A Promising Tool that can Predict Suicide: The Hospital Anxiety and Depression Scale

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ÖZET

İntiharı öngörebilecek bir araç: Hastane anksiyete ve depresyon ölçeği

Amaç: Bu çalışmanın amacı, genel bir hastanede psikiyatri konsültasyonu istenmiş, intihar girişimi olan ve olmayan, yatarak tedavi gören hastaların anksiyete ve depresyon belirtilerinin Hastane Anksiyete ve Depresyon Ölçeği ile karşılaştırılmasıdır.

Yöntem: Çalışmaya, Ocak 2005 ile Ocak 2007 tarihleri arasında yaş açısından eşleştirilmiş intihar girişiminde bulunmuş ve bu sebeple Şişli Etfal Eğitim ve Araştırma Hastanesi'nde yatarak tedavi altına alınmış 50 hasta ile genel tıbbi durumları sebebiyle yatarak tedavi altına alınmış 50 hasta dahil edilmiştir. Bu çalışmada sosyodemografik form, Hastane Anksiyete ve Depresyon Ölçeği (HAD) ve klinisyen tarafından yapılandırılmış tanı amaçlı Mini-Uluslararası Nöropsikiyatrik Görüşme Metodu (MINI) kullanılmıştır.

Bulgular: İntihar girişimi olanlarda, kontrol grubuyla karşılaştırıldığında geçmiş psikiyatri öyküsü p=0.017, yatarak psikiyatrik tedavi görme p=0.041, aile öyküsü p=0.023, alkol/ madde kullanımı p=0.004 anlamlı olarak daha fazlaydı. İntihar girişimi olan hastalarda gerginlik, anhedoni, korku, mizah yetisinin kaybı, huzursuzluk ve keyifsizlik skorları anlamlı olarak daha yüksekti.

Sonuç: Klinisyenler geçmiş psikiyatrik öykü, aile öyküsü, alkol/madde kullanımı, anhedoni, keyifsizlik, mizah yetisi kaybı, korku, gerginlik, huzursuzluk belirtilerini intihar riski açısından dikkate almalıdırlar. Çalışmadaki bulgular, psikiyatrik değerlendirmenin yanı sıra HAD ölçeğinin intihar riskini belirlemeye yardımcı bir araç olabileceğini göstermiştir.

Anahtar kelimeler: İntihar öngörücüleri, hastane anksiyete depresyon ölçeği, bipolar bozukluk, anhedoni, huzursuzluk

ABSTRACT

A promising tool that can predict suicide: the hospital anxiety and depression scale

Objective: The aim of this study was to compare the anxiety and depressive symptoms between the suicide attempters and non-suicide attempters and to determine the differences in the Hospital Anxiety and Depression Scale (HADS) items inpatient between the two groups.

Method: The study participants were age-matched 50 suicide attempters who were admitted to Şişli Etfal Research and Training Hospital, and 50 inpatients who were hospitalized due to their general medical complaints. The sociodemographic form, the HADS and the Mini-International Neuropsychiatric Interview (MINI) were administered.

Results: The suicide attempters had significantly higher rate of previous psychiatric history p=0.017, psychiatric hospitalization p=0.041, family history p=0.023, and alcohol/substance use p=0.004. The suicide attempters scored significantly higher on tension, anhedonia, fear, loss of humor, restlessness, and lack of enjoyment.

Conclusions: Clinicians should take into account the presence of previous psychiatric history, family history, substance/alcohol use, presence of anhedonia, lack of enjoyment, loss of humor, fear, tension and restlessness. The HADS could be a powerful tool to assess the suicide risk other than psychiatric evaluation.

Key words: Suicide predictors, hospital anxiety depression scale, bipolar disorder, restlessness, anhedonia

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INTRODUCTION

The word "suicide" comes from the Latin word suicidium, derived from the root sui caedere, which means to kill oneself (1). A suicide attempt is defined as destructive behavior aimed at ending one's own life (2). According to Edwin Schneidman (3), suicide is seen as a way out from feelings of desperation, frustrated needs, unbearable stress, and helplessness. There is a wide spectrum between suicidal thoughts and a suicide attempt. Some people think about suicide, but never carry it out, some plan suicide, and some attempt suicide impulsively.

Suicidal behavior is a serious health problem and

among the top causes of psychiatric emergencies. Longitudinal follow-up studies indicate that 10 to 15 percent of those who attempt suicide complete the act of suicide (4). Suicide attempts are seen 10 to 40 times more often than completed suicides (5). Paracıkoğlu et al. (6) found the suicide recurrence rate in a 29-month average follow-up period to be 19.2 percent. The multi-centered ECA study by Petronis et al. (7) covering 18,000 people concluded that 18 suicide attempts on average were made before one completed suicide. A study of society at large on completed suicides determined that suicide was completed on the first attempt at a rate of 56 to 75 percent (8). For this reason, the absence of a suicide attempt in a person's history does not remove the risk.

The most important predictor for suicide is the presence of psychiatric disorder. More than 90 percent of cases who attempted suicide have a psychiatric disorder. Suicide risk is present in patients with diagnoses of major depression, bipolar disorder, alcohol abuse, schizophrenia, "borderline" personality disorder, antisocial personality disorder, dysthymia, or anxiety disorder (9). In recent years, research has focused on the treatment method for patients who have attempted suicide that seek admittance to psychiatry departments (10-14). Hall et al. (14) showed that 83 percent of people who attempted suicide had consulted a health employee within the one-month period preceding their suicide attempt. Many patients seek admittance to a general hospital for physical complaints related to their suicide attempt. Thereafter, the psychiatric treatment of these patients is arranged for the first time. Psychiatric consultation was observed to have positive effects on the progress of patients having attempted suicide (15,16). The risk of completed suicide is highest in the year following a previous attempt, particularly in the first three months after the attempt (17). Suicide attempters are heterogeneous cases in diagnostic terms given their psychosocial factors and high rate of psychiatric comorbidity (12,13). The aim of this study is to compare the Hospital Anxiety and Depression (HAD) scale scores of inpatients referred for psychiatric consultation in a general hospital who had attempted suicide with the scores of those who had not attempted suicide. The HAD items for which a significant difference is detected in clinical terms may be important predictors of suicide risk, in addition to psychiatric examination.

METHOD

The study included 50 patients, who had attempted suicide and were inpatients in a general hospital for this reason between January 2005 and January 2007, and a control group of 50 age and gender matched patients who were inpatients due to their general medical condition. The data covers all patients over 14 years of age who had attempted suicide and patients who were inpatients due to their general 50 medical condition, all were referred for a psychiatric consultation. Prior to psychiatric evaluation, all suicide attempters were treated at Şişli Etfal Training and Research Hospital's Internal Disease or Intensive Care units. Patients were given an informed consent form with which they agreed to participate in the study. All consultation results, patient information and socio-demographic data were recorded. Chronic disease, dementia and mental retardation were set as criteria for exclusion from the study. Patients who were in a state of delirium during consultation were enrolled in the study after their general medical condition stabilized and their state of delirium subsided. This study was approved by the hospital's ethics committee.

Scales

This study used a socio-demographic form, the Hospital Anxiety and Depression (HAD) Scale, and the Mini-International Neuropsychiatric Interview Method (MINI), used widely to make diagnosis and structured by the clinician (18). The MINI was adapted to the Turkish by Engeler (19). Age, marital status, education, occupation, past psychiatric history, family history, psychiatric diagnosis, and alcohol/substance use were evaluated using the socio-demographic form. The patients were first evaluated in terms of alcohol/substance dependence. Since none of the patients met the alcohol/substance dependence criteria, they were

Table 1: Socio-demographic data

	With suicide attempt		No suicide attempt			
	n=50	%	n=50	%	χ^2	p
Gender					0.57	0.45
Male	12	24	15	30		
Female	38	76	35	70		
Marital Status					2.1	0.15
Single	32	64	26	52		
Married	15	30	22	22		
Widow	1	2	1	2		
Divorced	2	4	1	2		
Occupational status					0.21	0.64
Unemployed	33	66	35	70		
Employed	17	34	15	30		
Education					3.1	0.08
No education	0	0	3	6		
Primary School	20	40	17	34		
Middle School	9	18	11	22		
High School	17	34	12	24		
University	4	8	7	14		
Past psychiatric history					9.2	0.002*
No	21	42	36	72		
Yes	29	58	14	28		
Psychiatric hospitalization					4.2	0.04*
No	46	92	50	100		
Yes	4	8	0	0		
Family History					5.2	0.023*
No	32	64	42	84		
Yes	18	36	8	16		
Alcohol/Substance Use					8.3	0.004*
No	38	76	48	96		
Yes	12	24	2	4		

*Statistically significant

then asked whether they smoked, used alcohol, or used any substance.

The HAD scale scans anxiety and depression symptoms, is a self-rating scale and is used frequently in the hospital environment (20). The cutoff point for the HAD depression and anxiety subscales is ≥8. The HAD Turkish translation was validated by Aydemir et al (21).

Statistical Analysis

The SPSS 11.5 program was used for the analyses. Independent t-test and Chi-square were used for comparisons between the group who had attempted suicide and the group who had not attempted suicide. Values of $p<0.05$ were considered clinically significant.

RESULTS

Both groups were compared in terms of age, gender, education, marital status, economic status, alcohol/substance use, past psychiatric history, and family history. The mean age of the group who had attempted suicide was 24.2±9.0, and that of the control group was 25.4±6.5. Both groups were similar in terms of age, gender, occupational status, and education. In line with the literature, 76 percent of patients who had attempted suicide were female and 24 percent were male. Past psychiatric history (p=0.002), inpatient psychiatric treatment rates (p=0.04), family history (p=0.023), and alcohol/substance use (p=0.004) were significantly higher among those who had attempted suicide, compared to the control group. Demographic data is provided in Table 1.

In 19 (38%) of 50 patients who had attempted suicide, history of past suicide attempt was observed. In those who had attempted suicide, the HAD depression (p=0.002) and anxiety (p=0.005) subscale scores were significantly higher than in the control group. The mean

Table 2: Comparison of HAD scale items

	With suicide attempt	No suicide attempt		
	Average±SD	Average±SD	χ^2	p
HAD-A (anxiety)	10.9±4.1	8.2±5.1	-2.9	0.005*
HAD-D (depression)	10.0±3.9	7.3±4.8	-3.1	0.002*
HAD total	20.9±6.4	15.7±8.5	-3.5	<0.001*
HAD 1 (tension)	1.9±1.0	1.4±1.1	-2.5	0.014*
HAD 2 (anhedonia)	1.7±1.0	1.1±1.1	-2.5	0.014*
HAD 3 (fear)	1.7±1.1	1.1±1.1	-2.5	<0.01*
HAD 4 (loss of humor)	1.3±1.0	0.7±0.9	-3.0	0.003*
HAD 5 (worry)	1.4±1.1	1.3±1.3	-0.5	0.6
HAD 6 (cheerlessness)	1.2±0.8	1.0±0.9	-1.2	0.25
HAD 7 (inability to relax)	1.7±0.9	1.3±0.8	-1,9	0.062
HAD 8 (sense of slow down)	1.7±1.0	1.4±1.0	-1.5	0.15
HAD 9 (restlessness)	1.2±0.8	1.0±1.0	-0.7	0.5
HAD 10 (self-care)	1.4±1.0	1.3±1.2	-0.5	0.6
HAD 11 (unease)	1.6±0.9	0.9±1.0	-3.6	<0.001*
HAD 12 (lack of enjoyment)	1.6±1.2	1.1±1.1	-2,4	0.017*
HAD 13 (feeling of panic)	1.4±1.0	1.2±1.1	-1.0	0.32
HAD 14 (not enjoying books, TV or radio programs)	1.0±1.0	0.8±1.0	-1.2	0.25

*Statistically significant

Table 3: Axis I diagnoses

	With suicide attempt		With no suicide attempt			
	n	%	n	%	χ^2	p
Depression	25	50	17	34	2.6	0.1
Bipolar disorder	19	38	-	-	-	-
Anxiety disorder	3	6	8	16	2.6	0.1
Adjustment disorder	6	12	22	44	12.7	<0.001*
Somatization disorder	-	-	3	6	-	-

*Statistically significant

anxiety score was 10.9±4.1 and the mean depression score was 10.0±3.9. Comparing mean total scores, the score of those who had attempted suicide (20.9±6.4) was significantly higher than the score of patients who had not attempted suicide (15.7±8.5) (p=0.001). The tension (item 1), anhedonia (item 2), fear (item 3), loss of humor (item 4), restlessness (item 11), and lack of enjoyment (item 12) scores were significantly higher in those who had attempted suicide than in those who had not. A comparison of HAD scale scores is provided in Table 2.

In this study, 38 percent of patients were diagnosed with bipolar disorder, and all of these bipolar patients had attempted suicide. Adjustment disorder was significantly higher in the group that had not attempted suicide. Axis I diagnoses are provided in Table 3.

DISCUSSION

In this study, 76 percent of patients who had attempted suicide were female and 24 percent were male, in line with literature. Weissman et al. (22) reported that suicide attempts are two to three times more frequent among females than males.

To date, studies have shown that past suicide attempt is the strongest predictor of both subsequent attempt and completed suicide (23). One study revealed that there are past suicide attempts in 18 to 50 percent of completed suicides (24). In this study as well, 38 percent of patients have attempted suicide in the past. Hall et al. reported that 33 percent of patients who had attempted suicide had also previously attempted suicide (14). Greer and Soukes stated that psychiatric consultation and the evaluation of risk factors have

a positive effect on the progress of patients who had attempted suicide (15,16). Studies conducted in the U.S.A. emphasize that patients who attempted suicide had consulted to general practitioner in the one-month period before their attempt (25). Thus the HAD scale can be used as a second tool by clinicians and general practitioner in particular to predict suicide after psychiatric evaluation.

In this study, the HAD depression (p=0.002) and anxiety (p=0.005) subscale scores of those who had attempted suicide were found to be significantly higher than the scores of those who had not attempted suicide. Analysis of the data revealed that tension, anhedonia, fear, see the funny side of things, restlessness, and look forward with enjoyment to things items on the scale may be predictors of suicide attempt. Hall et al. (14) reported that anxiety, depressive mood, alcohol/substance abuse, feelings of desperation, and anhedonia may be predictors of suicide attempt. Anhedonia, anxiety, and alcohol abuse are short-term predictors of suicide attempt, while mood fluctuations and feelings of desperation were seen as long-term predictors (26). Comorbid psychiatric diagnosis was found to be the strongest predictor for suicide risk (27). Many patients who had attempted suicide were reported to exhibit depressive symptoms, and 60 percent were reported to have been diagnosed with a mood disorder (28). The data in this study showed that anhedonia, loss of interest, and depressive mood were significantly different between the two groups. The six-month follow-up study by Sertöz et al. (29) showed that diagnosis of major depression according to DSM-IV increased the recurrence risk of suicide attempt twelve-fold.

Although suicide is not questioned directly in the HAD scale, the anhedonia, loss of humor, and lack of enjoyment items may be predictors of a potential suicide attempt. This results may be important for determining suicide risk in patients who do not want to share their suicidal thoughts.

In this study, the anxiety scores of patients who had attempted suicide were significantly higher than those of the control group. The tension, fear, and restlessness items were found to be significantly different. The study conducted by Fawcett et al. (26) with adults indicated that psychical anxiety is pronounced in patients with suicide risk. Likewise, Weissmen et al. (22) reported that anxiety may predict suicidal behavior. Anxiety, irritability, tension, agitation, fear, and restlessness are among the risk factors for suicide. Restlessness and agitation may be precursors of danger (30). A paper on the prevention of suicidal behavior reported that restlessness may be a factor for suicide risk (31). According to Thomas and Kramer (32), intense restlessness may become so insurmountable that suicide is considered. In contrast to these findings, Placidi et al. (33) found that patients who had not attempted suicide scored significantly higher on the anxiety items of the Hamilton Depression Scale related to fear of disease and death.

The data in this study indicate that suicidal behavior is correlated with bipolar disorder. Balazs et al. (34) found that patients who had attempted suicide had a high rate of bipolar disorder. Irritability and psychomotor agitation were stated as strong predictors of a suicide attempt. From 25 to 50 percent of bipolar patients had attempted suicide at least once in their lives (35). In particular, patients with a mixed episode history were evaluated as being at a greater risk for suicide due to dysphoric mood and high energy levels (36,37).

Our findings indicate that alcohol and substance abuse may be related to suicidal behavior, even in a society with no prevalence of alcohol and substance abuse. Some studies report that substance abuse increases instinctive suicidal behavior (13). Alcohol/substance addiction was reported to raise the suicide risk five-fold (14). Cornelius et al. (38) reported that suicide risk is higher in major depression patients with comorbid alcohol dependence, compared to patients with depression but no alcohol dependence. Additionally, some authors stated that greater prevalence of suicide may be related to increase in substance abuse (39,40).

In this study, we found that in addition to depression, anxiety, and alcohol/substance use, the factors of past psychiatric history, history of past psychiatric hospitalization, and family history are associated with greater risk of suicide. One study reported that 98

percent of those who had attempted suicide had a psychiatric diagnosis and that this was the strongest determining factor for suicide risk (41). Although the presence of suicide history in the family indicates genetic predisposition, it also suggests that this may be a learned behavior (25). In support of previous studies, this study showed that those who had attempted suicide more often had history of inpatient treatment. Those with a level of psychiatric disease necessitating hospitalization were shown to have higher risk of suicide (42,43).

One of the limitations of this study is that cases were limited to hospitalized patients and the data reflects this limited group. Another limitation is that the patients' initial requests for consultation were not evaluated.

CONCLUSION

This study showed that depressive symptoms and anxiety, alcohol/substance abuse, and bipolar disorder are risk factors for suicide attempt, even in a society where alcohol/substance abuse and dependence are rare. Attempting suicide poses a risk for further suicide attempt, while recurring attempts increase both the risk of suicide attempt in the future and the risk of completed suicide (44).

The suicide rate was observed to have increased 60 percent in males and 41 percent in females over the last 10 years (45). Predicting suicide and determining the risk of suicide must therefore be the clinician's main goal.

The clinician must take into account the patient's past psychiatric history, family history, alcohol/substance abuse, anhedonia, lack of enjoyment, loss of sense of humor, and fear, stress, and restlessness symptoms. The study's findings showed that the HAD scale may be a helpful tool, along with psychiatric evaluation, in the determination of suicide risk.

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