric Medical Records		
Yes (12)	11.08±4.94	11.33±5.10
No (45)	9.78±4.47	8.80±4.33
Test value	t=0.880	t=1.736
p	0.383	0.088
Suicide Attempt in Family		
Yes (12)	11.92±4.78	11.33±4.38
No (45)	9.56±4.42	8.80±4.52
Test value	t=1.618	t=1.736
p	0.111	0.088
Alcohol		
Yes (9)	11.89±5.11	12.33±4.18
No (48)	9.71±4.42	8.77±4.46
Test value	t=1.326	t=2.219
p	0.190	0.031

Table 4. Correlations between age and anxiety and depression scores

		Anxiety	Depression
Ages	r	-0.001	0.068
	p	0.994	0.614
Anxiety	r		0.321
	p		0.015

was no statistically significant difference between the anxiety subscale scores according to gender, marital status, occupational status, education level, past psychiatric history, family history, and history of alcohol use (p> 0.05).

When the depression subscale scores were examined, there

was no statistically significant difference between the scores according to gender, marital status, occupational status, past psychiatric history, and family history (p> 0.05). There was a statistically significant difference between the depression subscale scores according to educational status (p <0.05). In the post hoc analysis, the depression subscale score of the primary school graduates was significantly higher than the university graduates (p = 0.028). Depression subscale scores of the participants with a history of alcohol use were significantly higher than those who did not use alcohol (p <0.05).

There was a low positive correlation between depression and anxiety subscale scores according to the results of the correlation analysis between age and anxiety and depression subscale scores (r = 0.321, p = 0.015) (Table 4).

Discussion

In this study conducted with patients who were hospitalized in Toxicology Intensive Care Unit due to a suicide attempt, we tried to determine descriptive anxiety and depression levels of the patients using the Anxiety and Depression Scale.

In this study, the mean age of the individuals was 27.35 ± 8.33 years. In another study by Aydemir et al., the mean age of the individuals who attempted suicide was 24.2 ± 9.0 years [10], and the mean age of the patients with diabetes whose anxiety and depression levels were measured was 53.73 ± 1.48 years. The suicide rate is higher at a young age, which may be caused by physical, psychological, and sociological reasons that vary according to the individual.

In this study, 75.4% of suicide attempts were male, and in another study with similar result compatible with our research, it was reported that while 54.1% of patients were men, suicidal tendency of men was higher than of women in Turkey [11, 12]. In the studies showing the opposite results, the majority of individuals who attempted suicide were women [1, 13]. Therefore, first, the possibility of selection bias was not forgotten because of the study population, and it included only the patients who attempted suicide. Secondly, a single-center and tertiary level are the relatively limited and low number of patients and equality except for gender. However, it did not affect the results of the statistical analysis.

In the study Karamustafalıoğlu et al, 47.4% of the individuals who attempted suicide were single, and in the studies supporting this result, 64% were single, and the proportion of singles was higher in both male (77.97%) and female (58.28%) genders [1]. Contrary to these results, 75.2% of individuals were married in another study [13]. Fourteen years of statistical data in Turkey also noted that the highest suicide rate is in individuals who were married. To understand the reason for these results, it is necessary to know the real cause of the suicide attempt. In single or married individuals, there are problems that cannot be cured such as illness, inability to respond to their feelings, education failure, commercial failure, family incompatibility, having financial difficulties, not being able to marry the person they want, and we can say that these problems lead individuals to suicide [12].

In this study, 70.2% of the individuals did not work, and 35.1% of the individuals were primary school graduates, and there was a statistically significant difference between the depression

subscale scores according to educational status (p <0.05). In the post hoc analysis carried out to determine the differences between the variables, the depression subscale score of the primary school graduates was significantly higher than the university graduates (p = 0.028). It can be said that the lower ability of primary school graduates to cope with the problems increases the suicidal tendency. In the literature, it is stated that the unemployment rate of individuals attempting suicide is high; 42.1% of individuals are literate; 42.1% are housewives, and 54.1% have less income than expense [11]. When the 14-year statistical data were examined, it was stated that the highest number of suicides was in individuals with primary school education [12]. In a study by Ayas et al., while there was no relationship between suicidal tendencies and unemployment, it was stated that there was a significant relationship with education level [14]. Unemployed individuals will have difficulty in meeting their needs as they will experience income and expense imbalance, in time, they may become depressed with this feeling of inadequacy, and thus, their suicidal tendencies may increase.

In this study, most of the patients (78.9%) had no previous psychiatric history, while another study reported that 38% of all patients with bipolar disorder had suicide attempts, and a comorbid mental disorder was a reliable indicator of suicide risk [1]. It was concluded that stress disorder followed by trauma, sexual abuse, and depressive disorder increased the rate of suicide attempts [15]. It was reported that 91.9% of those with borderline personality disorder attempted suicide [13]. Ina study by Ak et al., it was stated that 69.4% of the patients did not have a family history of psychiatric disorders [16]. In this study, the lack of psychiatric history of individuals attempting suicide can be interpreted as the absence of a diagnosed psychiatric history.

In the study by Karamustafalıoğlu et al., 78.9% of the individuals did not have a family history of suicide attempt, and in another study by Ak et al. supporting the results of the survey, 95.9% of the cases admitted to the emergency department with suicide attempt did not have a family history of suicide attempt [1]. In another study by Ak et al., it was reported that 68.2% of those who attempted suicide did not have a family history of suicide attempts [16]. In a study where suicide history was significantly higher in individuals who had a history of suicide, factors such as a family history of suicide or attempted suicide, early loss of mother and father, physical and sexual abuse were all considered as risk factors on which all researchers agree for committing suicide [17].

Consistent with the results of many studies, the possibility of suicide attempts in individuals with alcohol-substance use being expected to be higher is not compatible with the fact that the rate of individuals without alcohol-substance dependence in our study is 84.2% and the similar results of some studies [1]. It can be explained by the low rate of alcohol substance use in individuals who attempted suicide as a result of a lower history of substance use in our country compared to the west, and the inability of individuals to say that they use alcohol-substance due to social oppression. According to the literature, the fact that the depression subscale score of the individuals with a history of alcohol-substance use was significantly higher

than those without a history of alcohol-substance use seems to support that alcohol-substance use would increase depression level as well as a suicidal tendency.

In this study, similar to the literature, the HADS scores of individuals attempting suicide were 10.05 ± 4.56 for anxiety subscale and 9.33 ± 4.57 for depression subscale [1, 11, 18, 19]. Therefore, it can be said that the HADS scale can be a prediction tool for individuals' suicide attempts.

As in all studies, our study had limitations. The first point is that it is a single-center and a third step, limited number of patients reflects a limited sample size, a short period of time, and the common point in almost all studies conducted in our country is not knowing the long term results of the patients due to lack of follow-up and medical records after suicide. More extensive universe studies are required for precise data to reflect society. The data of the survey will form a sample data for future studies. We can say that suicide is a behavioral disorder that has been going on for centuries and is not tolerated by society and religions, and its reason varies from person to person. There may be various internal and external reasons leading to suicide, and the individual performs suicide if he sets his mind on doing so. Preventing suicidal behavior may be possible by revealing and recognizing various characteristics of individuals who have attempted suicide before. Therefore, in this study, it has been published with the literature comparison that parameters such as gender, age, education, and job status, marital status are related to suicide. Depression subscale scores of primary school graduates were significantly higher than those of university graduates, and those with a history of alcohol use were higher than those who did not. According to the results of the correlation analysis between age and anxiety and depression subscale scores, a significant positive correlation was found between depression and anxiety subscale scores (r = 0.321, p = 0.015). As a result of these results, a prediction for suicide attempts can be made using the Pre-Hospital Anxiety and Depression Scale.

In conclusion, we can improve the situation of individuals who have previously attempted suicide, have failed, and re-clutched themselves onto life, not by taking pity on them, but by listening and trying to understand them. If we love, respect, and try to understand the people around us, we can understand the value of life for them and ourselves, and we can contribute to holding onto life.

References
1. Karamustafalıoğlu O, Özcelik B, Bakım B, Ceylan YC, Yavuz BG, Güven T. İntiharı Öngörebilecek Bir Araç: Hastane Anksiyete ve Depresyon Ölçeği (A Tool That Can Predict Suicide: Hospital Anxiety and Depression Scale). Düşünen Adam Psikiyatri ve Nörobilimler Dergisi/ Dusunen Adam The Journal of Psychiatry and Neurological Sciences. 2010; 23(3): 151–7. DOI: 10.5350/DAJPN2010230302
2. Günderci A, Karatay G, Gökçe S, Güler B. Tunceli'de 2005-2015 Yılları Arasında Gerçekleşen İntiharlara İlişkin Epidemiyolojik Bir İnceleme (An Epidemiological Investigation on Suicides in Tunceli Between 2005-2015). Klinik Psikiyatri Dergisi/ Turkish Journal of Clinical Psychiatry. 2017; 20(2): 121-8 DOI: 10.5505/kpd.2017.86580
3. Pranckeviciene A, Tamasauskas S, Deltuva V P, Bunevicius R, Tamasauskas A, Bunevicius A, et al. Suicidal ideation in patients undergoing brain tumor surgery: prevalence and risk factors. Supportive Care Cancer. 2016; 24 (7): 2963–70. DOI:10.1007/s00520-016-3117-2
4. Lukaviciute L, Naviskas P, Naviskas A, Grigaitiene J, Ganceviciene R, Zouboulis CC. Quality of life, anxiety prevalence, depression symptomatology, and suicidal ideation among acne patients in Lithuania. J Eur Acad Dermatol Venereol. 2017; 31(11): 1900–6. DOI:10.1111/ijlh.12426
5. Hernández M. Antonio J. A longitudinal study on anxiety, depressive and adjustment disorder, suicide ideation and symptoms of emotional distress in patients with cancer undergoing radiotherapy. J Psychosom Res. 2016; 87: 14–21. DOI:10.1016/j.jpsychores.2016.05.010
6. Zhong B, Li S, Lv S, Tian S, Liu Z, Li X, et al. Suicidal ideation among Chinese cancer inpatients of general hospitals: prevalence and correlates. Oncotarget. 2017;8 (15): 25141–50. DOI: 10.18632/oncotarget.15350
7. Arenson MB, Whooley MA, Neylan TC, Maguen S, Cohen BE. Posttraumatic stress disorder, depression, and suicidal ideation in veterans: results from the mind your heart study. Psychiatry Res. 2018; 265: 224–30. DOI: 10.1016/j.psychres.2018.04.046
8. Chan CYY, Tsang HHL, Lau CS, Chung HY. Prevalence of depressive and anxiety disorders, and validation of the Hospital Anxiety and Depression Scale as a screening tool in axial spondyloarthritis patients. Int J Rheum Dis. 2017; 20 (3): 317-25. DOI:10.1111/1756-185X.12456
9. Rotenstein LS, Ramos MA, Torre M, Segal JB, Peluso MJ, Guille C, et al. Prevalence of Depression, Depressive Symptoms, and Suicidal Ideation Among Medical Students A Systematic Review and Meta-Analysis. JAMA. 2016; 316(21): 2214–36. DOI:10.1001/jama.2016.17324
10. Aydemir Ö, Küey L. Hastane Depresyon Ölçeği Türkçe formunun geçerlilik ve güvenilirlik çalışması (Reliability and Validity of the Turkish version of Hospital Anxiety and Depression Scale). Türk Psikiyatri Dergisi/ Turkish Journal of Psychiatry. 1997; 8(4): 280-7.
11. Bahar A. Diabetes Mellituslu Hastaların Anksiyete ve Depresyon Düzeylerinin Belirlenmesi (Determination of Anxiety and Depression Levels of Patients with Diabetes Mellitus). Fırat Sağlık Hizmetleri Dergisi/ Fırat Health Services Journal. 2006; 1(1): 3–16.
12. Özcan B, Şenkaya S, Özdin Y, Dinç A. Türkiye 'deki İntihar Vakalarının Çeşitli Kriterlere Göre İstatistiksel Olarak İncelenmesi (Statistical investigation of suicide cases in Turkey by various criteria). Sosyal Politika Çalışmaları Dergisi/ Journal of Social Policy Studies. 2018; (40): 11–34. DOI:10.21560/spcd.vi.282723
13. Küçük A, Çetinkaya S. İntihar amaçlı olmayan kendine zarar verme davranışı ve intihar ilişkisi: Tanı, borderline kişilik bozukluğu ve mizaç ve karakter özelliklerinin rolü (Relationship between non-suicidal self-injury and suicide: the role of diagnosis, borderline personality disorder and temperament and character profile). Çukurova Med J. 2019; 44(2): 1–10. DOI:10.17826/cumj.466375
14. Ayas S. İşsizlik ve eğitim seviyesinin intihar üzerindeki etkisi: TÜİK verileri üzerine ampirik bir çalışma (The effect of unemployment and education level on suicide: an empirical study on TURKSTAT data). Yönetim Bilimleri Dergisi/ Journal of Management Sciences. 2016; 14 (28): 101–19.
15. Gökçe İmren S, Ayaz A, Yusufoğlu C, Ropodman Arman A. Cinsel istismara uğrayan çocuk ve ergenlerde klinik özellikler ve intihar girişimi ile ilişkili risk etmenleri (Clinical features and risk factors related to suicide attempts in sexually abused children and adolescents). Marmara Med J. 2013; 26(1): 11-16. DOI:10.5472/MMJ.2012.02518.1
16. Ak M, Özmenler KN, Özşahin A. İntihar Girişimi ile Mizaç ve Karakter Özellikleri Arasındaki İlişkinin Major Depresif Bozukluk Örnekleminde İrdelenmesi (The Assessment of Relationship Between Suicide and Temperament and Character Features on the Major Depressive Disorder). J Clin Psy. 2008; 11(1):33-41.
17. Meltem Atay L, Gündoğar D. İntihar davranışında risk faktörleri: bir gözden geçirme (Risk factors in suicidal behavior: a review). Kriz Dergisi/ The Journal of Crisis. 2004; 12 (3): 39-52. DOI:10.1501/Kriz_0000000211
18. Hacıhasanoğlu R, Karakurt P, Yıldırım A, Uslu S. Bir Sağlık Ocağına Başvuran Kronik Hastalığı Olan Bireylerde Anksiyete ve Depresyon (Anxiety and Depression in Individuals with Chronic Disease Applying to a Health Center). TAF Prev Med Bull. 2010; 9 (3): 209–16.
19. Dönmez S, Dağ H, Kazandı M. Amniyosentez öncesi gebelerde anksiyete ve depresyon risk düzeylerinin belirlenmesi (Determination of anxiety and depression risk levels in pregnant women before amniocentesis). Acıbadem Üniversitesi Sağlık Bilimleri Dergisi/ Acibadem University Health Sciences Journal. 2012; 3(4): 255–61.