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RESEARCH

Exploring the factors related to suicide attempts in adolescents

Ergenlerde intihar girişimi ile ilgili faktörlerin incelenmesi

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Abstract

Purpose: We aimed to determine the factors that we think may pose a risk in order to develop preventive medicine interventions in the prevention of this situation, which is a public health issue problem, and to screen the factors that may constitute a risk.

Materials and Methods: This study involved 90 participants in all, including 46 adolescent patients aged (10-18) years who submitted an application to the Pediatric and Adolescent Mental Health and Diseases Outpatient Clinic at Mersin University Faculty of Medicine Research and Application Hospital between 01/12/2019-01/04/2020 with suicide attempt and 44 adolescents aged 10-18 years without suicide attempt who applied between these dates as a control group.

Results: Among those who took part in the research, 68% (n=61) were women. The mean age was 15.5±1.3 years in the patient group and 14.8±1.7 years in the control group. It was shown that those who attempted suicide had good, few or inadequate peer relationships whereas the control group had good peer relationships and this factor analysis was statistically significant. Major depressive disorder was the most prevalent psychiatric disorder in the suicide attempt group with a rate of 65.2%. The presence of psychiatric comorbidity was statistically significantly distinct among the group of people who attempted suicide compared to the control group.

Conclusion: In our study, the relationship with self-esteem, quality of life, peer relations and psychiatric illness was found to be significant, but not statistically significant result was found with impulsivity. Investigating the causes of suicide attempts is important to improve suicide prevention and intervention in adolescents in the future.

Keywords:. Suicide, adolescence, impulsivity, self-esteem, quality of life

Öz

Amaç: Bir halk sağlığı sorunu olan bu durumun önlenmesinde koruyucu hekimlik müdahalelerinin geliştirilebilmesi için risk oluşturabileceğini düşündüğümüz faktörlerin belirlenmesi ve risk oluşturabilecek faktörlerin taranması amaçlanmıştır.

Gereç ve Yöntem: Bu çalışmaya 01/12/2019-01/04/2020 tarihleri arasında Mersin Üniversitesi Tıp Fakültesi Araştırma ve Uygulama Hastanesi Çocuk ve Ergen Ruh Sağlığı ve Hastalıkları Polikliniğine intihar girişimi ile başvuran (10-18) yaş arası 46 ergen hasta ve kontrol grubu olarak bu tarihler arasında başvuran intihar girişimi olmayan (10-18) yaş arası 44 ergen olmak üzere toplam 90 katılımcı dahil edilmiştir.

Bulgular: Araştırmaya katılanların %68'i (n=61) kadındı. Yaş ortalaması hasta grubunda 15.5±1.3 yıl, kontrol grubunda ise 14.8±1.7 yıl idi. İntihar girişiminde bulunanların akran ilişkilerinin iyi, az veya yetersiz olduğu, kontrol grubunun ise iyi olduğu ve bu faktör analizinin istatistiksel olarak anlamlı olduğu gösterilmiştir. İntihar girişimi grubunda en sık görülen psikiyatrik bozukluk %65,2 ile major depresif bozukluktur. İntihar girişiminde bulunan grupta psikiyatrik komorbidite varlığı kontrol grubuna kıyasla istatistiksel olarak anlamlı derecede farklıydı..

Sonuç: Çalışmamızda benlik saygısı, yaşam kalitesi, akran ilişkileri ve psikiyatrik hastalık ile ilişki anlamlı bulunurken, dürtüsellik ile istatistiksel olarak anlamlı sonuç bulunmamıştır. İntihar girişimlerinin nedenlerinin araştırılması, gelecekte ergenlerde intiharı önleme ve müdahaleyi geliştirmek için önemlidir..

Anahtar kelimeler: İntihar, ergenlik, dürtüsellik, benlik saygısı, yaşam kalitesi

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INTRODUCTION

The act of suicide is damaging that a person undertakes, resulting in death, either with an explicit or implicit intention to die. When this self-destructive conduct does not cause death, it is referred to as a suicide attempt. Suicides are a significant cause of death during adolescence[1].

It has been found that 12.1% of adolescents had experienced lifetime suicidal ideation, 4.0% had developed a suicide plan, and 4.1% had attempted suicide[2]. The lifetime prevalence of suicide attempts in adolescents is reported to be between 3.5% and 11%[3]. Suicide is the second leading cause of death among youth ages 10-24, and suicide rates among this age group have increased by nearly 50% in the past decade[4]. Additionally, 7% of high school students reported attempting suicide in the past year. Suicidal thoughts and attempts continue to be more prevalent among female compared to male[5].In adolescents and young adults, suicide rates are 2-4 times higher in men than in women, and suicide attempts are 3-9 times higher in women[6]. Disparities in suicidal behavior by gender may be explained by differences in behavioral and emotional issues[7]. Higher suicide mortality rates among male youth could be linked to an increased incidence of externalizing disorders such as conduct problems, disruptive behaviors, and antisocial disorder[8]. In women, internalizing disorders such as post-traumatic stress disorder (PTSD), bipolar disorder, and post-traumatic eating disorders are associated with a higher prevalence[9].

Female gender, alcohol abuse, being raised by a single parent and poor self-worth are risk factors for suicidal behaviour in adolescents[10]. Similarly, alcohol abuse has been shown to predispose adolescents of both sexes to suicide attempts[11]. A meta-analysis found that prior suicidal ideation was one of the risk factors for suicide attempts, previous suicide attempts, and a history of any mental disorder, particularly anxiety disorder, major depressive disorder, and personality disorders. Other risk factors included alcohol abuse and drug addiction[9].

The self-esteem, which is an important a portion of an self-concept of the individual is a factor that is directly related to mental health during adolescence[12]. A protective factor connected to psychological functioning is self-esteem that significantly predicts suicidal ideation[13].Studies have shown that adolescents who report lower levels of self-esteem engage in more risky behaviors[14]. The rate among adolescents with a weak perception of peer and social support and adolescents with a positive perception was 1.86 times higher in those reporting suicide planning and 1.83 times higher in those reporting suicide attempts than in those without these behaviors[15].

Impulsivity, generally characterized as a lack of self-control, is a multifaceted concept that encompasses actions and responses that are not intentionally planned and therefore may lead to undesirable or negative consequences[16-18]. Impulsivity is an important risk factor for suicide that requires careful evaluation[19]. Impulsive suicide attempts are self-harming actions that need less planning or forethought; non-impulsive attempts at suicide are preceded by preparation and forethought[20]. Exposure to life stressors in youth may also trigger impulsivity, a trait in those who attempt suicide[21].

We aimed to determine the factors that we think may pose a risk in order to develop preventive medicine interventions in the prevention of this situation, which is a public health issue, and to screen the factors that may pose a risk. Our research's objective was to examine the factors that we believe could pose a chance of attempting suicide, particularly during adolescence.

MATERIALS AND METHODS

Sample

The study population consisted of 100 children who were consulted and outpatient at Mersin University Faculty of Medicine Research and Application Hospital Child and Adolescent Mental Health and Diseases Clinic between 01/12/2019 - 01/04/2020.

Patients who had attempted suicide and were referred to the emergency department and consulted to the child psychiatry outpatient clinic and volunteers who did not have a history of suicidal behavior were included in the study. The patients included in the study were evaluated according to Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) diagnostic criteria by a child psychiatry assistant and a child psychiatry specialist through clinical interviews and their current mental disorders were determined. The characteristics of the family and the patient were recorded by the researchers using a sociodemographic data form.

In order to evaluate the suicidal behaviors of the

patients; Beck depression, Barrat impulsivity, quality of life for children, Rosenberg self-esteem, anxiety and depression scales for children were given to the patients. The scales were evaluated by the researchers.

The control group included individuals who were older than 10 and younger than 18 years old, who applied to a child psychiatry clinic, who hadn't previously engaged in suicidal behavior, and who volunteered to participate in the study.Participants who could not fully complete the questionnaire/scales, those with significant medical issues affecting cognitive abilities based on clinical examination, and those with vision, hearing, or comprehension issues that prevented the interview and assessment with scales were excluded from the study.

The sample of the study consisted of 90 children (case: 46, control: 44) who met the inclusion criteria and volunteered to participate in the study on the same dates. On the other hand, participants who could not fill in the forms incompletely (n=6) and participants who were not eligible to fill in the forms due to hospitalisation (n=4) were excluded from the study.

The power values calculated for the comparison of the scale scores between the groups are given. In order for the scale scores to be found significant between the groups, the power of the sample size is 80% or 90%, indicating that the sample size is sufficient.

Participants as well as their parents consented to take part in the research by completing an informed consent form. Accepted by Mersin University Faculty of Medicine's Local Ethics Committee (Date:08/11/2019, Number:78017789/050.01.04/1221787). After reading the Informed Voluntary Consent Form, each study participant gave their written consent.

Measures

Sociodemographic data form

A data form has been completed for each child and adolescent presenting to our clinic. This form includes sociodemographic information such as the age of the child or teenager, educational level, number of siblings, friendships, physical illnesses, existence of mental disorders identified by the DSM-5, and details about the parents, including their age, educational level, occupation, mental disorders identified using the DSM-5, physical illnesses, and the family's structure and status, as well as information on physical violence.

Depression Scale for Children

The severity of depression in children is evaluated using the Depressıon in Chıldren Scale (CDS). Developed by Kovacs et al. (1981) with reference to the Beck Depressıon Scale, the CDS is a self-assessment tool that can be applied to children aged 6-17[22]. The scale can be read to the child or filled out by the child themselves. The youngster is asked to select the statement from the previous two weeks that best defines them. There are 27 items on the scale, each with three different response options. Each item is scored based on the severity of the symptom with 0, 1, or 2 points, and the maximum score is 54. A cutoff score of 19 is recommended. The CDS's validity and reliability research was conducted by Öy et al. (1991), with a test-retest reliability of 0.72 and an internal consistency coefficient of 0.86[23].

Barratt Impulsivity Scale (BIS-11)

Developed by Barratt and colleagues to investigate the relationship between anxiety and impulsivity, the BIS consists of 30 items. The Likert scale has four points: 1 for Rarely/Never; 2 for Occasional; 3 for Usually; and 4 for Almost Always/Always. where a score of 4 indicates the highest level of impulsive behavior. However, to prevent response bias, certain items could be graded in reverse order. The scores from the items are summed, with the highest total BIS score indicating the highest level of impulsivity. Three subscales comprise the scale: motor impulsivity (11 things), lack of planning (11 items), and inattention (8 items)[24].

Children's Quality of Life Scale (PedsQL)

Developed by Çakın Memik for ages 8-18 and validated for ages 2-7 by Üneri, A general quality of life measure is the Pediatric Quality of Life Inventory (PedsQL). The ease of application and the availability of separate forms for different age groups and parents are positive features of the scale. However, it has been reported that the validity of the 5-7 age group child form is low, which may restrict its use in this age range[22].

Child Anxiety Disorders Screening Scale (SCARED)

Developed by Birmaher et al. in 1997, the SCARED

includes both a parent form and a child form consisting of 41 items that assess the child's anxiety. Each item is scored based on the severity of the symptom, with possible scores of 0, 1, or 2. A total score and five separate factor scores are obtained. A cutoff score of 25 is suggested, since this might suggest the existence of an anxiety condition. Çakmakçı FK carried out the validity and reliability assessment for the SCARED in Turkey in 2003[25].

Rosenberg Self-Esteem Scale

Rosenberg created the Rosenberg Self-Esteem Scale. Assessing its validity and dependability in Turkey was done by Çuhadaroğlu. This scale consists of 63 items and 12 subgroups. For each item, there are four possible responses: "very true," "true," "false," and "very false." In our study, the Self-Esteem Subscale, which contains 10 items, was utilized. All other response options are scored as 0. A score of 0–1 denotes strong self-esteem, a score of 2-4 denotes moderate self-esteem, and a score of 5–6 denotes poor self-esteem, according to the scoring findings. The scale's Cronbach's alpha value was reported by Sümer and Güngör to be 0.85[26].

Statistical analysis

Chi-square test was used to compare gender, parent marital status, peer relationship and mother psychiatric comorbidity variables between the groups. The normality distribution of continuous data was evaluated by histogram, q-q plot, and Kolmogorov-Smirnov (K-S) test. For comparison of age, scale scores and its sub-dimensions between two groups, the Student's t-test or Mann-Whitney U test was used depending on whether the statistical hypotheses were fulfilled or not. To evaluate the correlations between barrat, beck, scared, Rosenberg and quality of life scales, Pearson Correlation Coefficient or Spearman Rank Correlation Coefficient was used depending on whether the statistical hypotheses were fulfilled or not. Logistic regression analysis was performed to identify risk factors for the group variable and to obtain adjusted odds ratios (ORs) for the age and gender variables. In univariate analysis, variables significant at the P <0.15 level were entered in logistic regression analysis. Categorical variables were expressed as numbers and percentages, whereas continuous variables were summarized as mean and standard deviation and as median and minimum-maximum where appropriate. All analyses were performed using IBM SPSS Statistics Version 20.0 statistical software package. The statistical level of significance for all tests was considered to be 0.05.

RESULTS

Among the participants incorporated into the research, 68% (n=61) were female. In the suicide attempt group, the percentage of females was 80.4% (n=37), while in the control group, this rate was 54.5% (n=24). The group that attempts suicide had a mean age of 15.5±1.3 years, whereas the control group had a mean age of 14.8±1.7 years (Table 1).

Table 1. Distribution of sociodemographic characteristics according to the groups

Variable		Suicide attempt group(n:46)	Control Group (n:44)	Total (n:90)	p
Gender-n(%)	Female	37 (80.4)	24 (54.5)	61 (67.8)	0.009
	Male	9 (19.6)	20 (45.5)	29 (32.2)	
Age-mean+ss (min-max)	Female	15.5±1.3	14.8±1.7	15.2±1.6	0.063
	Male	16 (13-17)	15 (11-17)	15 (11-17)	
Parent Marital Status (%)	Parents together	26 (60.9)	36 (81.8)	64 (71.1)	0.062
	Divorced family	10 (21.7)	6 (13.6)	16 (17.8)	
	Broken family	8 (17.4)	2 (4.5)	10 (11.1)	

In our study, the family status was divided into three groups: those with separated parents, those with a single parent, and those with one deceased parent. In the suicide attempt group, 21.7% (n=10) of the participants had separated parents, whereas this rate was 13.6% (n=16) in the control group. The difference between the two groups was not statistically significant (p=0.06). Data describing the distribution of sociodemographic traits by group are shown in Table 1.It was shown that those who attempted suicide had good, few or inadequate peer relationships, whereas the control group had good peer relationships and this factor analysis was statistically significant (Table 2). Logistic regression

study indicates that the likelihood of attempting suicide is significantly increased in those with poor peer relations compared to those with high peer relations.

Table 2. Evaluation of intergroup peer relationships

			Peer Relationship			Total	P
			High	Good	İnsufficient		
Suicide attempt	No	n	42	1	1	44	<0.001
			%72.4	%9.1	%4.8	%48.9	
	Yes	n	16	10	20	46	
			%27.6	%90.9	%95.2	%51.1	
Total		n	58	11	21	90	
			%100	%100	%100	%100	

In 17% (n=9) of the group with suicide attempt and 6.8% (n=3) of the control group, the mother had at least one mental disorders reported to be diagnosed. In the group with suicide attempt, the most commonly reported psychiatric illness in mothers was depression with a rate of 17.1%. In 78% (n=32) of the suicide attempt group and 93.2% (n=41) of the control group, the mother did not have any mental disorders. When comparing the control group to the suicide attempt group, the mother's mental diagnosis was not statistically significant. (p=0.188)

Table 3. Distribution of maternal psychiatric co-diagnosis by groups

Mother psychiatric comorbidity	Patient (n:41) n(%)	Control Group(n:44)n(%)	Total(n:85) n(%)	p
No additional diagnosis	32 (78)	41 (93.2)	73 (85.9)	0.188
Depression	7 (17.1)	2 (4.5)	9 (10.6)	
Anxiety Disorder	1 (2.4)	1 (2.3)	2 (2.4)	
Schizophrenia	1 (2.4)	-	1 (1.2)	

Psychiatric disorders were found in 82.6% (n=37) of the suicide attempt group and 29.5% (n=13) of the control group. Major depressive disorder was the most common psychiatric disorder in the suicide attempt group with a rate of 65.2%. There existed a statistically noteworthy difference in the presence of psychiatric comorbidity between the control group and the suicide attempt group (p<0.001). Data on the distribution of comorbidity according to the groups are presented in Table 4.

Table 4. Distribution of the presence of comorbidity according to the groups

Additional psychiatric diagnosis	Suicide attempt group (n: 46) n(%)	Control Group(n:44) n(%)	Total (n:90) n(%)
No additional diagnosis	8 (17.4)	31 (7.5)	39 (43.3)
Borderline personality disorder	2 (4.3)	-	2 (2.2)
MDD	30 (65.2)	3 (6.8)	33 (36.7)
Anxiety Disorder	1 (2.2)	5 (11.4)	6 (6.7)
Bipolar disorder	1 (2.2)	-	1 (1.1)
ADHD	1 (2.2)	1 (2.3)	2 (2.2)
Alcohol Substance Use Disorder	-	1 (2.3)	1 (1.1)
Adjustment Disorders	-	3 (6.8)	3 (3.3)
Behavioral Disorders	3 (6.5)	-	3 (3.3)

MDD=Major Depressive Disorder, ADHD=Attention Deficit Hyperactivity Disorder

The mean scale scores of children and adolescents who have and have not attempted suicide are given in Table 5. The average scores of persons who have tried suicide on the Beck, Scared, and Rosenberg scales were discovered to be greater than those who have not attempted suicide ($p<0.05$). In contrast to this situation, the mean scores of Quality of life total and its sub-dimensions were found to be higher in those who have not attempted suicide ($p<0.05$). No discernible variation existed between the mean BIS - 11 Total and Quality of life health scale scores of children and adolescents who have and have not attempted suicide.

Correlation coefficients and p values between the scales are given in Table 4. No relationship was found between the BIS-11 scale score and the CDI, Scared, Rosenberg and Quality of Life scale scores($p>0.05$). There was a positive and strong correlation between the CDI scale score and the scared and Rosenberg scale scores ($p<0.001$). In other words, when the CDI scale score increased, the scared and Rosenberg scale scores also increased. At the same time, a negative and strong correlation was found between the CDI score and the Quality of Life scale score. There was a positive and strong correlation between the Scared scale score and the Rosenberg scale score, while there was a negative and strong correlation with the Quality of Life scale score ($p<0.001$). There was a negative and moderate correlation between the Rosenberg and Quality of Life scale scores ($p<0.001$).

Table 5. Findings related to the comparison of groups according to scale scores

	Suicide Attempt		
Scales	Yes (n:46)	No (n:44)	p
CDI Total	24.21±10.73 24 (7-49)	15.51±8.99 15 (0-38)	<0.001
SCARED total	40.63±18.56 39 (7-78)	29.52±17.05 28.5 (2-69)	0.004
Rosenberg Total	2.34±1.27 2.08 (0-5.09)	1.44±1.02 1.33 (0-4.09)	0.001
BIS-11 Total	63.14±8.86 63 (44-84)	64.90±9.34 65 (49-90)	0.427
Quality of life health	517.93±185.27 575 (0-750)	572.16±169.15 600 (100-800)	0.151
Quality of life emotion	221.20±123.37 212.50 (0-475)	292.05±136.37 300 (0-500)	0.011
Quality of life others	325.00±141.72 350.00 (0-500)	414.53±100.48 450 (100-500)	0.001
Quality of life school	241.30±119.51 250 (0-450)	303.98±95.84 300 (0-500)	0.008
Quality of life total	326.36±112.91 343.75 (0-481.25)	394.19±105.92 418.75(68.75-537.5)	0.004

Table 6. The distribution of correlation findings between the scales

		BIS-11Total	**BECK Total**	**SCARED Total**	**Rosenberg Total**	**Quality of Life Total**
BIS-11Total	r		0.049	0.257	0.020	-0.140
	p		0.697	0.052	0.875	0.257
BECK Total	r	0.049		0.648	0.765	-0.588
	p	0.697		<0.001	<0.001	<0.001
SCARED Total	r	0.237	0.648		0.578	-0.681
	p	0.052	<0.001		<0.001	<0.001
Rosenberg total	r	0.020	0.765	0.578		-0.373
	p	0.875	<0.001	<0.001		<0.001
Quality of Life Total	r	-0.140	-0.588	-0.681	-0.373	
	p	0.257	<0.001	<0.001	<0.001	

Table 7. Univariate and multivariate analysis of the potential risk factors in groups

	Univariate analysis		Multivariate analysis	
Variable	OR (95%CI)	p	OR (95%CI)	p
Age	1.215 (0.447-3.305)	0.702	-	-
Gender (Female)	0.060 (0.004-0.833)	0.036	0.138 (0.019-0.971)	0.047
Mother education	0.014 (0.00-1.014)	0.051	0.035 (0.002-0.520)	0.015
Family Status	2.666 (0.257-27.644)	0.411	-	-
Mental disorders in the family	0.261 (0.006-10.897)	0.481	-	-
Peer Relationship	20.579(1.122-377.589)	0.042	59.015 (3.282-106.255)	0.006
Family history of mental disorder	45.919(0.621-339.569)	0.081	10.857 (1.359-86.755)	0.025
Quality of life health	1.007 (0.998-1.016)	0.147	-	-
Quality of life emotion	1.017 (1.00-1.033)	0.050	1.015 (1.004-1.027)	0.010
Quality of life compared to others	0.994 (0.797-1.008)	0.395	-	-
Quality of life school	0.990 (0.978-1.001)	0.070	0.989 (0.980-0.999)	0.024
CDI total	1.321 (1.036-1.685)	0.025	1.198 (1.046-1.372)	0.009
Scared total	0.962 (0.875-1.057)	0.416	-	-
Rosenberg total	1.734 (0.381-7.900)	0.477	-	-

The risk of children attempting suicide is approximately 28 times lower for those whose mothers have a college education compared to those who have a primary school education.The risk of children attempting suicide is approximately 59 times higher for those with poor peer relationships compared to those with high peer relationships.The risk of suicide is approximately 10 times higher for those with a family history of mental illness compared to those without.A 1-unit increase in the emotional quality of life score increases the risk of attempting suicide by 1.015 times.A 1-unit increase in the school quality of life score reduces the risk of attempting suicide by 1.011 times.A 1-unit increase in the Beck total score increases the risk of attempting suicide by 1.198 times.

DISCUSSION

In our study, we examined the factors that may affect suicide, which is one of the leading causes of death in young people. In our study, the control group's mean age was 14.8±1.7 years, whereas the suicide attempt group's mean age was 15.5±1.3 years. It was reported that 73% of suicide attempters were between 14-17 years of age[27]. Gender differences play a very important role in suicidal behaviors of young people. In our study, 37 (80.4%) of the 46 suicide attempters were girls and 9 (19.6%) were boys. Internalizing disorders (such as anxiety) are more common in adolescent girls than in boys, which might serve as a mediator in the partnership between suicidal actions[28,29]. However, men were more likely than women to complete suicide. This may be related to the higher prevalence of externalizing disorders in males[8].

The groups in the study did not differ statistically significantly in our study regarding the mother and father's family type, work position, or educational attainment. In another study, parental separation or divorce was found to be associated with an increased risk of suicide attempt, especially for male adolescents[9]. A study found that young people grown up in single-parent households were more likely to attempt suicide than their peers raised by two parents[30]. At the same time, a study has shown that divorce from parents increases the risk of suicide in girls, while it raises the possibility of suicide in boys[30]. Similarly, parental separation or divorce has been shown to increase the risk of suicide attempts in both sexes[31]. Global studies have shown that the presence of any psychiatric disorder is associated with a tenfold

increase in the likelihood of suicide death among adolescents and more than a threefold increase in suicide attempts[32]. In our study, the rate of comorbid psychiatric disorders among patients with suicide attempts was found to be 82.6%. The most frequently observed major depressive disorder was the mental health diagnosis at 65.2%, followed by conduct disorder at 6.5%. Depression in adolescents is a factor strongly associated with suicidality[33]. Most adolescents with suicidal behavior meet lifetime criteria for at least one mental disorder[2]. A meta-analysis found that mental disorders significantly increase the risk of suicide attempts, especially among people aged 12 to 26, and that depressive disorders, especially recurrent depression, are associated with a higher risk of suicide for both young men and women[32].

In our study, the average scores for social phobia, generalized anxiety disorder and school phobia among those with suicide attempts were found to be statistically significantly higher. Some studies have demonstrated a significant relationship between anxiety and suicide[34]. Compared to mood disorders alone, the co-occurrence of any anxiety condition and mood disorders has been connected to an increased risk of suicide attempts. A review identified risk factors for suicide attempts in both women and men, including a past medical history of any mental disordersillness, especially serious depressivedisorders illness, anxiety disorders, and personality disorders[9].

Low self-esteem is associated with feelings of vulnerability to challenges and difficulties in problem-solving, which can result in increased anxiety when coping with life's issues[35]. The study also found that self-esteem and self-efficacy are important protective factors against suicide attempts[36]. Low self-efficacy is associated with a sense of vulnerability to difficulties and an inability to solve problems. It can also lead to increased anxiety when trying to cope with problems in life[35]. In our study, the group that attempted suicide had lower levels of self-esteem. In our study, self-esteem was found to be low in the suicidal group, in line with the literature.

The perception of weak relationships with friends, lack of social support, and connections to the school environment are important factors among those who have attempted suicide. These relationships are crucial as adolescents build their identities and seek support when facing difficulties[37]. It is commonly recognized that poor mental health, including suicide attempts, is linked to not having close friends[38]. On the other hand, school-age children who had peer support were less likely to attempt suicide[39]. Our study found that those with poor peer relationships had an approximately 59-fold increased risk of suicide attempts compared to those with adequate relationships. Similarly, emotional problems and difficulties related to peer groups have been associated with lower quality of life and higher suicide risk[40].

It has been reported that there is a direct relationship between suicide risk and poor perception of quality of life dimensions[41]. Consistent with our study, adolescents with suicidal behavior were reported to be more likely to perceive a lower quality of life[40]. A cross-sectional study of adolescents over the age of 15 and adults with suicidal thoughts showed that they reported significantly lower quality of life than those without suicidal thoughts[41]. A study of young adult college students also found that those with lower quality of life were more likely to endorse suicidal ideation[42]. They found that patients with mental disorders and at risk of suicide had lower quality of life than patients without a risk of suicide[43].

Impulsivity is an important risk factor for suicide that requires cautious evaluation[19]. In our study, higher motor impulsivity scores were discovered in those who attempted suicide among the groups, but no significant difference was found between the two groups. In a study conducted, when the scores obtained from the impulsivity scale were compared, it was found that the total and sub-scores of impulsivity were higher in the group who attempted suicide than in the control group[44]. In a study, high impulsivity scores showed a significant correlation with suicide attempts in multiple logistic regression analysis[45].

While our hypothesis was that impulsivity would be found to be high in suicidal behavior during adolescence, we could not reach such a conclusion in our study. The reason for this was thought to be the inclusion of only patients with parental consent and participant consent in the study and the small number of participants. Considering that adolescence is a period when peer relations are prioritized and quality of life is started to be considered important, it was concluded that adequate and high level of peer relations and high perceived quality of life may reduce the behavior. Again, in this period, an adolescent

begins to form an identity and high self-esteem was found to be protective against suicidal behavior.

It is concluded that many factors may contribute to attempted suicide among adolescents. During adolescence, the risk of suicidal behaviour should be assessed in detail even in the absence of a diagnosed psychiatric disorder. Considering the importance of family and peer relationships and the spontaneous behavior pattern of adolescence, it should be kept in mind that suicidal behavior can be seen regardless of the severity of the events. This study suggests that suicidal behavior should be evaluated in a multidimensional way and that determining the risk of suicidal behavior by expanding the factors that may be important in adolescence may be beneficial.

The study was conducted in a small sample group and it would be beneficial to conduct the study on larger samples in order to be generalizable.Conducting the study with different standardized scales other than self-report scales would be more valuable in terms of objective assessment.As a control group, only the presence or absence of suicidal behavior was differentiated, but it may be possible to obtain different results with a healthy control group.For future studies, the type and timing of suicide attempt may be taken into consideration. It would be beneficial for the literature to conduct suicide studies with larger sample groups with demographic data such as recurrence of suicidal behavior, alcohol and substance use, past history of neglect and abuse and different factors that may pose risk such as hopelessness.

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