

## ARE HOPELESSNESS, DEMOGRAPHIC AND CLINICAL CHARACTERISTICS OF SUICIDAL ATTEMPTS BEING A CUE OF A NEW ATTEMPT?

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### ABSTRACT

**Background:** This study aimed the relationship between some demographic and clinical characteristics of suicide attempt with hopelessness, distressing life events prior to the attempt in individuals who attempted suicide and compares the outcomes with healthy volunteers with respect to several sociodemographic variables.

**Methods:** We applied the Clinical Interview for DSM-IV Axis I Disorders (SCID-I), the Beck Depression Inventory (BDI), the Beck Anxiety Scale (BAS), Beck Hopelessness Scale (BHS), the Scale for Suicide Ideation, the Suicidal Behavior Scale, the Life Events List in 50 patients who attempted suicide and 52 healthy volunteers.

**Results:** Twenty seven patients (54%) had a suicide plan before the attempt, and 32 patients (64%) shared this plan with their immediate environment. Of these patients, 22 (44%) reported that they still had suicidal thought, and 23 (46%) reported that the stressor life event still continued. The scores of Hopelessness Scale and its subscales were significantly higher in the suicide group both with and without depression compared to the control group.

**Conclusion:** It was concluded to be important to follow up suicidal thoughts, negative life events and hopelessness in patients who attempted suicide or at a risk of suicide attempt.

**Key words:** suicide attempt, clinical characteristics, negative life events, hopelessness

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## İNTİHAR GİRİŞİMLERİNİN DEMOGRAFİK VE KLİNİK ÖZELLİKLERİ, UMUTSUZLUK YENİ BİR İNTİHAR GİRİŞİMİNİN İŞARETİ MİDİR?

### ÖZET

**Amaç:** Bu çalışmada intihar girişiminde bulunan kişilerde girişim öncesi stresli yaşam olayları, umutsuzluk ile intihar girişiminin bazı demografik ve klinik karakteristikler arasındaki ilişki ve çeşitli sosyodemografik değişkenler açısından sağlıklı gönüllüler ile karşılaştırma araştırıldı.

**Yöntem:** Çalışmada intihar girişimi olan 50 hasta ve 52 sağlıklı gönüllüye 'DSM-IV Eksen I Bozuklukları İçin Yapılandırılmış Klinik Görüşme Formu (SCID-I)', 'Beck Depresyon Ölçeği (BDÖ)', 'Beck Anksiyete Ölçeği (BAÖ)', 'Beck Umutsuzluk Ölçeği (BUÖ)', 'İntihar Niyeti Ölçeği', 'İntihar Davranışı Ölçeği', 'Yaşam Olayları Listesini uyguladık.

**Bulgular:** Yirmi yedi hastada (%54) girişim öncesi intihar düşüncesi vardı. Otuz iki hasta (%64) bu planını mevcut ortamıyla paylaşmıştı. Bu hastaların 22'si (%44) halen intihar düşüncesine sahip olduğunu, 23'ü (%46) stresli yaşam olayının halen sürdüğünü bildirdi. İntihar grubunda depresyonu olan ve olmayanların umutsuzluk ölçeği toplam ve alt ölçek puanları kontrol grubundan anlamlı olarak yüksekti. **Sonuç:** İntihar girişimi olan veya intihar girişimi riski bulunan hastalarda intihar düşünceleri, olumsuz yaşam olayları ve umutsuzluğu izlemenin önemli olduğu sonucuna varılmıştır.

**Anahtar sözcükler:** İntihar girişimi, klinik özellikler, olumsuz yaşam olayları, umutsuzluk

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## INTRODUCTION

Suicide remains a major health problem in Turkey despite increased knowledge of risk factors, growing public and healthcare workers awareness, and calls for national prevention efforts. The gradually increasing prevalence of suicidal ideation is reported to range from 11% to 14%, while the prevalence of suicide attempt ranges from 2.8% to 4.6%.<sup>1,2</sup> In Turkey, the suicide rate has increased by 60% in men, and 41% in women in the last decade.<sup>3,4</sup> Suicide attempt is a life-threatening behavior, which requires immediate and appropriate intervention.<sup>5</sup> When the increased likelihood of repeated suicide attempts and the increased rate of committed suicides in repeated attempts are taken into consideration,<sup>6</sup> this becomes even more crucial.

Up to 90% of people who commit suicide have a psychiatric disorder diagnosis,<sup>7</sup> including 80% depression, 10% schizophrenia, and 5% dementia and delirium. Twenty-five percent of psychiatric patients are also diagnosed with an alcohol addiction.<sup>8</sup>

Several studies report that there is a strong relationship between the level of hopelessness and the severity of depression and suicidal thought in psychiatric patients, indicating that the level of hopelessness is a high risk for committed suicide.<sup>9,10</sup> A family history of psychiatric illness, substance abuse or suicide is an increased risk factor for suicide.<sup>11</sup> Presence of a history of suicide particularly in first-degree relatives is considered to be a predictor of repeated suicide attempts.<sup>12</sup>

Physical illness has a significant relationship with suicide. Loss of mobility and asso-

ciated loss of work, deformation of body image in women, and conditions associated with illness such as chronic pain are believed to be related to suicide.<sup>13,14</sup>

It has been found that one or more negative life event was reported within the past one year, particularly during the last few months in almost all suicides, suggesting that the negative life events served as a triggering mechanism. Distressing life events increase risk of suicide, independently of psychiatric conditions.<sup>15</sup>

Alcohol addicts have an increased risk of suicide in the presence of major depressive episodes, stressful life events, difficulty in interpersonal relations, lack of social support, loneliness, impulsivity, aggression, hopelessness, comorbid substance addiction, physical illnesses as well as previous suicide attempts.<sup>16</sup> Furthermore, young people with alcohol abuse problems are more prone to suicide when they experience depression or an anxiety disorder.<sup>17</sup>

We believe that it is important to identify the predictors and risk factors of suicidal behavior, which is currently a major public health problem, and examine the etiology for monitoring clinical course and protection of the mental health of society. The present study examines the relationship between some demographic and clinical characteristics of suicide attempt with hopelessness, distressing life events prior to the attempt in individuals who attempted suicide and compares the outcomes with healthy volunteers with respect to several sociodemographic variables.

## METHODS

### Participants

The study included 50 consecutively selected patients (52% females) aged between 19 and 62 years ( $32.32 \pm 11.02$ ), who attempted suicide and received treatment at the Bakırköy Research and Training Hospital for Psychiatry, Neurology and Neurosurgery between February 2011 and November 2011, providing informed consent after the nature of the study was explained, and 52 healthy volunteers (53% females) aged between 21 and 63 years ( $32.21 \pm 8.18$ ) who previously had no suicide attempt. Participants were remunerated for their time. The sociodemographic data from this study were also analyzed in the study of coping behaviors.

This study was approved by institutional ethic committee. The inclusion criteria required absence of any cognitive incompetence that would interfere with completion of the questionnaires. The participants received the tests in a random order without any time limitation. Interviewers were senior clinical psychiatry residents who had been trained interview procedures, Good Clinical Practice (GCP) and supervised administrations.

### Measurements

Sociodemographic and clinical data collection form was completed by researchers based on the sociodemographic data form of the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I). The Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I), which was developed by First et al.<sup>18</sup> and whose validity and reliability studies in Turkish was done by Çorapçioğlu et al.<sup>19</sup> was used. Other scales used were, the Beck Depression Inventory (BDI) which was developed by Beck et al.<sup>20</sup> and adapted into Turkish by Hisli,<sup>21</sup> the Beck Anxiety Scale (BAS) which was developed by Beck et al.<sup>22</sup> and whose validity and reliability in Turkish was studied by Ulusoy et al.,<sup>23</sup> and the Beck Hopelessness Scale (BHS),

which was developed by Beck et al.<sup>24</sup> and whose validity and reliability in Turkish were studied by Seber.<sup>25</sup> For suicidal ideation and behavior, we used the Scale for Suicide Ideation which was developed by Levine et al.<sup>26</sup> and whose validity and reliability in Turkish were studied in 1995 by Dilbaz et al.,<sup>27</sup> and the Suicidal Behavior Scale which was developed by Linehan and Nielsen<sup>28</sup> and adapted into Turkish by Bayam et al.<sup>29</sup> The life events experienced during the previous six months were investigated using the Life Events List developed by Soria,<sup>30</sup> combining the Holmes and Rahe Social Readjustment Rating Scale<sup>31</sup> and Life Events Inventory developed by Paykel et al.<sup>32</sup> with some additional markers that apply to the Turkish social culture.

### Statistical Analysis

The statistical software package SPSS for Windows' version 16.0 was used for data analysis. Descriptive statistics (mean, standard deviation, frequency) were used in the analysis of study data while parameters with a normal distribution were compared using the Student's t-test. The chi-square test was used for comparison of qualitative data, and the Fisher's exact test was used when expected frequencies were not met. In order to compare quantitative data, the parameters with a normal distribution were analyzed using a one-way ANOVA test, and the Bonferroni test (a Post Hoc method) was used to evaluate the difference group. The intergroup comparisons of parameters without a normal distribution were made using the Kruskal-Wallis test, and Mann-Whitney U test was used to identify the difference group. For comparison of quantitative and qualitative relationships, the Pearson Moments Product Correlation Coefficient was used for the normal distribution data, and the Spearman's Rho for data with abnormal distribution. The significance was considered to be at the level of  $p < 0.05$ .

## RESULTS

The rate of married persons was significantly lower in the suicide group (SG) compared to the control group (CG) ( $p < 0.05$ ). The duration of

education mean was  $10.43 \pm 2.89$  years in SG, and  $10.98 \pm 2.97$  years in CG. The rate of substance/alcohol use and presence of a chronic

**Table 1.** Comparison of sociodemographic characteristics between suicide and control groups

	SG (n=50)		CG (n=52)	
	n	%	n	%
Gender				
Female	26	52.0	28	53.8
Marital status				
Single	19	38.0	21	40.4
Married	18	36.0	29	55.8
Divorced	9	18.0	2	3.8
Separate	4	8.0	0	0
Children				
Yes	26	52.0	18	34.6
Occupation				
Non-worker/Housewife	28	56.0	12	23.1
Irregularly working	7	14.0	1	1.9
Regularly working	15	30.0	39	75.0
Living				
Alone	5	10.0	6	11.5
With family	39	78.0	38	73.0
Other	6	12.0	8	15.4

SG: Suicide Group, CG: Control Group

**Table 2.** Comparison of history of psychiatric disorder and suicide attempt, physical illness and significance of religious beliefs in your daily-life between groups

	SG (n=50)		CG (n=52)		$\chi^2$	p
	n	%	n	%		
History of psychiatric disorder	32	64.0	3	5.8	36.58	<0.001
Physical illness	14	28.0	4	7.7	10.22	<0.05
Migration	24	48.0	27	51.9	0.35	>0.05
Alcohol	10	20.0	0	0	11.08	<0.05
Chronic illness	14	28.0	4	7.7	6.74	<0.05
Family history of psychiatric disorder	17	34.0	5	9.6	8.34	<0.05
Suicide in family	17	34.0	4	7.7	10.13	<0.05
Suicide in the immediate environment	7	14.0	7	13.5	0.33	>0.05
Significance of religious beliefs in your daily-life					5.68	>0.05
Not significant	9	8.0	5	9.6		
Significant	15	30.0	21	40.4		
Very significant	26	52.0	26	50.0		

SG: Suicide Group, CG: Control Group,  $\chi^2$ : Chi-Square,

illness were statistically significant in SG compared to CG ( $p < 0.01$ ). The SG had a significantly higher rate of family history of psychiatric illness, history of suicide attempts, prior psychiatric illness and prior psychiatric treatment than in CG ( $p < 0.01$ ) (Table 1 and Table 2).

In the SG, the mean age of onset for initial suicidal ideation mean was  $25.46 \pm 12.52$  years, and the mean age at initial suicide attempt mean was  $29.27 \pm 11.78$  years, and the mean number of suicide attempts was  $2.10 \pm 1.38$ . Fifteen patients (30%) had received psychiatric

**Table 3.** Information on the last suicide attempts of the suicide group (n=50)

	n	%
Method of suicide		
Medication	60	60.0
Poisoning	2	2.0
Hanging	12	12.0
Firearms	4	4.0
Jumps from high	4	4.0
Self-cutting	14	14.0
Other	4	4.0
The place of suicide attempt		
Home	70	70.0
Office	4	4.0
Street	10	10.0
Other	16	16.0
Seek psychiatric help before suicide		
No	54	54.0
1 week ago	10	10.0
2-4 weeks ago	14	14.0
More than 4 weeks	20	20.0
Alcohol-substance use during suicide attempt		
No	82	82.0
Alcohol	18	18.0
Life event triggering the suicide attempt		
Yes	39	78.0
Ongoing medical treatment before the last attempt		
Yes	17	34.0
Therapy before the last attempt		
Yes	15	30.0
Suicide plan before the last attempt		
Yes	27	54.0
Sharing the suicide plan with the immediate environment		
Yes	32	64.0
Current stressor		
Yes	23	46.0
Current suicidal thought		
Yes	4	8.0
Rarely	18	36.0

medical treatment before the suicide attempt, and 17 patients (34%) were still on treatment. Twenty seven patients (54%) had a suicide plan before the attempt, and 32 patients (64%) shared this plan with their immediate environment. Of these patients, 22 (44%) reported that they still had suicidal thought, and 23 (46%) reported that the stressor life event still continued.

All patients in the SG had a diagnosis of axis I disorders according the DSM-IV-TR criteria, including 37 patients (74%), with unipolar depression being the most common disorder. Other diagnoses included adjustment disorder with depressed mood in 6 patients (8%), bipolar depression in 4 patients (8%) and OCD in 3 patients (6%), respectively.

The period from the attempt to the time of interview was 37 days ( $12.22 \pm 11.28$ ) in the SG. The most common method of suicide was overdose of toxic agents, and the most common place of suicidal attempt was home. Before the suicide attempt, 23 patients (46%) had sought psychiatric help. Nine patients (18%) reported intake of alcohol during the suicide attempt. Thirty-nine patients reported presence of a triggering negative life event before the attempt (Table 3).

The scores on BDI, BAS, Suicidal Behavior Scale and Scale for Suicide Ideation, BHS and subscales and distribution of scores from the life events list were statistically significantly higher in the SG compared to the CG ( $p < 0.01$ ) (Table 4).

**Table 4.** Comparison of BDI, BAS, BHS and subscales between groups

	SG (n=50) Mean±SD	CG (n=52) Mean±SD	t	p
BDI	31.34±11.79	4.12±3.87	14.50	<0.001
BAS	26.06±15.51	6.83±7.43	7.77	<0.001
BHS				
Total	12.48±6.38	2.90±3.15	7.82	<0.001
Feelings about the future	2.88±2.01	0.59±1.12	-6.69	<0.001
Loss of motivation	4.80±2.64	0.83±1.21	9.03	<0.001
Future expectations	3.76±1.31	1.13±1.18	12.57	<0.001
Scale for suicidal ideation	10.28±4.41	1.08±1.73	13.03	<0.001
Suicidal behavior scale	5.96±3.18	0.23±0.46	11.59	<0.001
Number of life events	4.36±2.33	2.08±1.65	5.70	<0.001
Distress score	271.44±149.18	96.46±80.59	7.28	<0.001
Adjustment score	244.36±131.76	88.94±74.49	7.25	<0.001
Distress score/number of life event	61.87±8.85	38.53±20.16	6.98	<0.001
Adjustment score/number of life event	55.93±7.86	35.82±17.69	7.01	<0.001

SG: Suicide Group, CG: Control Group, BDI: Beck Depression Inventory, BAS: Beck Anxiety Scale, BHS: Beck Hopelessness Scale

The BHS total and subscale scores were compared among three groups, the control group, the subgroup of patients without depression in suicide group, and the subgroup of patients with depression in suicide group using the Kruskal-Wallis analysis. There was a statistically significant difference ( $p < 0.001$ ) between

the groups in BHS and its all subscales.

In double-group comparisons for determining the origin of the difference, the scores on the Hopelessness Scale and its subscales were significantly higher compared to the control group ( $p < 0.001$ ). When comparing subscale

groups with and without depression, the scores on the BHS total and subscales were significantly higher in patients with depression compared to the patients without depression

( $p < 0.001$ ). There were significant differences in the BHS except the 'feelings about the future' subscale between the group of patients without depression and the CG ( $p < 0.05$ ) (Table 5).

**Table 5.** Two-group comparisons for bhs scores between control group and study group with and without depression

	CG (n=52) and SG without and depression (n=9)		CG (n=52) and SG with depression (n=41)		SG without dep. (n=9) SG with depression (n=41)	
	z	p	z	p	z	p
BHS-Total	-2.225	<0.05	-7.527	<0.001	-4.108	<0.001
BHS-Feelings about the future	-0.076	>0.05	-6.728	<0,001	-3.977	<0.001
BHS-Loss of motivation	-2.092	<0.05	-7.415	<0.001	-3.892	<0.001
BHS-Future Expectations	-3.044	<0.05	-7.439	<0.001	-4.143	<0.001

SG: Suicide Group, CG: Control Group,

A statistically significant positive correlation was found between the mean scores of the BHS total and all scales and the total score of the Scale for Suicidal Ideation and the score of the 'conditions related with suicide attempt' subscale ( $p < 0.01$ ). No significant relation was observed between the mean scores of the Scale for Suicidal Ideation self-report subscale and the mean BHS total and subscale scores ( $p < 0.01$ ).

A significant positive relationship was found between the total number of suicides and the BHS total score and scores on the subscales of feelings about the future, loss of motivation and future expectations ( $p < 0.01$ ).

The 'Number of Life Events', 'Distress Score', and 'Adjustment Score' subscales of the

Life Events List and the mean 'Distress Score/ Number of Life Events' and 'Adjustment Score/ Number of Life Events' index scores were significantly higher in SG compared to the CG ( $p < 0.01$ ).

No remarkable correlation was observed between the 'Number of Life Events', 'Distress Score', 'Adjustment Score' subscales of the Life Events List, the 'Distress Score/ Number of Life Events' and 'Adjustment Score/ Number of Life Events' index scores, and BDI and BAS. Partial correlations were observed between BHS and its subscales; Scale for Suicidal Ideation and Suicidal Behavior Scale. No statistically significant relationship was found between the Life Events List and its subscales and the subscales of the Scale for Suicidal Ideation.

## DISCUSSION

The present study evaluated the relationship between depression, anxiety and hopelessness levels, suicidal ideation, plan and challenging life events before the attempt in individuals who attempted suicide. It is a known fact that increased risk of suicide is associated with some factors like old age, living alone, singledom, lower educational level, alcohol/substance abuse, chronic illness and previous suicide at-

tempt.<sup>33-40</sup> In parallel to the literature review, we found that people who attempted suicide had a lower education level, lower rate of marriage, higher use of alcohol/substance, and more chronic illness. In Greening and Stop-pelbein study,<sup>41</sup> religiousness emerged as a strong protective factor against suicidality but in present study there was no difference about religiousness in groups.

Having a job is reported to be a protection against suicide, and unemployment is a risk factor in suicide.<sup>42-44</sup> In Turkey, it was reported that 54.6% of suicide attempters were unemployed.<sup>43</sup> In the present study, 56% of the suicide group was not working. Other risk factors associated with suicide attempts include family and self-history of psychiatric disorder, history of suicide and hospitalization.<sup>11,12</sup> The mean number of hospitalization was similar with literature in the present study.

It has been reported that the earlier the age of onset of suicidal ideation, the more likely that a person attempts suicide.<sup>45</sup> In the study group, the mean age of onset of suicidal ideation and attempt was higher. This relatively higher age of onset of suicidal ideation and attempt may be related with the study exclusion criteria of individuals less than 18 years of age, and the selection of a hospital-based sample rather than a community-based sample.

In the SG, number of patients who were on a psychiatric treatment when they attempted suicide and who sought psychiatric help within the past one month before the attempt was significantly lower. However, the majority of the patients reported that they shared their suicidal thought and plan with their immediate environment. Lower rate of seeking psychiatric help and receiving treatment may be related with lack of referral to medical services by their family or immediate environment and inappropriate medical evaluation.

Although the ranking of countries may differ, the most common three methods of suicide are self-poisoning by a chemical substance or drug overdose, hanging oneself and using firearms.<sup>46</sup> It appears that the patients in our sample preferred 'drug overdose' as a method of suicide in parallel to the literature.

In retrospective studies was reported that 34% of persons with a suicidal ideation had a suicide plan before the attempt, and 72% of these plans resulted in attempts, and 26% of those who had a suicidal ideation but no plan had committed suicide without any plan.<sup>47,48</sup> In the present study, 54% of patients had a suicide plan before the attempt, and 64% shared their suicidal thoughts with their immediate environment.

Suicide attempts are frequently preceded by a distressing life event, and this negative life event is the triggering factor.<sup>49</sup> In the present

study, the more than three quarters of patients reported that they experienced a distressing life event before their suicide attempt, and more than half of patients mentioned that this stressful life event and its effect still continued. Therefore, we believe that it is necessary to question suicidal ideation and behaviors after distressing life events and questioning, monitoring and appropriate interventions may help to diminish suicide and suicide attempts.

All of the patients included in the present study who attempted suicide were diagnosed with a DSM-IV axis I psychiatric disorder. The main psychiatric diagnosis was unipolar depression, and those who were diagnosed with unipolar depression represented approximately 50% of the whole patients.<sup>8,50</sup> Our study results were also consistent with the rates reported in the literature.

It is already known that life events and trauma trigger suicide attempts, and suicide attempts are often observed after distressing life events.<sup>51</sup> Our evaluation using the Life Events List showed that number of negative life events, distress related with these events and inadaptability was significantly higher in the suicide group compared to the control group. The suicidal thought, negative life event or its effect were still active in the majority of patients who underwent evaluation after the suicide attempt. There was a significant positive relationship between the number of life events, distress and adjustment scores, and depression, hopelessness, suicidal ideation and suicidal behavior. Similar to our results, Milnes et al.<sup>52</sup> found a relationship between the number of challenging life events and hopelessness and suicidal ideation. Therefore, we believe that suicide attempters should be monitored by the team members involved in the treatment of patient as well as the family members, who should maintain an alert position, and the effects of life events should be monitored closely, particularly following the stressor situation.

There is a relationship between hopelessness and suicide attempt hence the level of hopelessness being a greater risk for completed suicide.<sup>9,10</sup> Beck reported that cognitive components of depression such as hopelessness and pessimism are more closely associated with suicide,<sup>53</sup> and that this effect is independent of depression.<sup>54</sup> Hopelessness, helplessness, loss of faith and future expecta-

tions and feelings of emptiness, senselessness, loneliness and exhaustion may lead one to put himself/herself to death.<sup>55,56</sup> In our sample, the scores on the Hopelessness Scale and its subscales were higher in patients both with and without depression compared to the healthy volunteers. In the depressive group, the mean Hopelessness Scale total and subscale scores were higher than in the non-depressive group. However, we believe that the confounding effect of the lower rate of non-depressive patients compared to the depressive patients among those who attempted suicide should be

taken into consideration when interpreting the results. A significant relation was found between the BHS and its subscales and the Scale for Suicidal Ideation and its subscales (except self-evaluation). Furthermore, there was a very significant parallelism between the number of suicide attempts and the scores on the BHS and its subscales. All these findings suggest that suicide attempters should be monitored by using the Hopelessness Scale and its subscales to question suicidal thoughts and plans, predict and prevent their repeated attempts.

## REFERENCES

1. Kessler RC, Borges G, Walters EE. (1999) Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. *Arch Gen Psychiatry*. 56(7):617-626.
2. Neeleman J, de Graaf R, Vollebergh W. (2004) The suicidal process: Prospective comparison between early and later stages. *J Affect Disord*. 82(1):43-52.
3. Can SS, Sayıl I. (2004) Yineleyici intihar girişimleri. *Kriz Dergisi*. 12(3):53-62.
4. Turkish Statistical Institute. (2010) Turkey's Statistical Yearbook 2009. Ankara, Printing Division.
5. Runeson BS. (1998) History of suicidal behaviour in the families. *Acta Psychiatr Scand*. 98(6):407-501.
6. Cullberg J, Wasserman D, Stefansson CG. (1988) Who commits suicide after a suicide attempt? *Acta Psychiatr Scand*. 77(5):598-603.
7. Mann JJ, Apter A, Bertolote J, Beautrais A, Currier D, Haas A, et al. (2005) Suicide prevention strategies: a systematic review. *JAMA*. 294(16):2064-2074.
8. Bertolote JM, Fleischmann A, De Leo D, Wasserman D. (2003) Suicide and mental disorders: do we know enough? *Br J Psychiatry*. 183:382-383.
9. Cannon B, Mulroy R, Otto MW, Rosenbaum JF, Fava M, Nierenberg AA. (1999) Dysfunctional attitudes and poor problem solving skills predict hopelessness in major depression. *J Affect Disord*. 55(1):45-49.
10. Lester D, Walker RL. (2007) Hopelessness, helplessness, and haplessness as predictors of suicidal ideation. *Omega J Death Dying*. 55(4):321-324.
11. Qin P, Agerbo E, Mortensen PB. (2003) Suicide risk in relation to socioeconomic, demographic, psychiatric, and familial factors: a national register-based study of all suicides in Denmark, 1981-1997. *Am J Psychiatry*. 160(4):765-772.
12. Lizardi D, Sher L, Sullivan GM. (2009) Association between familial suicidal behavior and frequency of attempts among depressed suicide attempters. *Acta Psychiatr Scand*. 119(5):406-410.
13. Cheatle MD. (2011) Depression, chronic pain, and suicide by overdose: on the edge. *Pain Med*. 12 (Suppl.2):43-8.
14. Scott KM, Hwang I, Chiu WT, Kessler RC, Sampson NA, Angermeyer M, et al. (2010) Chronic physical conditions and their association with first onset of suicidal behavior in the world mental health surveys. *Psychosom Med*. 72(7):712-719.
15. Foster T. (2011) Adverse life events proximal to adult suicide: a synthesis of findings from psychological autopsy studies. *Arch Suicide Res*. 15(1):1-15.
16. Sher L. (2006) Alcoholism and suicidal behavior: a clinical overview. *Acta Psychiatr Scand*. 113(1):13-22.
17. Carballo JJ, Bird H, Giner L, Garcia-Parajua P, Iglesias J, Sher L, et al. (2007) Pathological personality traits and suicidal ideation among older adolescents and young adults with alcohol misuse: a pilot case-control study in a primary care setting. *Int J Adolesc Med Health*. 19(1):79-89.
18. First MB, Spitzer RL, Gibbon M, Williams JBW. (1997) Structured Clinical Interview for DSM-IV Clinical Version (SCID-I/CV). Washington DC, American Psychiatric Press.
19. Çorapçioğlu A, Aydemir Ö, Yıldız M. (1999) DSM-IV eksen 1 ruhsal bozukluklarına göre Türkçe yapılandırılmış klinik değerlendirilmenin güvenilirliği. *İlaç ve Tedavi Dergisi*. 12(6):233-236.

20. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. (1961) An inventory for measuring depression. *Arch Gen Psychiatry*. 4:561-571.
21. Hisli N. (1989) Beck Depresyon Envateri" nin üniversite öğrencileri için geçerliliği, güvenilirliği. *Psikoloji Dergisi*. 7(1):3-13.
22. Beck AT, Brown G, Berchick RJ, Stewart BL, Steer RA. (1990) Relationship between hopelessness and ultimate suicide: a replication with psychiatric outpatients. *Am J Psychiatry*. 147(2):190-195.
23. Ulusoy M, Şahin NH, Erkmen H. (1998) Turkish version of the Beck Anxiety Inventory: Psychometric properties. *J Cogn Psychother*. 12(2):163-172.
24. Beck AT, Weissman A, Lester D, Trexler L. (1974) The measurement of pessimism. The hopelessness scale. *J Consult Clin Psychol* 42(6):861-865.
25. Seber G. (1991) Beck Umutsuzluk Ölçeğinin Geçerliliği ve Güvenirliği Üzerine Bir Çalışma. Doçentlik Tezi, Eskişehir, Anadolu Üniversitesi Tıp Fakültesi Psikiyatri Anabilim Dalı.
26. Levine S, Ancill RJ, Roberts AP. (1989) Assessment of suicide risk by computer-delivered self-rating questionnaire: preliminary findings. *Acta Psychiatr Scand* 80(3):216-220.
27. Dilbaz N, Holat H, Bayam G, Tüzer T, Bitlis V. (1995) İntihar düşüncesi ölçeğinin geçerlilik ve güvenirligi: 31. Ulusal Psikiyatri Kongresi Özet Kitabı. İstanbul, Turkish Psychiatric Association, p.40-41.
28. Linehan MM, Nielsen SL. (1981) Assessment of suicide ideation and parasuicide: hopelessness and social desirability. *J Consult Clin Psychol*. 49(5):773-775.
29. Bayam G, Dilbaz N, Bitlis V, Holat H, Tüzer T. (1995) İntihar davranışı ile depresyon, ümitsizlik, intihar düşüncesi ilişkisi: intihar davranış ölçeği geçerlilik, güvenirlilik çalışması. *Kriz Dergisi*. 3(1-2):223-225.
30. Sorias S. (1982) Hasta ve Normallerde Yaşam Olaylarının Stres Verici Etkilerinin Araştırılması. İzmir, Ege Üniversitesi Ege Tıp Fakültesi Psikiyatri Bölümü Doçentlik Tezi.
31. Holmes TH, Rahe RH. (1967) The Social Readjustment Rating Scale. *J Psychosom Res*. 11(2):213-218.
32. Paykel ES, Prusoff BA, Uhlenhuth EH. (1971) Scaling of life events. *Arch Gen Psychiatr*. 25(4):340-347.
33. Azorin JM, Kaladjian A, Besnier N, Adida M, Hantouche E, Lancrenon S, et al. (2010) Suicidal behaviour in a French Cohort of major depressive patients: characteristics of attempters and nonattempters. *J Affect Disord*. 123(1-3):87-94.
34. Batıgün AD. (1999) Duygudurum bozuklukları, şizofreni ve alkol/madde bağımlılığında intihar. *Türk Psikoloji Yazıları*. 2(4):43-72.
35. MacLean J, Kinley DJ, Jacobi F, Bolton JM, Sareen J. (2011) The relationship between physical conditions and suicidal behavior among those with mood disorders. *J Affect Disord*. 130(1-2):245-250.
36. Rihmer Z. (2007) Suicide risk in mood disorders. *Curr Opin Psychiatry*. 20(1):17-22.
37. Schmidtke A, Bille-Brahe U, DeLeo D, Kerkhof A, Bjerke T, Crepet P, et al. (1996) Attempted suicide in Europe: rates, trends and socio-demographic characteristics of suicide attempters during the period 1989-1992. Results of the WHO/EURO Multicentre Study on Parasuicide. *Acta Psychiatr Scand*. 93(5):327-338.
38. Tang NK, Crane C. (2006) Suicidality in chronic pain: a review of the prevalence, risk factors and psychological links. *Psychol Med*. 36(5):575-586.
39. Tondo L, Lepri B, Baldessarini RJ. (2007) Suicidal risks among 2826 Sardinian major affective disorder patients. *Acta Psychiatr Scand*. 116(6):419-428.
40. Yoon YH, Chen CM, Yi HY, Moss HB. (2011) Effect of comorbid alcohol and drug use disorders on premature death among unipolar and bipolar disorder decedents in the United States, 1999 to 2006. *Compr Psychiatry*. 52(5):453-464.
41. Greening L, Stoppelbein L. (2002) Religiosity, attributional style, and social support as psychosocial buffers for African American and White adolescents' perceived risk for suicide. *Suicide Life Threat Behav*. 32(4):404-417.
42. Crepet P, Florenzano F. (1988) Suicide and unemployment in Italy. *Current Issues of Suicidology*, HJ Möller, A Schmidke, R Welz (Eds.), Berlin, Springer, p.356-363.
43. Sağınç H, Kuğu N, Akyüz G, Doğan O. (2000) Yatarak tedavi gören hastalarda intihar öyküsünün araştırılması. *Anadolu Psikiyatri Derg*. 1(2):83-88.
44. Standish-Barry HM, Clayden A, Sims AC. (1989) Age, unemployment and parasuicide in Leeds. *Int J Soc Psychiatry*. 35(4):303-312.
45. Batıgün AD. (2005) İntihar olasılığı: Yaşamı sürdürme nedenleri, umutsuzluk ve yalnızlık açısından bir inceleme. *Türk Psikiyatr Derg*. 16(1):29-29.
46. Şenol V, Ünalın D, Avşaroğulları L, İkizceli İ. (2005) İntihar girişimi nedeniyle Erciyes Üniversitesi Tıp Fakültesi Acil Anabilim Dalı'na başvuran olguların incelenmesi. *Anadolu Psikiyatri Derg*. 6(1):19-29.

47. Beghi M, Rosenbaum JF. (2010) Risk factors for fatal and nonfatal repetition of suicide attempt: a critical appraisal. *Curr Opin Psychiatry*. 23(4):349-355.
48. Nock MK, Borges G, Bromet EJ, Cha CB, Kessler RC, Lee S. (2008) Suicide and suicidal behavior. *Epidemiol Rev*. 30:133-154.
49. Brent DA, Perper JA, Moritz G, Baugher M, Roth C, Balach L, et al. (1993) Stresful life events, psychopathology, and adolescent suicide: a case control study. *Suicide Life Threat Behav*. 23(3):179-187.
50. Barraclough B, Bunch J, Nelson B, Sainsbury P. (1975) A hundred cases of suicide: clinical aspects. *Br J Psychiatry*. 125(0):355-373.
51. Kesebir S, Gülpek D, Noyan MA. (2002) Özkıyım girişimlerinin doğası. *Anadolu Psikiyatri Derg*. 3(2):88-96.
52. Milnes D, Owens D, Blenkiron P. (2002) Problems reported by self-harm patients: perception, hopelessness, and suicidal intent. *J Psychosom Res*. 53(3):819-822.
53. Beck AT, Epstein N, Brown G, Steer RA. (1998) An inventory for measuring clinical anxiety: psychometric properties. *J Consult Clin Psychol*. 56(6):893-897.
54. Kazdin AE, French NH, Unis AS, Esveldt-Dawson K, Sherick RB. (1983) Hopelessness, depression, and suicidal intent among psychiatrically disturbed inpatient children. *J Consult Clin Psychol*. 51(4):504-510.
55. Beck AT, Steer RA, Beck JS, Newman CF. (1993) Hopelessness, depression, suicidal ideation, and clinical diagnosis of depression. *Suicide Life Threat Behav*. 23(2):139-145.
56. Dori GA, Overholser JC. (1999) Depression, hopelessness, and self-esteem: accounting for suicidality in adolescent psychiatric inpatients. *Suicide Life Threat Behav*. 29(4):309-318.