

Suicide Attempt, Suicidal Ideation and Hopelessness Levels in Major Depressive Patients with and Without Alexithymia

Filiz Izci¹, Serkan Zincir²,
Selma Bozkurt Zincir¹,
Rabia Bilici¹, Sakir Gica³,
Merve Setenay Iris Koc³,
Tugba Goncu³, Ayse Terzi³,
Umit Basar Semiz⁴

¹Psychiatrist, ²Psychiatry Resident, ⁴Assoc. Prof. Dr.,
Erenkoy Training and Resarch Hospital for Psychiatry,
Istanbul - Turkey
²Psychiatrist, Kocaeli Golcuk Military Hospital,
Kocaeli - Turkey

ABSTRACT

Suicide attempt, suicidal ideation and hopelessness levels in major depressive patients with and without alexithymia

Objective: It is known that hopelessness and alexithymia levels are increased in patients with depressive disorder. In the literature, reports are suggesting that high levels of hopelessness in patients with depressive disorder increase suicide attempts and ideations. Here we aimed to investigate whether there are any differences in terms of suicidal ideation, suicide attempt and hopelessness levels in major depressive disorder patients with and without alexithymia.

Method: In this study, 99 major depressive patients (67.6%) than the non-alexithymic major depressive patients (29.2%). Mean scores of SSI and BHS were higher in alexithymic patients than non-alexithymic patients. There was a positive correlation between TAS-1 (difficulty identifying feelings), TAS-2 (difficulty expressing feelings) and BHS, SSI scores.

Results: There was no significant difference in terms of sociodemographic data (except for the marital status) between major depressive patients with or without alexithymia and healthy controls. According to a cut off point of 61 for TAS-20, 34.3% (n=34) of the patient group was alexithymic and 65.7% (n=65) was non-alexithymic. Rate of suicide attempt was higher in the alexithymic major depressive patients (67.6%) than the non-alexithymic major depressive patients (29.2%). Mean scores of SSI and BHS were higher in alexithymic patients than non-alexithymic patients. There was a positive correlation between TAS-1 (difficulty identifying feelings), TAS-2 (difficulty expressing feelings) and BHS, SSI scores.

Conclusion: In our study, suicidal ideation, suicide attempt and hopelessness levels were higher in major depression patients with alexithymia. Higher incidence of suicide attempts in major depressive patients with higher alexithymia levels and higher suicidal ideation and hopelessness levels in this group of patients suggest the possibility of alexithymia being a predictive factor for suicide attempt.

Key words: Alexithymia, depression, hopelessness, suicide

ÖZET

Aleksitimik olan ve olmayan major depresif bozukluk hastalarında intihar girişimi, intihar düşüncesi ve umutsuzluk düzeyleri

Amaç: Depresif bozukluğu olan hastaların umutsuzluk ve aleksitimi düzeylerinin daha yüksek olduğu bilinmektedir. Literatürde yüksek umutsuzluk düzeylerinin depresif bozukluğu olan hastalarda intihar girişimi ve düşüncesini artırdığına dair yayınlar bulunmaktadır. Biz bu çalışmamızda; hasta grubu, sağlıklı kontrol grubu ile sosyodemografik özellikler açısından eşleştirdikten sonra, aleksitimik olan ve olmayan major depresif bozukluk tanılı hasta grupları arasında intihar girişimi, intihar düşüncesi, umutsuzluk düzeyi ve aleksitimi düzeyi bakımından fark olup olmadığını araştırmayı amaçladık.

Yöntem: Bu çalışmaya DSM-IV için yapılandırılmış görüşme formu ile (SCID-I/CV), major depresif bozukluk tanısı almış 99 hasta ile 50 sağlıklı bireyden oluşan kontrol grubu alındı. Hasta ve kontrol grubuna Sosyodemografik veri formu, Toronto Aleksitimi Ölçeği (TAÖ-20), Beck Umutsuzluk Ölçeği (BUÖ), İntihar Düşüncesi Ölçeği (İDÖ), Hamilton Depresyon Ölçeği (HDO) uygulanmıştır. Ek olarak intihar girişimi olan hasta grubuna İntihar Niyeti Ölçeği (İNÖ) değerlendirilmesi yapılmıştır.

Bulgular: Aleksitimik olan ve olmayan major depresif bozukluklu hasta grubu ile sağlıklı kontrol grubu arasında medeni durum dışında sosyodemografik özellikler açısından herhangi bir farklılık yoktu. TAÖ-20'de 61 kesme puanına göre; hasta grubunun %34'ü (n=34) aleksitimik olarak belirlenirken, %65.01 (n=65) aleksitimik bulunmamıştır. Aleksitimik olarak belirlenen major depresif bozukluk tanılı hastalarda özyıkım girişimi oranı (%67.6) aleksitimik olmayan hastalardan yüksekti (%29.2). Aleksitimik olan hastaların İDÖ ve BUÖ puan ortalamaları aleksitimik olmayan hastalara göre yüksekti. Aleksitimik hastaların duygularını tanımlama ve ifade etmekte güçlük düzeylerini gösteren TAS-1 (duygular tanımlama güçlüğü) ve TAS-2 (duygular ifade etmede güçlük) puanları ile BHS, SSI ölçek puanları arasında yapılan korelasyon analizinde pozitif yönde bir ilişki saptanmıştır.

Sonuç: Araştırmamızda aleksitimik olan major depresif bozukluklu hasta grubunun intihar girişimi yüzdesi, intihar düşüncesi, umutsuzluk düzeyleri daha yüksek bulunmuştur. Aleksitimik olan depresif bozukluklu hastalarda intihar girişimi sıklığının daha yüksek saptanması ve bu hasta grubunda intihar düşüncesi ve umutsuzluk düzeyinin daha yüksek bulunması, aleksitiminin intihar girişimi için bir yordayıcı faktör olabileceğini düşündürmektedir.

Anahtar kelimeler: Aleksitimi, depresyon, umutsuzluk, intihar



Address reprint requests to / Yazışma adresi:
Psychiatrist Filiz Izci,
Erenkoy Training and Resarch Hospital for
Psychiatry, Sinan Ercan Cad. No: 29 Kazasker,
34736 Erenkoy, Kadıkoy/Istanbul, Turkey

E-mail address / Elektronik posta adresi:
filizizci@yahoo.com

Date of receipt / Geliş tarihi:
July 8, 2014 / 8 Temmuz 2014

Date of acceptance / Kabul tarihi:
November 3, 2014 / 3 Kasım 2014

INTRODUCTION

Depression is a syndrome characterized with deeply sad mood, slowed down thinking and speech and movement, thoughts of being worthless and powerless, thoughts of humility, feelings of anhedonia and pessimism and decrements in physiological functions (1). The ratio of major depression among general population is between 3.5% and 6.5%, with variations in different populations (2).

One of the serious complications of major depression is suicide attempt. Of all suicide cases 50-70% were found to be resulting from mood disorders and 80% of these patients were found to have major depressive disorder (3). There are many factors increasing the risk of suicide behavior in depression patients. Among these factors include low socioeconomic status, deterioration in social functioning and increased levels of somatic complaints and anxiety (4). Some cognitive aspects of suicide like hopelessness and pessimism were suggested to be closely associated with suicide attempt. Studies conducted among adult subjects indicated that hopelessness, independent from depression, was associated with suicide behavior (5).

The relationship between alexithymia and depression was shown in many studies (6,7). Depression was one of the diagnosis often examined in recent studies regarding alexithymia, and alexithymia was reported to be affecting the depressive symptomatology in depressive patients (8). It was also emphasized that the severity of the depression in alexithymic patients was higher (6) and alexithymia comorbidity in depressive patients had a negative effect on the severity of the disease (9). In a study conducted with patients with suicide attempt and healthy control subjects, no significant difference was found between alexithymia and suicide attempt but hopelessness, suicidal ideation and depressive symptoms were higher in patients with suicide attempt (6). Also, in another study, a significant relationship was found between alexithymia and depression. In the same study most attempters were depressive and more than a half of them were alexithymic, but no correlation

was found between suicide ideation, attempt fatality and alexithymia (10).

Based on the research so far, the primary aim of this study was to compare suicide attempt, suicidal ideation and hopelessness levels between major depressive patients with and without alexithymia and sociodemographic matched healthy controls.

METHOD

This cross-sectional clinical study was conducted at psychiatric ward and outpatient clinic of Erenkoy Mental and Neurological Diseases Training and Research Hospital and included 99 random patients diagnosed with major depressive disorder using structured interview for DSM-IV (SCID-I/CV) (11). All subjects were followed regularly and were given informed consent. The study was approved by the local ethics committee. Subjects between the age of 18 and 60 years who were diagnosed with major depressive disorder according to DSM-IV TR, had adequate literacy level to understand the reading material and was given informed consent were included. Exclusion criteria were having mental retardation, alcohol/substance use associated disorders, anxiety disorders, schizophrenia or other psychotic disorders, dementia or other cognitive disorders according to DSM-IV TR or having neurological disorders with unique personality traits like epilepsy, migraine, multiple sclerosis and Parkinson's disease or systemic disorders leading to cognitive impairment or physical disorders affecting vision, hearing and motor skills.

Measures

Structured Clinical Interview for DSM-IV/Clinical Version (SCID-I/CV), Suicide Intent Scale (SIS), Scale for Suicidal Ideation (SSI), Toronto Alexithymia Scale (TAS-20), Beck Hopelessness Scale (BHS), and Hamilton Depression Scale (HRSD) were administered to the patients. The properties of the scales used in this study can be summarized as follows:

Structured Clinical Interview for DSM-IV/Clinical Version (SCID-I/CV): SCID I is a structured interview for DSM-IV Axis I Disorders designed by First et al in 1997 (11). Validity and reliability studies were conducted for Turkey (12).

Suicide Intent Scale (SIS): This scale was developed by Beck in 1974 to assess circumstances surrounding the attempt and the patient's post-attempt description of his intentions and expectations during the attempt and was consisted of 20 items, 5 of which were not scored (13). Validity and reliability study was conducted for Turkish language (14).

Scale for Suicidal Ideation (SSI): It was developed by Linehan and Nielsen (15). Validity and reliability study was conducted by Dilbaz et al. (16). The highest score of the scale was 17 and higher scores indicated the presence of suicidal ideation.

Toronto Alexithymia Scale (TAS-20): This scale was developed to investigate alexithymia, defined as not recognizing one's own emotions and excitement. It is a Likert-type self-rating scale consisting of 20 items scored 1-5 and has difficulty identifying feelings (TAS-1), difficulty expressing feelings (TAS-2) and externally oriented thinking (TAS-3) subscales. Higher scores indicate higher levels of alexithymia. The scale was developed by Bagby et al. (17). The Turkish version was developed by Sayar et al. (18).

Beck Hopelessness Scale (BHS): It is a self-report scale consisting of 20 true-false items with 11 right and 9 wrong answers on the answer key. Scoring was made as 1 point for each correct answer and 0 point for each wrong answer according to the answer key. The obtained arithmetic sum was considered as the "Hopelessness score". The possible variability of the scores ranged between 0 and 20. Feelings about the future was defined by items 1, 6, 13, 15 and 19, loss of motivation was defined by items 2, 3, 9, 11, 12, 16, 17, 20, and future expectations was defined by items items 4, 7, 8, 14, 18. The items were consisted of emotional, motivational and cognitive

factors (19). Validity and reliability was made for our country (20).

Hamilton Rating Scale for Depression (HRSD): This scale was developed by Williams (21) in 1978 and happened to be the most widely used grading scale for depression. The arithmetic sum of the scores obtained from each item provided the "total score". Patients scored below 7 were considered as not depressed, whereas scores between 7-17 were defined as moderate depression, scores between 18-24 were defined as heavy depression and scores over 25 were defined as severe depression. The reliability and validity of the scale was established by Akdemir et al. (22).

Statistical Analysis

Statistical analysis was performed using SPSS Version 15.0. The Pearson chi-square test was used to assess the differences between discrete variables and the student t test was used to assess the differences between continuous variables if the parametric conditions were met. If the parametric conditions were not met, the Mann-Whitney U test was used. The relationship between parameters was investigated by Spearman correlation analysis. Continuous variables were presented as mean±SD, discrete variables were presented as number and percentage and a p value of less than 0.05 was considered to indicate statistical significance.

RESULTS

Ninety-nine patients who met diagnostic criteria for depressive disorder according to DSM IV-TR and 50 age- and sex-matched control subjects were enrolled in this study. Among the sample 59.6% (n=59) of the patient group were male and 40.4% (n=40) were female. The mean age was 41.44±12.60 and 38.12±7.94 in the patient and control group, respectively. There was no significant difference in terms of sociodemographic data (except for the marital status) between major depressive patients with or without alexithymia and healthy controls (p<0.05).

Table 1: Socio-demographic characteristics of the patients and controls

	Patients (n=99)	Controls (n=50)	χ^2/t	p
Age (mean±SD)	41.44±12.60	38.12±7.94	1.75	0.08
Gender (n, %)				
Male	59 (59.6)	26 (52.0)	0.78	0.37
Female	40 (40.4)	24 (48.0)		
Employment (n, %)				
Employed	56 (56.6)	36 (72.0)	3.35	0.06
Unemployed	43 (43.4)	14 (28.0)		
Duration of education (year) (mean±SD)	8.36±3.76	9.26±3.72	1.37	0.17
Marital status (n, %)				
Single	41 (41.4)	39 (78.0)	4.39	0.03*
Married	58 (58.6)	11 (22.0)		

χ^2 =Chi-square test, t=Student t test, (mean±SD)= Mean±standard deviation, *p<0.05

Table 2: Comparison of alexithymic and non-alexithymic groups

	Alexithymia positive (n=34, 34.3%)	Alexithymia negative (n=65, 65.7%)	t/ χ^2	p
History of suicide attempt (n, %)	23 (67.6)	19 (29.2)	13.48	0.01*
SSI (mean±SD)	10.91±3.47	5.59±3.87	6.66	0.01*
HRSD (mean±SD)	19.03±6.63	20.65±7.68	0.97	0.33
BHS (mean±SD)	11.24±6.15	6.58±5.69	3.69	0.01*
Alcohol use (n, %)	9 (26.47)	43 (66.15)	0.56	0.45
Substance use (n, %)	3 (8.82)	4 (6.15)	0.24	0.62
Smoking (n, %)	25 (73.53)	46 (70.77)	0.08	0.77
Family history (n, %)	5 (14.70)	15 (23.08)	0.97	0.32

χ^2 =Chi-square test, t=Student t test, (mean±s.d.)=Mean±standard deviation, *p<0.01
SSI:Scale for Suicidal Ideation, HRSD:Hamilton Rating Scale for Depression, BHS:Beck Hopelessness Scale

Alexithymic and non-alexithymic patients were compared in terms of smoking, alcohol and substance abuse, suicide and family history, SSI and BHS scores. 67.6% (n=23) of the alexithymic patients and 29.2% (n=19) of the non-alexithymic patients had a history of suicide attempt and history of suicide attempt was significantly higher in alexithymic patients (p<0.01). There was no statistically significant difference between the groups in terms of alcohol and drug abuse, smoking or family history (p>0.05). The mean SSI and BHS scores in the alexithymic group were 10.91±3.47 and 11.24±6.15, respectively. The mean SSI and BHS scores in the non-alexithymic group were 5.59±3.87 and 6.58±5.69, respectively. So, mean SSI and BHS scores were higher in the alexithymic group (p<0.01). There was no statistically significant difference

between the groups in terms of HRSD mean scores (p>0.05) (Table 2).

According to correlation analysis of TAS-1, TAS-2, TAS-3, TAS-20 total and SSI, HRSD, SIS, BHS, a positive correlation was found between TAS-1 and TAS-2, TAS-20 total, SSI, BHS in the patient group (r=0.57, p<0.001; r=0.88, p<0.001; r=0.64, p<0.001; r=0.43, p<0.001; respectively). Also a positive correlation was found between TAS-2 scores and TAS-3, TAS-20 total, BHS scores (r=0.26, p<0.001; r=0.80, p<0.001; r=0.28, p<0.001; respectively). There was a positive correlation between TAS-3 scores and TAS-20 total scores (r=0.47, p<0.001). There was a positive correlation between TAS-20 total scores and SSI scores (r=0.59, p<0.001; r=0.40, p<0.001). Also a positive correlation was found between SSI scores and BHS scores (r=0.66, p<0.001) (Table 3).

Table 3: Correlations of clinical scales in the patient group

	TAS-1	TAS-2	TAS-3	TAS-20	SSI	HRSD	SIS
TAS-2	0.57*						
TAS-3	0.12	0.26*					
TAS-20	0.88*	0.80*	0.47*				
SSI	0.64*	0.41*		0.09			
HRSD	-0.08	0.01	0.03	-0.04	0.07		
SIS	-0.06	0.04	-0.04	-0.03	-0.08	0.43*	
BHS	0.43*	0.28*	0.06	0.40*	0.66*	-0.10	-0.20

TAS-20: Toronto Alexithymia Scale, TAS-1: difficulty identifying feelings, TAS-2: difficulty expressing feelings, TAS-3: externally oriented thinking, SSI: Scale for Suicidal Ideation, HRSD: Hamilton Rating Scale for Depression, SIS: Suicide Intent Scale, BHS: Beck Hopelessness Scale, *p<0.001

DISCUSSION

Depression is a disease affecting emotions, thoughts, cognitive and somatic perceptions. Depression is more common in alexithymic patients with more intense somatic perceptions. Depression is known to occur more easily in alexithymic patients but the effect of this on suicidal ideation and attempt is not fully understood. In our study, suicidal ideation, suicide attempt and hopelessness levels were significantly higher in depressive patients with alexithymia than depressive patients without alexithymia. 67.6% of patients with alexithymia and 32.4% of patients without alexithymia had suicide attempt. In a study with 100 patients with suicide attempt and 60 healthy control subjects comparing hopelessness, suicidal ideation and alexithymia levels, no significant difference was found between patients with suicide attempt and healthy controls in terms of alexithymia levels. It was emphasized that alexithymia was not a determinant personality trait for suicide attempt and recognizing and expressing emotions were not a risk factor for suicidal behavior. In addition, determinant of suicide ideation was found to be the severity of depression rather than hopelessness levels (23). In a study evaluating alexithymia levels, suicidal thoughts, attempt fatality and depression levels of 50 suicide attempt cases, a correlation was found between depression and alexithymia levels but no correlation was found between alexithymia and suicide ideation or attempt fatality. Also alexithymia was found not to be a predictor factor for suicide attempt in attempters when compared to patients without suicide attempt (10). It is known in

literature that hopelessness levels in patients with depression have an effect on suicidal ideation and attempt (10,24). Besides that, in a study with 33 patients admitted emergency room with suicide attempt and 33 healthy controls suicide ideation and hopelessness levels were found to be significantly higher in the patient group but there was no significant difference in terms of alexithymia levels between the groups. Suicidal ideation was found as the most important determinant of suicide attempt (25). In addition to this study, whereas in our study; the group of patients with suicide attempts have higher levels of alexithymia, hopelessness and suicidal ideation, so that alexithymia may play a role in depressed patients with suicide attempts. Similar to our study, in a 12-month follow-up study with depressive patients, after exclusion of age, gender and socioeconomic status, alexithymia level was found to be associated with suicidal ideation level (26).

Patients with depression show more somatic symptoms than patients without depression (27). There are three predictors of somatization symptoms in depression. These include anxiety, somatosensory amplification and alexithymia (28). When the effect of somatic symptoms on suicidal ideation, intent and behavior was examined a relationship between somatic symptoms and suicidal behavior was found. It was considered that patients with somatic complaints should be more carefully evaluated in terms of suicidality (29). It is thought that inability to identify feelings in alexithymia may lead to somatization (30). Depressive patients with alexithymic features and patients who has difficulty in identifying feelings and bodily sensations are shown to have higher suicidality rates associated

with hopelessness (31). As our study revealed a positive relationship between TAS-1 and TAS-2 subscale scores describing difficulty in identifying and expressing feelings and BHS and SSI scores, it made us think that suicidal ideation and hopelessness levels may be high in depressive patients with alexithymia who has difficulty in identifying and expressing feelings.

There are some limitations in our study. Our study was cross-sectional and some of the scales were self-report scales and there were some hesitations about whether the patients understood and objectively answered the scales or not. Also, uncertainty about how detailed did TAS measure the level of a broad concept like alexithymia may be considered as another limitation. In addition, although the patient and control groups in our study were matched for sociodemographic characteristics except marital status, the number of males was greater in the depressive group. This may be resulted from the male inpatient clinic in which the

study took place. The lower rate of marriage in the control group may be resulted from the young hospital employees in this group. Because alexithymia was not observed in the control group variables other than sociodemographic parameters was not compared with patients with and without alexithymia. Briefly, the study sample was created by using inclusion and exclusion criteria so it can not be generalized to whole society.

In our study, suicide attempt, suicidal ideation and hopelessness levels were significantly higher in depressive patients with alexithymia than depressive patients without alexithymia. These results may suggest that alexithymic patients who have somatosensory amplification may perceive suicidal ideation and attempt as a physical symptom. Thus, the presence of alexithymia in depressed patients may be a significant predictor of future suicide attempts in addition to high levels of hopelessness and suicidal ideation.

REFERENCES

- Ozturk MO. Mental Health and Mental Disorders. Fifth ed., Ankara: Hekimler Yayin Birliđi, 1994, 223-260. (Turkish)
- Katon W, Schulberg H. Epidemiology of depression in primary care. *Gen Hosp Psychiatry* 1992; 14:237-247.
- Akiskal HS. Mood Disorders: Introduction and Overview. In: BJ Sadock, VA Sadock (editors). *Comprehensive Textbook of Psychiatry*. Seventh ed., Vol. 1., Philadelphia: Lipincott, Williams & Wilkins, 1999, 1284-1298.
- Cook JM, Pearson JL, Thompson R, Black BS, Rabins PV. Suicidality in older African Americans: findings from the EPOCH study. *Am J Geriatr Psychiatry* 2002; 10:437-446.
- Beck AT, Steer RA, Beck JS, Newman CF. Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide Life Threat Behav* 1993; 23:139-145.
- Parker JD, Bagby RM, Taylor GJ. Alexithymia and depression: distinct or overlapping constructs? *Compr Psychiatry* 1991; 32:387-394.
- Hendryx MS, Haviland MG, Shaw DG. Dimensions of alexithymia and relationship to anxiety and depression. *J Pres Assess* 1991; 56:227-237.
- Posse M, Hallstrom T. Depressive disorders somatizing patients in primary health care. *Acta Psychiatr Scand* 1998; 98:187-192.
- Honkalampi K, Hintikka J, Laukkanen E, Lehtonen J, Viinamaki H. Alexithymia and depression: a prospective study of patients with major depressive disorder. *Psychosomatics* 2001; 42:229-234.
- Taiminen TJ, Saarijarvi S, Helenius H, Keskinen A, Korpilahti T. Alexithymia in suicide attempters. *Acta Psychiatry Scand* 1996; 93:195-198.
- First MB, Spitzer RL, Gibbon M, Williams Janet BW. *Structured Clinical Interview for DSM-IV Axis I Disorders, Clinical Version (SCID-CV)*. Washington DC: American Psychiatric Press Inc, 1996.
- Corapcioglu A, Aydemir O, Yildiz M. *Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)*. Ankara: Hekimler Yayin Birliđi, 1999. (Turkish)
- Beck, AT, Resnik, HLP, Lettieri, DJ (editors). *The Prediction of Suicide*. First ed. Bowie, Maryland: Charles Press Publishers 1974, 282.
- Dilbaz N, Bitlis V, Bayam G, Berksun O, Holat H, Tuzer T. Suicide Intent Scale: validity and reliability. *Journal of Psychiatry Psychology Psychopharmacology* 1995; 3:28-31. (Turkish)
- Linehan MM, Nielsen SL. Assessment of suicide ideation and parasuicide: hopelessness and social desirability. *J Consult Clin Psychol* 1981; 49:773-775.

16. Dilbaz N, Holat H, Bayam G, Tüzer T. Validity and reliability of Suicide Ideation Scale. 31. National Congress of Psychiatry, 1995, 40-41. (Turkish)
17. Bagby RM, Parker JD, Taylor GJ. The twenty-item Toronto Alexithymia Scale-I. Item selection and cross-validation of the factor structure. *J Psychosom Res* 1994; 38:23-32.
18. Sayar K, Gulec H, Ak I. Reliability and validity of the twenty-item Toronto Alexithymia Scale. *The Book of the 37th National Congress of Psychiatry, 2001*, 130. (Turkish)
19. Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: the hopelessness scale. *J Consult Clin Psychol* 1974; 42:861-865.
20. Sayar K, Acar B, Ak I. Alexithymia and suicidal behavior. *Isr J Psychiatry Relat Sci* 2003; 40:165-173.
21. Seber G, Dilbaz N, Kaptanoglu C, Tekin D. The validity and reliability of the hopelessness scale. *Journal of Crisis* 1993; 1:139-142. (Turkish)
22. Williams JB. A structured interview guide for Hamilton Depression Rating Scale. *Arch Gen Psychiatry* 1988; 45:742-747.
23. Akdemir A, Orsel S, Dag I, Turkcapar H, Iscan N, Ozbay H. Validity, reliability and clinical use of Hamilton depression rating scale. *Journal of Psychiatry Psychology Psychopharmacology* 1996; 4:251-259. (Turkish)
24. Beck AT, Steer RA, Beck JS, Newman CF. Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide Life Threat Behav* 1993; 23:139-145.
25. Sayar K, Ozturk M, Acar B. Alexithymia, hopelessness and depression in adolescents who attempt suicide by drug overingestion: a controlled study. *Turk J Child Adolesc Ment Health* 2000; 7:17-24.
26. Hintikka J, Honkalampi K, Koivumaa-Honkanen H, Antikainen R, Tanskanen A, Haatainen K, Viinamaki H. Alexithymia and suicidal ideation: a 12-month follow-up study in a general population. *Compr Psychiatry* 2004; 45:340-345.
27. Lipowski ZJ. Somatization and depression. *Psychosomatics* 1990; 31:13-21.
28. Sayar K, Kirmayer LJ, Taillefer SS. Predictors of somatic symptoms in depressive disorder. *Gen Hosp Psychiatry* 2003; 25:108-114.
29. Pazvantoglu O, Okay T, Dilbaz N, Sengul C, Bayam G. The effects of somatic symptoms on suicidal ideation, behaviour and intent in the patients with major depression. *Clinical Psychiatry* 2004; 7:153-160. (Turkish)
30. Yager J, Gitlin MJ (2000). *Clinical Manifestations of Psychiatric Disorders*: In Sadock BJ, Sadock VA (Editors). *Kaplan & Sadock's Comprehensive Textbook of Psychiatry, Seventh ed.*, Baltimore: Lippincott, Williams & Wilkins, 818.
31. Gulec H, Sayar K, Ozkorumak E. Somatic symptoms of depression. *Turk Psikiyatri Derg* 2005; 16:90-96. (Turkish)